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A New HOPE? A Critical Assessment of Gentrification and HOPE in Memphis, Tennessee

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Gentrification and HOPE VI in Memphis, Tennessee

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Abstract

Gentrification is the manifestation of the social change within urban residential neighborhoods as a result of uneven development in cities. These gentrification processes are a contextually dependent phenomenon, which vary both spatially and temporally when compared betwixt cities. Since the 1990s, local and state governments have developed more creative discourses for the promotion of gentrification which have overshadowed the positive outcomes of gentrification. The adoption of neoliberal policies has attacked many forms of the Keynesian welfare-state, most notably federal public housing. The United States' Department of Urban Housing and Development's (HUD) initiative Homeownership Opportunities for People Everywhere (HOPE VI) emerged as the new federal housing policy after this shift, and the program competitively awarded rehabilitative and demolition grants to public housing authorities. The neoliberalization of public housing has placed the social wellbeing of many residents into the hands of the market as more mixed-use housing ventures are financed and developed.

This study analyzed Census and HUD data to critically assess the relationship between gentrification and HOPE VI sites in the city of Memphis, Tennessee. The statistical models employed in this study indicate a weak relationship between gentrification and the redeveloped HOPE VI sites. Results have also shown that while the number of the original residents that return to the redeveloped sites have been low, and poverty concentration, housing prices, and college education attainment levels have seen little or no improvement at the census tract level. Furthermore, the results show that the Memphis Housing Authority's adoption of the HOPE VI redevelopment model has only decreased affordable housing options in the city and may be contributing to increased income segregation across the city. This study serves to inform

lawmakers of the true effects of their policy decisions and highlights those who are most affected.

Key Words: gentrification, HOPE VI, Memphis

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Chapter 1: Introduction

Gentrification has been a complex and widely discussed phenomenon in urban geography for more than fifty years. Gentrification is often associated with the redevelopment of working class neighborhoods in post-industrial cities in North America and the UK, but due to recent increases in globalization, the gentrification process now can be found worldwide. Since gentrification has evolved far beyond its original manifestation as first described by Ruth Glass (1964), it is best to establish a working definition for this is research project. This definition is adapted from Hammel and Wyly (1996, 250), who defined gentrification as "the replacement of low income, inner-city working class residents by middle- or upper-class households, either through the market for existing housing or demolition to make way for new upscale housing construction." A shift in gentrification in the 1990s has led to government adopted policies that no longer inhibit the gentrification process, but rather, promote it (Hackworth and Smith 2002). Amongst these adopted policies have been poverty deconcentration dispersal and public housing redevelopment programs (Goetz 2011b). These policies have extended the potential for gentrification into previously unreachable sections of cities.

A prime example of policies that have encouraged gentrification is the shift in the public housing policy in the 1990s. Public housing in the United States has never comprised a large percentage of the total housing market, and has consistently seen budget shortfalls and increased concentrations of the urban poor (Smith 2006; Vale and Freemark 2012). Due to the lack of maintenance, public housing developments across the country fell into disrepair or became uninhabitable by the l980s. The adoption of the legal framework for the Housing Opportunities for People Everywhere (HOPE VI) program in 1993 laid the groundwork to physically and socially alter traditional public housing forever (Epps 1996; Smith 2015). This program

redevelops the 'severely distressed' public housing developments, nationally estimated at 86,000

units, and promotes the use of public-private partnerships to build to mixed-use to development.

As of 2013, the United States Department of Housing and Urban Development (HUD) has

awarded over $6.2 billion dollars through 261 revitalization grants to 133 different public

housing authorities (PHAs) in thirty-four states (Smith, 2015). Many argue that the reduction of

hard units, or units that PHAs actually own, in favor of soft units such as Housing Choice

Vouchers (HCVs), and low income tax credit (LIHTC) units places residents at the mercy of the

market and can lead to displacement (Pardee and Gotham 2005; Goetz 2010b). While these

forms of soft units may appear to have similar goals, they are quite different in terms of

providing affordable housing the urban poor. HVCs require residents, who are assisted by the

program, to pay up to 30 percent of their monthly income on the household income and PHA

pays the remaining amount due (Hackworth 2003; Fraser and Nelson 2008), while LIHTC are

credits that are allocated to private developers to construct or rehabilitate housing for moderate to

low-income families (Galster *et al* 1999). So far results from these methods of creating more soft

units have been mixed and are locally contingent (Goetz and Chapple 2010).

  The city of Memphis has fully embraced the HOPE VI development model. The city has

made a concerted effort to reduce the amount of public housing units in the city, and to shift the

focus to mixed finance projects. MHA Director Robert Lipscomb, speaking at the ribbon cutting

of Austin Park Place development, said, "We're almost there. We only have a few more sites to

go before we can eliminate the words 'public housing' from our vocabulary. Wouldn't that be

great" (Dries 2011; Branston 2011). The redevelopment of public housing units in the city is

presented as the creation more affordable housing options, however many of the newly

redeveloped sites are mixed-finance developments that are more focused on attracting middle-

Figure 1.1 Uptown Square Smart – Sexy - Style.Photography by Daniel Gadeke

class residents (ex. Figure 1.1). Between 1990 and 2007, Memphis had the 8th most public

housing units removed (3,912), and has had the second highest percentage of its public housing

stock removed, a staggering 55% (Goetz 2010b). How are more affordable housing options

created by such a reduction of the public housing stock? So now this question becomes, does this

policy of mixed-finance actually provide more affordable housing options

The objective of this research is to explore the spatial relationship of gentrification and

HOPE VI redevelopment in Memphis, Tennessee since 1990. In order to do this I will (1) utilize

statistical models to map the current levels of ongoing gentrification throughout Memphis, 2)

utilize a non-mathematical method to visual the relationship between known gentrification tracts

and HOPE VI development census tracts, (3) critically assess known displacement caused by

relocation, demolition, and redevelopment data available from HUD and the Memphis Housing

Authority (MHA). To completely assess these objectives some assumptions were made. Public

housing in the United States has since the 1970s has become a vessel for the urban poor and

predominantly minority occupied. Memphis is no different with a public housing population that

is 99% African-American population, and it is under this facet that research assumes African-

Americans to be the most effected by gentrification in HOPE VI tracts. Furthermore, to best assess the status of gentrification in only the tracts containing the four HOPE VI developments that had completed demolition and relocation by 2010 were included.

After years of debate over the causes of gentrification, research has shifted toward a review of effects of gentrification (Slater 2007). Van Wessop (1994) argued that for a need to move past difficult years of divisive theoretical debates towards policy perspective of gentrification. Freeman (2005) has called on urban researchers to supply urban planners and policymakers with enough data that they can better informed decisions. Popkin *et al* (2004) estimated the HOPE VI program was only replacing little more than one-half of the public housing units demolished in renewal efforts. Other than Sink (2008) little research to date has bridged the research gap to analyze HOPE VI within the context of gentrification. This is where this research fits in, as it seeks contribute to the "geography of gentrification" (Lees 2000). Furthermore, this research provides a critical assessment of policies already implemented, and provide insights into future public housing policy driven efforts.

This research project profiles the relationship between existing gentrification levels and HOPE VI redevelopment sites in the city of Memphis. This study is divided into six sections: 1) a discussion of the cultural, historical, and urban geographic significance for the use of the city of Memphis as a case study for understanding this relationship, 2) an extensive review of the burgeoning body of literature describing the evolution of gentrification and public housing theories, policies, and applications, 3) an overview of the statistical and visual techniques that are employed, 4) short presentation of the results from the methods employed, 5) a discussion of the of the complex patterns that are revealed in the quantitative and visual analysis, and 6) concluding remarks and recommendations for policymakers.

Chapter 2: Site Setting

There is an increased research interest in the relationship between the shift in national public housing policy and its associated effects on neighborhood characteristics with neighborhood change throughout the city. The historic, southern city of Memphis, Tennessee, provides a fantastic study site as it is at the convergence of concerted reinvestment efforts in the downtown, and large number of HOPE VI grantee locations within the city. By better understanding the relationship between these phenomena, urban policy makers can make better educated decisions that can help reduce isolation, displacement, and concentrated poverty. To best understand the complexities of the "Bluff City" in the twenty-first century, one must first understand its geographical and historical influences.

2.1 Location

Occupying the southwestern most portion of Tennessee, Shelby County encompasses 784 square miles and is home to almost one million people (Census 2010). Shelby County is bounded by Tipton and Fayette Counties to the north and east, the Mississippi Counties of Desoto and Marshall to the south and southeast, and finally, Crittenden County in Arkansas to the west. Shelby County is home to seven incorporated cities: Arlington, Bartlett, Collierville, Germantown, Lakeland, Memphis, and Millington. Memphis serves as the county seat and is home to the majority of the population. The city of Memphis is located in the southwestern portion of Shelby County at 35.1174° N 89.9711° W. Memphis shares borders with Mississippi to the south and Arkansas to the east and occupies 315.06 square miles. The western border of the city is defined by the Mississippi River, which led to Memphis rising to economic prominence as a river trade port in the 19th century.
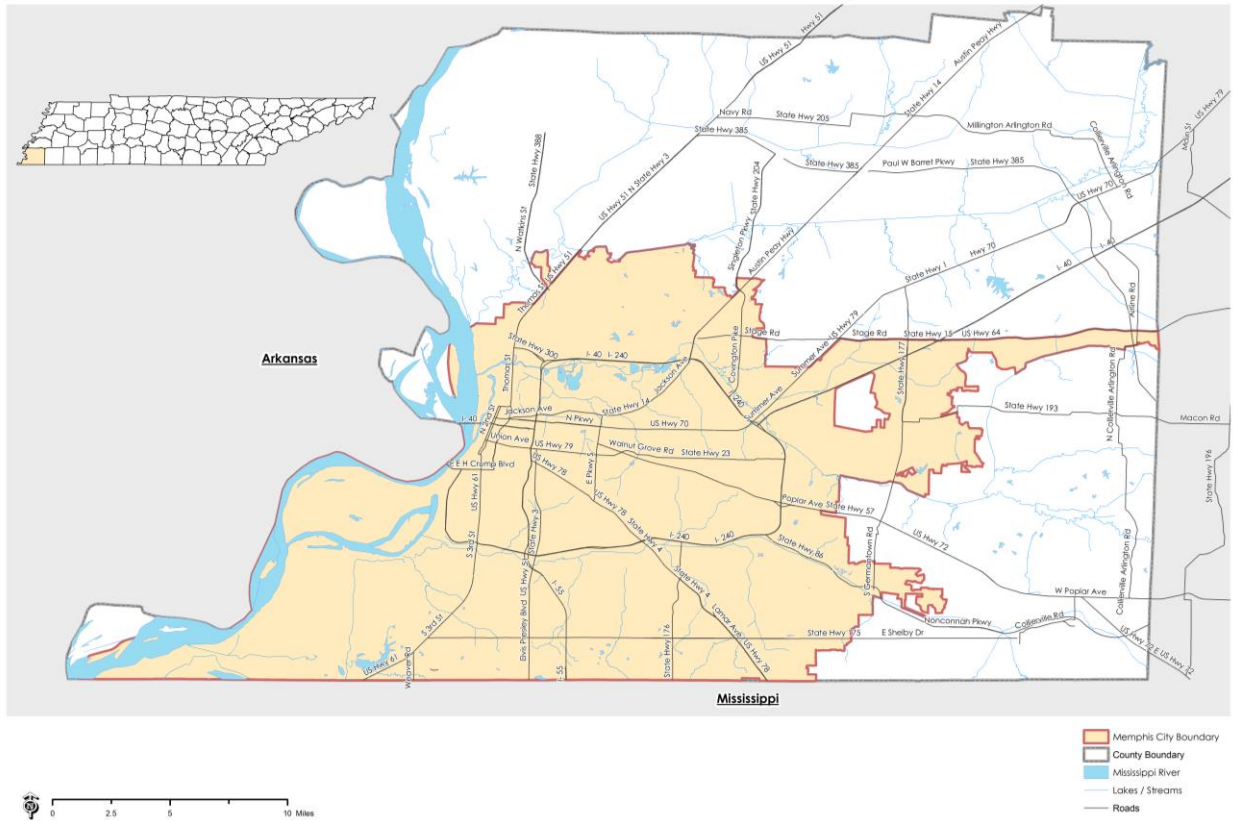
Figure 2.1 Memphis, TN.

2.2 History of Memphis

In 1818, the United States Government purchased six million acres of land, including the area of present-day Memphis, from the Chickasaw Indians, which lent their name to the Chickasaw Bluffs (Harkins 1991). Shortly after the purchase, proprietors moved in looking to organize the newly acquired land, and the city of Memphis was founded in 1819 by John Overton, James Winchester, and Andrew Jackson (Dowdy 2011). The Fourth Chickasaw Bluff, the site of Memphis, was divided into parcels, and John Overton began an aggressive advertising campaign to attract new residents to Memphis. Initially, the city saw limited growth and by the mid-1820s, a visiting German nobleman described the area as "a group of rather miserable houses" (Dowdy 2011). Given the stark relief provided by the bluffs and siting along the

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Mississippi River, Memphis was eventually developed into a large river-trading hub, and the surrounding areas were converted into large plantations.

By 1860, cotton became Memphis' chief export making the city the largest inland cotton center in the country, with a total of 233,139,500 pounds harvested in 1859 (Whayne 2014). The geographic reach of this cotton center included seven eastern counties in Arkansas, fifteen counties in Tennessee, and sixteen counties in Mississippi. As a garrison city during the Civil War, Memphis was able to avoid infrastructure devastation; however, the Memphis economy declined during Reconstruction and cotton production remained below its pre-war levels until 1870. The 1870s in Memphis were not a pleasant time, as a yellow fever epidemic killed 5,000 residents, and the city lost its charter in 1879 (Harkins 1982; Dowdy 2011; Whayne 2014). From the late 19th Century till the Great Depression, the demand for cotton returned to its previous highs, and the city of Memphis saw continued economic growth.

E.H. Crump had one of the biggest impacts on the city Memphis in the early part of the 20th Century through his political machine, and even earned the moniker, "The Pharaoh of Memphis" and "Boss" (Harkins 1982, 116). His political dynasty lasted from 1909-1954, and ushered in a change in the political system of Memphis. He introduced a small commission to run the city and befriended the African-American minority to maintain a stranglehold on the Memphis political scene. African-American Memphians had been marginalized following Reconstruction, when the white elites retook political and economic power in south. Some other major contributions made under the control of Crump were the consolidation of the Memphis Light and Gas Works company, increased flood prevention measure through cooperation with the Army Corps of Engineers, and extensive clean up many of Memphis vices (Harkin 1991, 137).
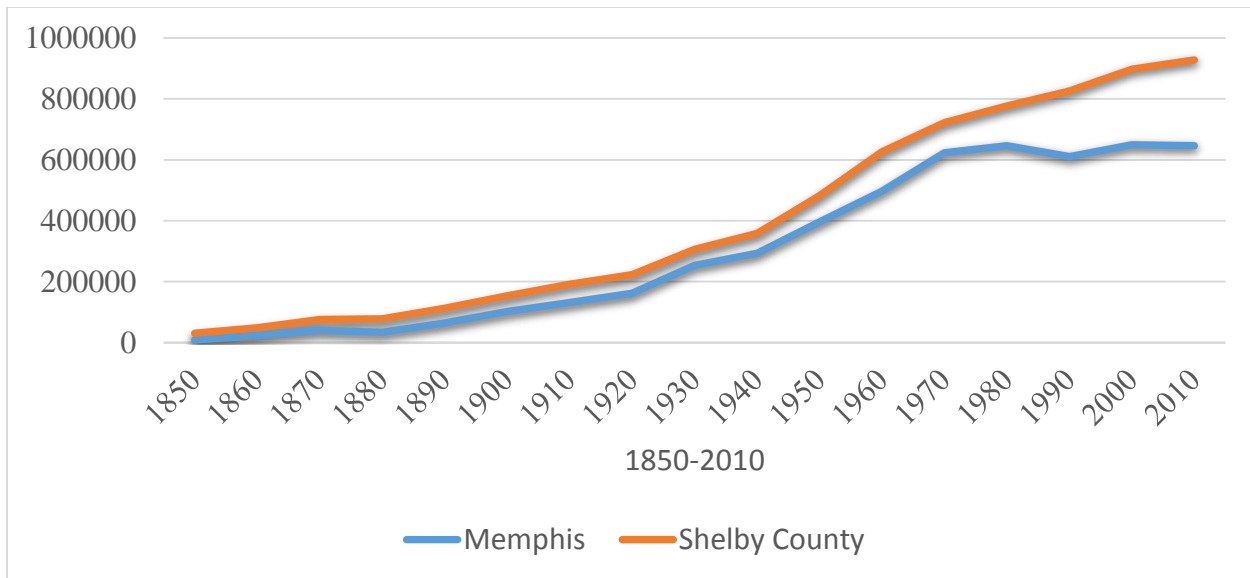
Figure 2.2 Population trends of Memphis and Shelby County 1850-2010 (US Census)

While the Crump machine was controlling Memphis' political scene the economy of Memphis was forced diversify its economic portfolio following the collapse of the cotton during the Great Depression. Memphis completed the diversification with a commitment to trade. Today, Memphis is also home to a number of large Fortune 500 companies, including AutoZone, Federal Express, and International Paper. Memphis is home to the second busiest airport behind only Hong Kong in large part due to the air traffic associated with FedEx. It is fitting that Memphis, originally founded on the premise of trade, continues to be an important trade hub not only in the US, but the world.

2.3 Memphis' Cultural Geography

In 2010, Memphis was the 20th largest city in the United States with a population of 646,889, and housed over half of the population of Shelby County. Figure 2.2 shows the population trends in both Shelby County and Memphis city, which depicts the growing gap between the county and city that began in the 1970s. Since the 1980s, Memphis has only seen a small increase in its population, roughly 5,000 people, while the county's population has

increased by over 200,000 (US Census). For the first time in 2010, Memphis had a decrease in population during a decade that land was annexed, seeing a small drop of 3,211 people. The city annexed a section of the city of Cordova with a population of 35,000, so realistically the decline in Memphis is far greater than what is reflected in the Census figures (Charlier 2011). This trend of population stagnation, and now decline, in Memphis creates a number of problems ranging from poor housing quality, increased poverty rates, and increased racial and economic segregation not only within the city, but also in the county.

The problem of inequality, both in racial and economic terms, has long been an issue in the city of Memphis. In the 1960s, Memphis was the battleground for the Civil Rights movement; and later was the infamous site for the assassination of the Reverend Dr. Martin Luther King Jr. Historically, African-Americans have had a voice in Memphis politics, as Memphis was one of the few southern cities that did not disenfranchise African-Americans following Reconstruction. African-American in Memphis played a key component to the dominance of the E.H. Crump political machine (Harkin 1991). Figure 2.3 illustrates the growing racial disparity within the city since 1980 when the racial composition of the city was fairly
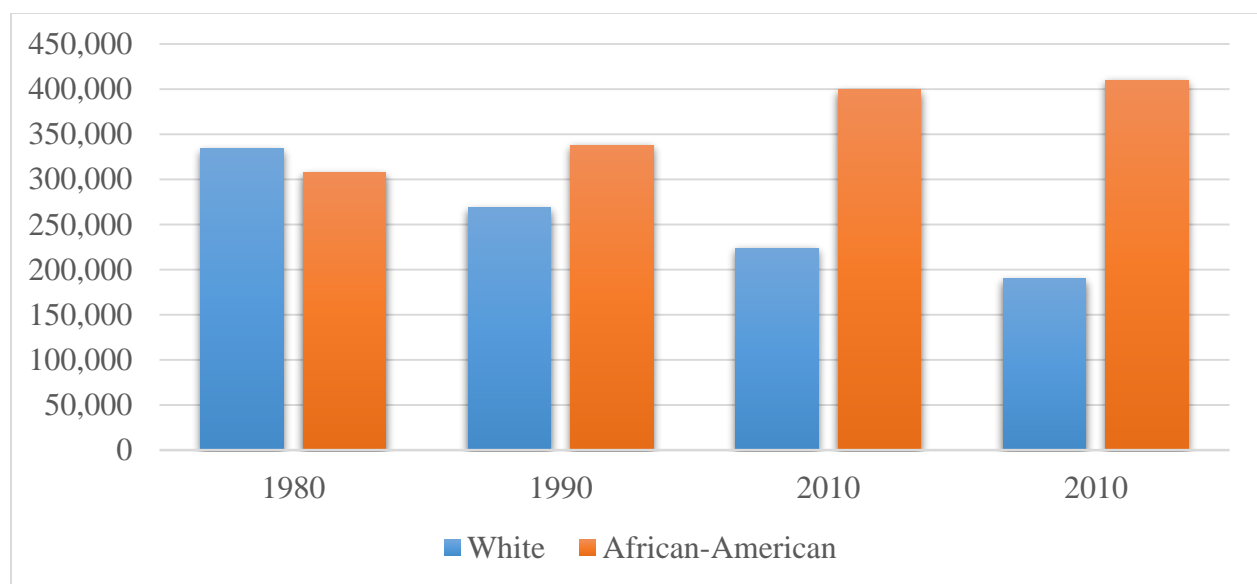
Figure 2.3 Graph of White-flight in Memphis 1980-2010 (US Census)

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equal, but by 2010 the African-American population rose to over 60% of the city's total population. Memphis has seen an increase in other minority groups, but for the focus section the emphasis will be placed on the rise in the African-American population. The main reason being that the African-American community is the largest minority group in the city; furthermore, African-Americans disproportionally comprise the vast majority of the public housing population in the city (Goetz 2011b).

One of the biggest problems confronting Memphis is poverty, and the Memphis Metropolitan Statistical Area (MSA) was the ranked the most impoverished MSA with more than one million people in the country at a rate of 19.1%, but when only focusing on the central city, the rate climbs to28.3% (Charlier 2011). The highest poverty rates in the city, upwards of 36%, resemble the letter C and is known locally as the "C" of poverty (Figure 2.4). Memphis Mayor A. C. Wharton recently unveiled a plan to attack poverty by putting more Memphians to work with hope of slashing poverty rates by 10% over the next decade (Sells 2015).

A Pew Research Center paper (2012) found that income segregation had risen in 27 of the 30 largest metropolitan areas in the United States; moreover a recent study by the MartinProsperity Institute (2015) found Memphis to be the most economically segregated MSA in the country. The study ranked segregation in metropolitan areas across the country in a number of categories including income, education, and occupational segregations. Furthermore, the study ranked Memphis as the 10th most segregated large metro area, and overall 34th most segregated metropolitan in the United States. This high economic segregation is best illustrated at the county level due to the widening median household income gap between Memphis ($36,912), it suburbs Germantown ($109,674) and Collierville ($101,000), and the rest of Shelby County ($46,250) (Census ACS 2013).

Family Poverty Rate by Census Tract
(ACS 5-year estimates, 2006-2010)

Legend

MHA Landmarks
- ☆ HOPE VI
- ★ Public Housing (Foote)

Percent of Families in Poverty
(2006-2010 5-year ACS)
- < 10%
- 10 - 20
- 20 - 30
- 30 - 50
- 50 - 75

Sources: Created by the Urban Institute, July 2012, using American Community Survey (ACS) 5-year estimates, 2006-2010. Table S1702: Poverty Status in the Past 12 Months of Families.

Figure 2.4 Poverty Rates in Memphis 2010 (Frieman et al 2014)

2.4 Memphis' Urban Landscape

Memphis possesses a unique urban built environment that is heavily influenced by a number of factors such as a high number of historic districts, and neighborhoods experiencing large revitalization and reinvestment, while other neighborhoods suffer from persistent urban blight and high vacancy rates. These factors illustrate the divide within the city and function as a culmination of the white flight to the suburbs beginning in the 1950s and 1960s, construction of cost effective, not-meant-to-last-housing, and growing economic divide (Betts 2008; Betts & Buchanan 2010). The paradigm in the Memphis housing market is illustrated by the contrast of

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Figure 2.5 The Mallory-Neely House and an abandoned
house by Victorian Village Inc. and CBANA

housing options ranging from Victorian era homes in Victorian Village to a multitude of vacant

dilapidated structures that scatter the urban landscape (Figure 2.5).

Beginning in the 1950s, many middle-class families, mainly white, were enticed by the

availability of the new highway system and cheaper mortgages to leave the central cities across

the United States (Vale and Freemark 2012). As they left the urban core, they then settled in

suburban neighborhoods on the urban periphery. This white-flight led to disinvestment and

decline in many urban centers, and Memphis was not immune to this issue. Memphis has

combatted this urban trend with a rigorous annexation policy and much of the large, sprawling

geographic nature of the city is attributed to this policy. Figure 2.6 shows the Memphis'

annexation patterns, and the orange and red colors represent land annexed between 1943 -2004.

It quickly becomes apparent how much Memphis has grown in area over the past 70 years. Many

of these newly annexed suburban neighborhoods were built with cheap materials, and as the city
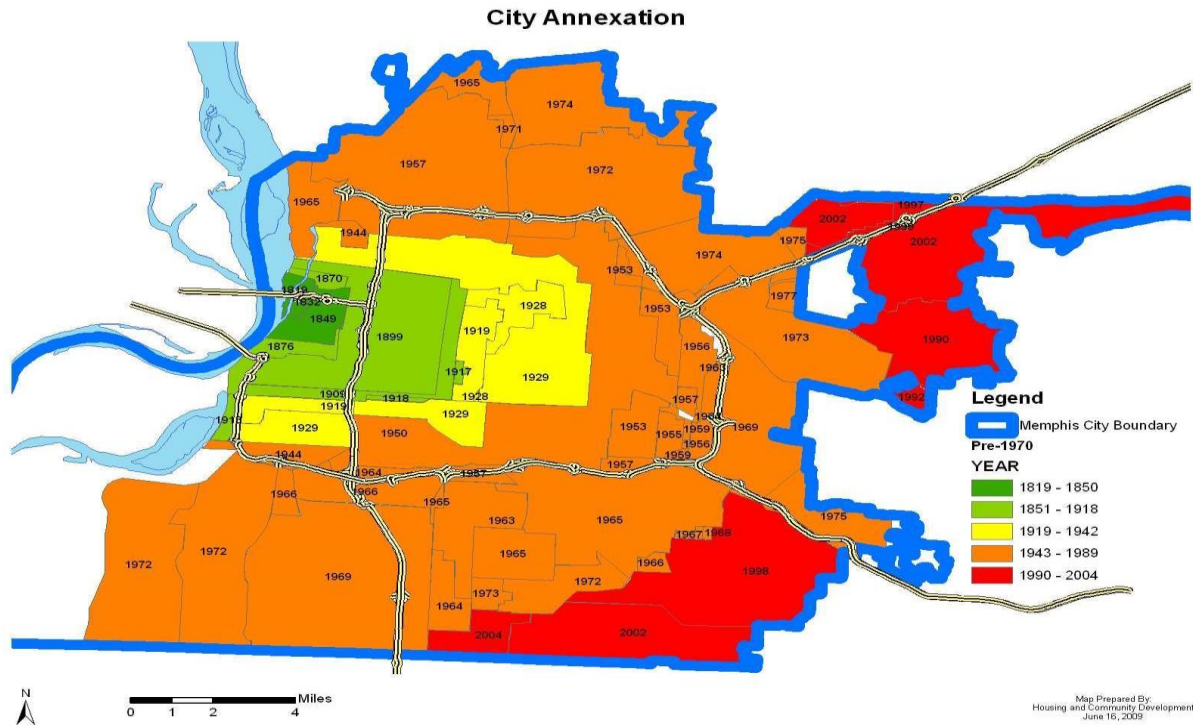
Figure 2.6 Memphis Annexation Map

of Memphis continued to expand, these neighborhoods declined as white-flight then occurred in

these newly acquired areas.

A recently published windshield survey of single and multi-family housing units in the

city by The Center for Community Building and Neighborhood Action (CBANA 2010)

documents the urban decline across the city. The survey found that 22% of the city suffered from

blight and had a vacancy rate of 15%. Blight is defined in the study as all structures that were in

violation of the city's anti-blight housing code, which encompasses both physical and

environmental conditions (CBANA 2010). As seen in Figure 2.7, much of this blight occurs

within a short distance the downtown core with a couple of offshoots that follows the highway

corridors. Furthermore in the wealthier, well-kept areas of the town have experienced far less

urban blight and a steady level of investment in the housing stock.

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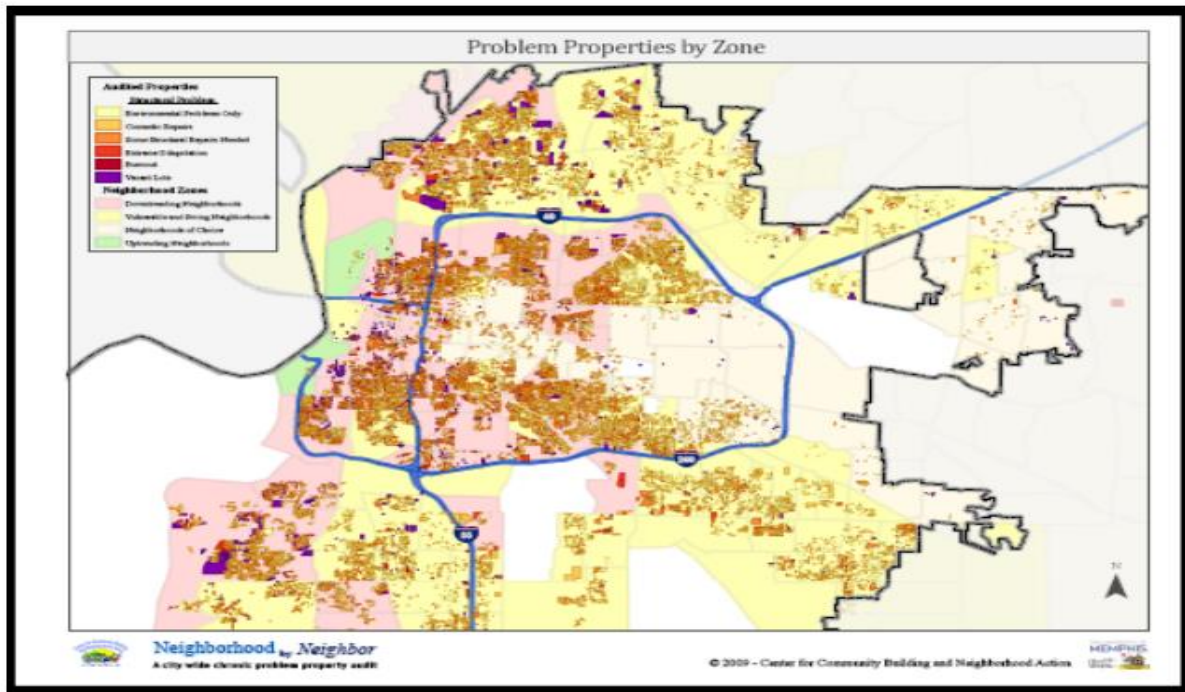
Figure 2.7 Map of the 2010 CBANA Problem Properties Audit

A housing affordability study by the University of Memphis (2010) found shortages in both renter and owner occupied housing across the city. This study examined census tract median household incomes and calculated the minimum income required to either purchase or rent the median value/rent for housing in a given tract. The maps depicting affordable housing forms an almost perfect c, but what is apparent in the analysis is that the lack of affordable housing affects many of Memphis' poorest neighborhoods (Figures 2.8 and 2.9). Memphis ranks in the bottom third of metropolitan areas in the US in public transportation use, which makes for more of a challenge for its residents that cannot afford housing to go to neighboring census tracts to find housing (Fischer-Baum 2014).

While much of the discussion concerning the urban landscape of Memphis is often laced with negative themes (i.e. high poverty, income inequality, or blight), there have been efforts to restore and develop various components of the city's downtown core. A push in the 1970s for the

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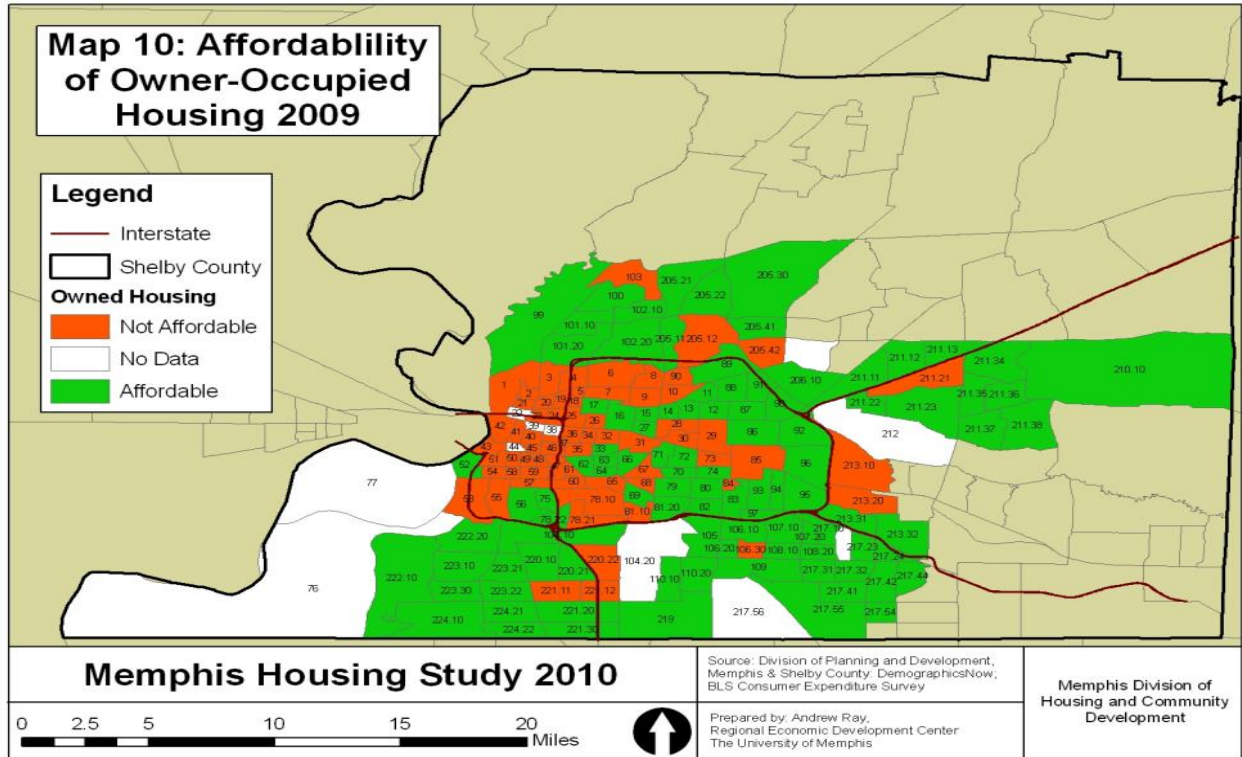
Figure 2.8 Map of Affordable Owner-Occupied Housing in Memphis 2010
(Regional Economic Development Center, the University of Memphis)

restoration of many of the historic homes in the city led to the formation of the Landmarks

Commission in 1976 (Bond and Sherman 2003). This commission is charged with protecting the

historical, architectural, and cultural landmarks in the thirteen districts that it oversees within the

city. Many of these districts are located in portions of the city that are not as affected by the

urban ills of Memphis. While historic preservation became mainstay in Memphis in 1976, much

of the newer redevelopment plans did not begin until the late 1980s to early 1990s. The

following section briefly introduces three areas of interest: (North CBID) Mud Island, The

South Main/South Bluffs neighborhood (South CBID), and downtown (The Core). Under the

guidance of the Downtown Commission, Memphis' downtown is considered one of the top

emerging downtowns in the county (Brennan 2013).

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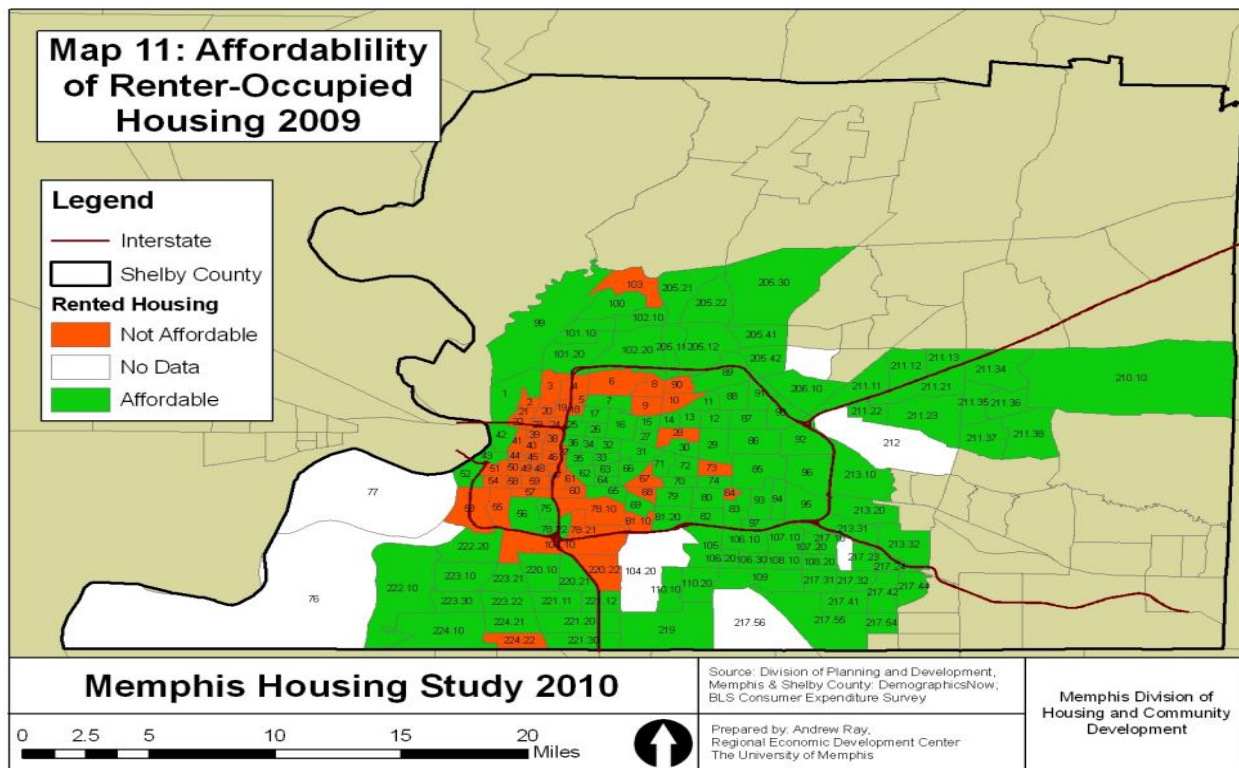
Figure 2.9 Map of Affordable Renter-Occupied Housing in Memphis 2010
(Regional Economic Development Center, the University of Memphis)

Downtown and South Main are home to many historic buildings, and much of the

redevelopment in these areas has been in the form of the converting loft and warehouses into

high-rise apartment and condominiums, most notably the Commerce Title Building, the

Exchange Building, and the Shrine Building. An example of how the conversion of these older

buildings has been used to attract young professionals back to the urban core is shown in Figure

2.10. Included in this section of the city is the iconic Beale Street. Adding higher quality housing

units to this area of culture and entertainment increases the pull factor of this region of the city.

However, the housing crisis in 2008 has weakened the demand for condominiums, and the

conversion of these historic buildings began shifting towards more apartments in recent years

(Poe 2014).

Figure 2.10 Regions of Downtown courtesy of Memphis Downtown Commission (left) and converted F. G. Barton Warehouse in downtown Memphis by Frank H. Jump (right)

While much of the development in South Main and "The Core" have been through revitalization of existing historic buildings, development in the South Bluffs and on Mud Island has been through new construction. The new construction can be conceived by what Davidson and Lees (2008) call "new-build" gentrification, which creates a middle class lifestyle in a place where one previously had not been typically in places like brownfields or formally undesirable land. Mud Island was made desirable when the Army Corps of Engineers cut a channel on the inside and deposited that earth on top, which finally raised the area well above flood stage level (Bond and Sherman 2003). The South Bluffs on the other hand developed within walking distance of this historic South Main District and the Sports and Entertainment District, offering the mix of new-built apartments and million-dollar homes. Mud Island, more specifically Harbor Town, and the South Bluff infuse New Urbanism – focusing on compact, walkable neighborhoods – in an attempt to create Memphis' version of the historic southern elements of Savannah or New Orleans.

The economic and cultural change experienced in downtown has not gone unnoticed or without criticism. A recent study by Smiley et al (2014) found that the gentrification occurring in the South Main District and surrounding areas fueled the demand for newly proposed bicycling plans intended to connect West Memphis to Downtown Memphis. Smiley *et al* proposed that without a commitment to social preservation of place, the proposed plan undermines the use of bicycling as a positive agent of civic change. The most iconic form of opposition comes in the form of one woman by the name of Jacqueline "Jackie" Smith, who has protested the urban change along Mulberry Street surrounding the Civil Rights Museum (Figure 2.11) for over 27 years (Jones II 2011; Branston 2011b). Jackie had been present at her site for upwards of 20 plus hours a day, seven days a week. She has protested the economic and cultural change caused by the renovation and popularity of the museum. She has been a critic of the spending of millions of dollars for the preservation of the past rather than contributing of money to confront the growth of poverty and segregation in the city (Jones II 2011).

Figure 2.11 Map Showing Site of Jackie, (Jones II 2011) (left) and Jackie Smith's Protest Site near the Civil Rights Museum by Caroline G. Wommack (right)

2.5 Public Housing in Memphis

With the discussed urban ills, it seems logical that Memphis would have a large public housing population. Memphis's large sprawling, low-density footprint, and a large non-elderly public housing population presents a unique set of challenges for the Memphis Housing Authority (MHA). The MHA was founded in 1935, and the role of the MHA increased following the passage of the Urban Renewal legislature that was passed in the 1950s (MHA website). By the 1990s, the Memphis Housing Authority desperately needed to create more affordable housing options for the impoverished of the city. Dr. W. W. Herenton in 1991, the city's first African-American mayor, spearheaded the initial movement to create more affordable housing. The adoption of mixed-finance developments became the solution to the affordable housing problem.

Currently, Memphis serves over 4,200 units in their low rent inventory, and another 7,000 units through the Section 8 voucher system. Memphis has a history of poor performance indicators and management practices. Between 1997 and 2000, a series of government audits threatened to force the MHA into receivership if it did not fix the poor performance indicators (OIG 1997; GAO 2000). In 1999, the MHA scored a 61% on the management assessment and by 2012, MHA scores a 92% (MHA portfolio). The management overhaul at the end of the century has provided huge benefits for the housing authority.

The mixed-plan method of choice became HOPE VI, and Memphis Housing officials have used this to attract large revitalization grants to the city's distressed public housing units. As can be seen in Figure 2.12, Memphis has used over $144.281 million to leverage an additional $325 million. In the late 1990s the grant sizes decreased, which forced public housing authorities to leverage more private funding. In the LeMoyne Gardens grant for instance, $1.42

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was leveraged for every dollar received in the grant, while the Dixie Homes grant received just eight years later, $3.6 was leveraged for every dollar received. A note should be made that HUD includes other forms of federal funding (i.e. LIHTC and other assistant programs) in their calculations for leveraged funds. Figure 2.13 shows the locations of the HOPE VI sites in Memphis utilized in this study. These sites are near downtown, and with the poor public transportation system many of the sites' original residents experience loss of their social networks. Many of the relocation neighborhoods are far from the downtown area in Frayser and Raleigh (Freiman et al 2014).

Even though Memphis has received five HOPE VI grants, only four of these grants had completed demolition and relocation by the time of the 2010 Census: College Park, Uptown Homes, Legends Park and University Place (Figure 2.13). For the sake of capturing the complete revitalization of the hosing project's effects on the surrounding neighborhood, and limit temporal bias, only these four sites will be studied. For a quick cultural note, the events movie of *The Blind Side* took place at Hurt Village, and there is even a Broadway play based on the housing project, *Hurt Village.*

Year of Award	Community Name	Prior Development Name	Grant Amount *(in millions)*	Additional Funds Leveraged (in millions)
1995	College Park	LeyMoyne Gardens	$47.281	$19.9
2000	Uptown Homes	Hurt Village	$35.0	$136.2
2003	University Place	Lamar Terrace	$20.0	$72
2005	Legends Park	Dixie Homes	$20.0	$64.0
2009	Cleaborn Pointe at Heritage Landing	Cleaborn Homes	$22.0	$32.9

Figure 2.12 HOPE VI Developments in Memphis (MHA & HUD)

Figure 2.13 HOPE VI Study Sites

Figures 2.14 – 2.16 show images of post-development in some of the previously mention sites. The images show the similar New Urbanist architectural influences, almost identical to nearby Mud Island and the South Bluffs. In fact, the same development company, Henry Turley Company, developed the Uptown Community and several other communities in the South Bluffs and Harbor Town on Mud Island.

Figure 2.14 University Park by Daniel Gadeke

Figure 2.15 College Park photography by Daniel Gadeke

Figure 2.16 Uptown Square (left) by D. Gadeke and Uptown Homes (right) from MHA portfolio.

2.6 Gentrification and HOPE VI nexus in Memphis

Memphis provides a unique landscape to study the relationship between public housing policy transformation and gentrification, in part because Memphis does not have a long history of gentrification. Daniel Hartley's (2013) analysis of gentrification across the country found only a small amount of gentrification from 2000-2010 within in the Memphis Metro; however, Freeman's (2009) national gentrification research study found that gentrification is only found in a small number of census tracts during a given decade, never exceeding 10 percent. So Hartley's study finds only 4% of tracts gentrified during 2000-2010 that should be considered, but that gentrification should not be written off in the city; furthermore, a recent blog post by urban planning guru, Pete Saunders (2014), highlighted four types of gentrification: Expansive, Concentrated, Limited, and Nascent. He points to Memphis as one of the key examples of Nascent Gentrification, as this phenomenon is generally occurs in the Southern US due to less dense/sprawling cities.

Chapter 3: Literature Review

3.1 Introduction

Gentrification was added to the urban lexicon by Ruth Glass in 1964 and has become the center of a growing body of urban research. Gentrification was originally conceptualized in a time of economic restructuring and transformation, and has been expanded to cover more of the changes in the urban landscape seen in the last fifty years. Prior to the 1990s researchers focused more on the theoretical debates of consumption versus production-based explanation of the gentrification process; however, recent gentrification research has been refocused to examine the social components of the process. Now with the stalemated theoretical debates of the 1990s in the past (Wyly and Hammel 2001), research can return to an analytical approach of understanding the effects of gentrification on the social aspects of the inner city urban community (Slater 2006)

The literature on the theory, dynamics, and outcomes of gentrification is an exponentially expanding field, with over 1,000 articles and over thirty monographs; therefore it would be futile to attempt to synthesize all of them. Therefore, this section will focus on gentrification in relation to four separate but very similar and interconnected themes. The first section examines the fluid nature of the definition for gentrification and how it has expanded to incorporate the rapidly globalizing aspect of gentrification, also examining several stage models created to explain the historic evolution of gentrification. The second section details the theoretical foundations of gentrification with the discussion of the production versus consumption debates that bound research from the 1970s into the 1990s. The third section examines the characteristics of gentrification that highlights or indicates neighborhoods and communities that are undergoing gentrification. Finally the last section will look at the most pressing theme, the relationship

between gentrification and urban policy. This relationship allows for the postulation of the questions – *does the adoption of neoliberal, mixed-finance public housing policy facilitate gentrification, and what can be done at the policy level to offset the negative effects associated with gentrification on these communities*?

3.2 Toward a Working Definition of Gentrification

The definition of gentrification has been disputed since Ruth Glass (1964) coined the term to describe the socio-economic restructuring and deindustrialization taking place in London. Two major themes have been argued regarding the re-conceptualization of the term. The first, argued by Rose (1984, 1989) and Beauregard (1986), argued for the chaotic nature of gentrification. The main premise for this standpoint argued that the process of gentrification had come to embody too many components to be understood. The second major theme argued the need to redefine gentrification in a global scale in response to the globalization in the latter part of the 20th century (Atkinson and Bridge 2005). This argument stressed that as gentrification globalized and expanded so too should its definition as to encompass some of the new components that have been exposed. (Lees 2008).

The Expansion of the Gentrification Definition

Gentrification has matured into a global phenomenon that far exceeds its original construct. The definition of gentrification has undergone many personal addendums from a variety of researchers. Some of the flavors of gentrification added to the literature includes: studentification (D. P. Smith 2005, 2007), rural gentrification (Phillips 1992, 2002), new-build gentrification (Davidson and Lees 2005), super-gentrification (Butler and Lees 2006; Lees

2003). However, the most pressing argument pertains to the concept of rescaling associated

attributes of gentrification to the global scale (Smith 2002; Davidson 2007, 2011; Shaw 2005).

Slater, Curran, and Lees (2004) stated that gentrification at the global level surpassed the

division class, gender, and ethnicity, but has actually come to encompass social unity.

Is Gentrification Chaotic?

The argument regarding the chaotic nature of gentrification research was most notable in

the 1980s as a result of the growing study of the relationship between gender roles and

gentrification (Rose 1984, 1989; Beauregard 1986; Smith 1987, 1996). Rose contested that the

roles of gender were not adequately defined in the definition of gentrification and wanted to

incorporate more about reproductive habits and changing household structure into the economic

discussion of gentrification. Smith (1987) responded by stating that the inclusion of household

structure would force chaos into the term. He conceded that the marginal gentrifiers were

important to the initial startup of the gentrification process, but he concluded that these marginal

gentrifiers were not significant to the outcome.

Furthermore, gentrification posed an affront to previous neoclassical urban models,

especially Hoyt (1933, 1939). Hoyt theorized that the rich would continue to move out of the city

to the suburbs; consequently, the urban core became home to those unable to afford more

affluent housing on the fringe of the city or in the suburbs (Hamnett 1991). Contrary to

neoclassical economic models, gentrification injected life into the derelict and neglected urban

core.

3.3 Theorizing Gentrification

Researchers in the late 1970s, to better understand the complexities of gentrification,

examined the causes and forces behind the process. The two main theories of gentrification,

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production and consumption, proved to be a bifurcation amongst urban theorists and researchers. Production theorists emphasized the production of urban spaces, the processes of the urban real estate and land markets, the role of collective public players such as developers and the financial lending organizations in the availability of suitable land (Smith 1979, 1982, 1987; Clark 1988, 1992; Bourassa 1990, 1993). The consumption theorists argued a greater emphasis on the role of the production of gentrifiers and associated identities such as gender, sexuality, class, and ethnicity (Ley 1981, 1982; Rose 1984; Beauregard 1986; Hamnett 1991, 1992; Bondi 1991, 1999). More succinctly, gentrifiers came to the urban core to consume urban culture. These two theories of gentrification have shaped the framework of urban debates and research since the inception of the Glass' term.

Production Theory

Production theorists' conception of gentrification stressed the economic factors in the determination of forces that explain the causes of gentrification and where gentrifiers chose to rehabilitate. This viewpoint placed minimal interest in individual consumer preference, but rather tied individual consumption preferences into a larger collective social action. Some components of a larger social collective action would include the availability of mortgages and loans, and interest to gentrify surrounding neighborhoods amongst developers and landlords (Smith 1982). While there is a diversified collection of production based gentrification theories, the one that has received the most critical reviews was Smith's rent gap thesis (Smith 1979; Hamnett and Randolf 1986; Skýora 1993). The rent gap was one of the first theories to explain the forces behind gentrification.

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Smith's understanding of the 19th century work of Karl Marx and Friedrich Engels on land theory heavily influenced his rent gap thesis (Smith 1979, 1982). Smith stated that when the gap between the capitalized ground rent, or the actual of amount of rent given by current land use, and the potential ground rent, or the amount that could be capitalized under the land's "highest and best use" was large enough for developers to renovate, pay costs, and turn in for a desirable profit margin, then would gentrification happen (Smith 1979, 1982, 1996). This gap was further widened by the de-valorization of urban properties by years of neglect, disinvestment, and redlining. (Smith 1996) Redlining is the lack of availability of mortgages and loans due to the high-risk nature of neighborhood's location (Squires 1992; Smith 1996).

Smith argued that capitalism consisted of two rather conflicting strains, "equalization of conditions and levels of development" and led him to stipulate that gentrification was a process of uneven development (Smith, 1982, 1996). The uneven development showcased how gentrification could occur in different places at different times. As the suburban sprawl increased, the central city became de-valorized and neglected as it was no longer profitable to maintain and upkeep these properties. This de-valorization of urban properties created a new level of development and served to counter the loss of profits to the suburbs (Smith 1982).

The rent gap thesis remained at the forefront of the production theory, until consumption theorists attacked the validity of the rent gap (Ley 1986, 1987; Hamnett 1991, 1992; Rose 1984). The main criticism of the rent gap thesis, outside of lack of focus on the individual consumption preference and placement of individual preference as an arm of a larger economic process, was the lack of an empirical evidence to support Smith's work (Ley 1986).

The discussion of the rent gap was not limited to just production versus consumption theorists, but a debate also emerged amongst production researchers. The splintering of these

researchers was along the divulging interpretations of neoclassical and Marxist economic

theories. (Lees *et al* 2008). The basic areas of conflict hinged on a lack of a strong empirically

viable version of the rent gap, whether the house value was truly separable from the land value,

and other various terminologies (Smith 1979, 1982, 1996; Clark 1988, 1992). The importance of

this debate asserted that scale is implicit with the study of uneven development and the rent gap.

Hammel (1999) concluded that using different scales in viewing land rent provided for a much

concrete theoretical basis for understanding the rent gap and land theory.

Consumption Theory

The consumption theory of gentrification drew heavily on the influence from the post-

industrial thesis proposed by Daniel Bell (1973). Bell emphasized four major components: a shift

from an industrial to a service based economy, the emergence of high skill, science based jobs,

an increasing number of professional and managerial jobs, and the role of the artists, musicians,

and progressives in leading consumer culture. (Bell 1973; Ley 1981; Lees *et al* 2008). Many

researchers have built on this economic and industrial restructuring and have taken greater

interest in the role of the individual's consumer preference and associated cultural identity. (Ley

1986; Hamnett 1991; Rose 1984,1989; Bondi 1991, 1992).

David Ley (1981) built on Bell's work and argued that a change in urban strategy

evolved in response to this urban economic and industrial restructuring. He added that a shift

occurred as more progressives moved into the city. This trend de-emphasized the importance of

growth and profit, but emphasized a greater concern for quality of life. Thus, he concluded that

consumption of culture better accounts for the change in the urban environment than economic

prosperity (Ley 1981, 1996). Several other researchers have commented on the consumption

styles of the newcomers to the urban arena, but much of this discussion has occurred in the

context of associated individual cultural identities. Several emergent themes describing the identities of the gentrifiers are actively researched: gender, class, and ethnicity. The study of these identities and associated consumption styles provided the best analysis of the consumption-based gentrification theory.

Gender

Prior to the 1980s very little, if any, attention was focused in the gentrification research towards the gender of gentrifiers. Much of the early research in gentrification portrayed gentrification as a process that was carried out by middle-class, White, men (Schaffer and Smith 1986). Beginning with the work of Ann Markusen (1981), gender studies in the gentrification process began to garner more credence and substance. Markusen was one of the first researchers to connect the breakdown of the patriarchal family structure and the creation of space for women. Demaritis Rose (1984) built on Markusen's work and stressed the increased importance of single women professionals, the increased divorce rate, and the expansion of dual earning couples.

Rose, a feminist urban geographer, also coined the term "marginal gentrifier", which referred to those marginally employed professionals made up of typically women and single parents. These marginal gentrifiers sought the comforts of the urban core because of the multitude of services that the central city could provide over the suburbs (Rose and LeBourdais 1986; Rose 1989; Lees *et al 2008*). Peter Williams (1986) argued that cities gave educated women far greater control of their occupational and social space within the community. The city here serves as an emancipatory agent. As the literature on gentrification evolved and grew, so too did the relationship between class and gender (Warde 1991; Butler and Hamnett 1994; Bondi

1999). Warde (1991) argued that gender divisions provided the best context for understanding the identity of the gentrifier. Butler and Hamnett (1994) challenged Warde's assertions, but concluded that the compilation of both class and gender provides a much deeper context.

Class

The literature of gentrification and class is almost innumerable given that class and gentry is imbued into the term (Smith and LeFaivre 1985). Much of the previous work on class has focused on the manifestations of class in the urban form (Ley 1996; Jager 1986; Mills 1988) A term coined by Jager (1986) was the *gentrification aesthetic*, which commented on the restoration of historic homes with unique architecture as expressions of class distinction. Bridge (2005) added that the influence of education aided in the explanation and existence of the *gentrification aesthetic*. Rather than describing gentrification aesthetic as an impromptu reaction from the lower classes, Butler argued that prior educational experiences gave historical context to the structure helping to make these places more desirable.

Several recent shifts in the discussion of gentrification and class have occured. The first shift highlighted a movement away from the comparison of the middle class to those of lower social order. This shift emphasized the creation of a middle-class identity and a decreased level of qualitative analysis and interest in those displaced, referenced as "others" in the text. (Butler 2003; Butler and Robson 2003; Hamnett 2003). The second modern shift in the literature discussed the role of class in the global scale of gentrification. Davidson (2007) proposed that the globalization of the gentrification process has changed the scale of gentrification, which a departure from contemporary researchers who stressed the implementation of a local image on a global level. (Ley 2004; Butler 2002, 2007; Rofe 2003). This global scale of gentrification

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created a space far larger than class that can be perceived and negates class divisions (Davidson 2007; Slater *et al* 2004).

Ethnicity

Gentrification was originally perceived to be a White, male driven force, and displaced those of other minority groups (Marcuse 1981, 1986; Smith 1986; Bostic and Martin 2003). While African-Americans are not the only ethnicity that is absent from the discussion of the ethnic identity of gentrifiers, their roles have become the focus of increased academic interest of late. Kirkland (2008) concluded that the racial dimension of gentrification remained a largely uninvestigated field, and noted that large portions of the academic research failed to even to include any caveat on ethnic distinction at all. Schaffer and Smith (1986) even speculated on the gentrification efforts that Harlem, despite having early data showing the existence of African-American gentrifiers, would ultimately become a White neighborhood. Not many researchers have examined the role of the African-American middle class in the gentrification process until Bostic and Martin (2003), who found that African-American gentrifiers had a stronger role in the gentrifying process in the 1970s but a far more limited role in 1980.

Some researchers have examined that role that gentrification played in the African-American community (Taylor 1992; Boyd 2005, 2008). Taylor and Boyd's work highlighted the intention of gentrification as a process of racial uplift and aid in the invention of a racial identity amongst a gentrifying world. Their work also implicates a process of both class and race, because class distinctions are still portrayed even in the racial context. Also, Boyd (2005, 2008) argued that while African-American gentrification possessed a well-intended notion of racial and social uplift the movement of the African-American middle-class into gentrifying

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neighborhoods, it still managed to disrupt and displace those most economically susceptible residents.

The 1980s and 1990s were filled debates over the importance of production *or* consumption theory. (Ley 1986, 1987; Smith 1987, Clark 1988). However, with the help of several injections from other researchers, it became apparent that there was a need to move outside these distracting debates and examine gentrification through a lens of a combination of the two theories (Hamnett 1991; Clark 1992, 1995; Lees 1994; Hammel and Wyly 1999). The combination of the two theories allowed for a more complete analysis of the gentrification process. Also, this moving past the stalemate allowed more researchers to focus on the effects of gentrification on those who are gentrifiying and those who are negatively affected by the process.

3.4 Identifying Gentrification

The gentrification literature has remained rather negative about the costs of gentrification. While there have been positives as a result of the gentrification process such as the alleviation of decline in urban cities, increased real estate values, decreased crime rates, increased occupancy rates, and increased local tax revenues (Atkinson 2002, 2004, 2005), much of the academic writing in gentrification has noted the negative qualities such as displacement (Chernoff 1980; Marcuse 1985, 1986, Slater 2006, 2010) discrimination, segregation, and othering (Butler 2003; Atkinson 2008; Wyly and Hammel 2004). Betancour (2002) argued that gentrification is a highly destructive process defined by the use of class, ethnicity, and alienation. Tom Slater (2006, 2008) argued the need for a shift from a focus on the causes of the process and the gentrifying class toward a focus on the effects of gentrification and those affected by the arrival

of gentrification. The field of displacement received the most criticism as a result of that it is rather difficult to quantify, and research behind gentrification's tendency to discriminate those outside of the highly researched middle-class.

Displacement

Displacement was one of the first elements identified with the process of gentrification and has been a large presence in the literature of gentrification (Grier and Grier 1980; Hartman 1981; London and Palen 1980; Smith and Williams 1986). Estimates in 1970s to 1980s on displacement ranged from a few households in a small number of larger cities (Grier and Grier 1980) to a half a million households (Sumka 1979) to as much as two and a half million residents per year (LeGates and Hartman 1981; 1986). Those most at risk for displacement were the elderly and the poorer, working class residents (Henig 1985; Atkinson 2000). Marcuse (1981,1986) concluded that displacement amongst African-American working class households was far less pronounced because the White middle-class were less attracted to African-American neighborhoods. However, proving displacement as a negative result of gentrification remains a problem as plenty of studies have found evidence that gentrification induced displacement, while others have found no definitive displacement as a result of the process. (Atkinson 2000; De Verteuil 2011, Lyons 1996; Freeman and Braconi 2004; Freeman 2005). Atkinson (2000a, 2000b, 2002) asserted that regardless whether displacement is evident in the community, gentrification remains a negative process for a neighborhood.

Peter Marcuse is the pioneer in the understanding of displacement and defined displacement in four major categories: "direct last resident displacement" or physical or economic displacement, "direct chain displacement" which looks at the displacement before last

resident displacement , "exclusionary displacement" or those who cannot afford to access land or property in a gentrifying area, and "displacement pressure" which looks at the deprivation of the working class during the gentrification of the neighborhood (Marcuse 1985, 1986; Slater 2010). Marcuse's work is the literature in which displacement is referenced today. The debate in more modern literature concerns his concept of exclusionary displacement.

Just as Marcuse (1981, 1986) described exclusionary displacement, a new debate emerged. Tom Slater (2006, 2010) deemed recent additions to the study of gentrification as a misinterpretation of Marcuse. Recent work,most notably Freeman and Braconi (2004), Freeman (2005), and Vidgor (2002), proposed that displacement was not as prolific as previously presented. Their results showed much lower rates of mobility within gentrifying communities. However, several authors have responded that this lower mobility was a form of Marcuse's exclusionary displacement concept (Slater 2006, 2010) Newman and Wyly (2006) asserted what Hartman (1984) perceived as voluntary decision to not movement out of a gentrification was incorrect; they stated that it was an entrapment or exclusionary displacement of those unable to find afford housing in other communities.

3.5 Neoliberal Urban Policy, Public Housing and Gentrification

Beginning in the late 1990s, the relationship of how urban policy is related to and affected by gentrification, and vice-versa, became a fast growing area of interest in gentrification literature (Slater *et al* 2004*;* Lees 2008; Freeman 2004; 2005; Vidgor 2002; Uitermark *et al* 2007). This shift in this research occurred when researchers moved away from the strenuous years of divisive theoretical debates over the causes of gentrification towards an examination of

the effects of gentrification, which allowed for a policy perspective to be applied. (Lees 2007;

Weesup 1994; Wyly and Hammel 1999, 2004).

A large amount of research has examined the changing nature of urban policy and the

treatment of gentrification as a "dirty word" (Smith 1996; Wyly and Hammel 2008). City

planners and policy makers have resorted to the use of sugar coated terminology such as

"revitalization", "renewal", and "social mixing" that function as a guise from the negative

connotations of gentrification. A budding subset in this research path has been the emergence of

analysis of government sponsored gentrification policies that began in the early 1990s. A federal

policy of increased consideration is the HOPE VI (Homeownership Opportunities For People

Everywhere), which was implemented in 1992 as a way to alleviate the number of "distressed"

public housing structures across American cities (Salama 1999).

Public Housing Background

Pre-1970s

To begin the discussion on public housing, it is best to provide a working definition of

public housing, as provided by the Department of Housing and Urban Development (HUD), as

"housing assisted under the provisions of the U.S. Housing Act of 1937 or under a state or local

program having the same general purposes as the federal program. Distinguished from privately

financed housing, regardless of whether federal subsidies or mortgage insurance are features of

such housing development" (HUD User 2014). Public Housing in the United States constitutes

only a small percentage of the total housing market, 1.3 million units or roughly 5 percent of the

rental units in the US (Epp 1996), yet it has remained a focal point in redevelopment efforts.

Public Housing did not exist prior to World War I, so in 1937 Congress passed the *Wagner-*

Steagell Housing Act, which established the United States Housing Authority (Clark 2002). This was the first piece of legislation that set aside funding for the construction low-rent housing projects. The act also set up the predecessor to the US Department of Housing and Urban Development (Fraser and Nelson 2008).

The next piece of legislation that began to create an identity for American Public Housing was the *1949 Housing Act*, but it was severely compromised by private interest. It required rent to be 20% lower than the lowest comparable rate in a neighborhood and limited entrance to only those of the lowest incomes (Hackworth 2003). This allowed for limited amounts of integration amongst various incomes, and predicated a long history of public housing isolation, segregation, and a growing concentration of the urban poor. In 1968, Congress passed the *Housing and Urban Development Act* (HUDA), which a pivotal piece of legislature. It was the first time that the government began to look at those in public housing as potential homeowners. The act also provided subsidies to low-rent multifamily housing developers, which helped to promote a huge uptick in public housing unit construction, (Hackworth 2003).

1970s – Present, the 'Shift'

The reason for the break in the historical narrative of public housing in the 1970s is that this time period represents a great shift in American economic and political ideology and doctrine, often referred to as the "Neoliberal Turn". Neoliberalism, the belief that competitive and unregulated markets pose the best method for economic growth, is best described by its five core values: the individual; freedom of choice; market security; laissez faire, and minimal government (Larner 2000; Harvey 2005). The rise of neoliberalism accompanied the dismantling

and reduction of many Keynesian welfare institutions, most importantly public housing (Hackworth 2003, 2007).

The 1970s highlighted the failures and shortcomings of the Fordist manufacturing model in the midst of increased international competition, deindustrialization, diversification, and rising un-employment, created space for a strain of classical liberal economic thought to thrive (Brenner and Theodore 2002). Theodore and Brenner (2002) argue that cities are important arenas to study neoliberalism since urban centers often become testing grounds for new neoliberal policy driven experiments (Theodore, Peck, and Brenner 2011) Increased interest, of late, has focused on this interaction between neoliberal policies and the urban landscape, which can be seen in the growing number of edited volumes on the subject (Theodore and Brenner 2002; Leitner Peck and Sheppard 2007; Glynn 2009).

Similar to gentrification, neoliberalism is described not as a static concept, but rather as a constantly evolving process (Larner 2003). Neoliberalism is path-dependent, meaning that rarely, if ever, is it emplaced in a pure form, rather it was molded and defined by the inherited regulatory institutions (Theodore, Peck, and Brenner 2011). Due to this contextual nature of the process, also similar to gentrification, neoliberalism is unevenly spatially applied and distributed. Neoliberalism is described as a creatively destructive process in that it first destroys the existing Keynesian structures, and then creates a new structure that is more open to the market (Harvey 2005). The creative destruction component of neoliberalism can be even further simplified into two concepts, rollback and rollout neoliberalism. Rollback neoliberalism is the rolling back of the pre-existing Keynesian structure, and this process is associated with supremacy of Reaganism and Thatcherism of the 1980s. Rollout neoliberalism is the rolling out of the new neoliberal policies, which improved on some of the failures of the extreme cost-cutting methods

of neoliberalism in the 1980s, most notably created crisis management policies to better insulate certain economic factors from the failures of the market (Theodore and Brenner 2002**)**.

The early 1970s saw the move to privatize public housing, most notably with the introduction of Section 8 vouchers in 1974. These vouchers require residents, who are assisted by the program, to pay up to 30 percent of their monthly income on the household income and PHA pays the remaining amount due (Hackworth 2003; Fraser and Nelson 2008). The privatization and reduction of the welfare state was a byproduct of the growing neoliberal policies advanced by the Nixon and later the Reagan administrations. With only 11 percent of the public housing stock built after 1980s either, policy makers were left with a growing number of outdated, dilapidated, and uninhabitable public housing units dating back to the 1940s and 1950s Urban Renewal Projects (Epp 1996; Katz 2004). Faced with this problem, Congress authorized the National Commission on Severely Distressed Public Housing (NCSDPH) to develop a national plan to help alleviate this problem in 1989 (Blair and Fitzgerald 2005). After 18 months and visits to 25 sites the commission found that only 6% or 86,000 of 1.3 million units were "severely distressed" (Epp 1996; Popkin *et al* 2004; Reid *et al* 2006). Common characteristics amongst those sites considered "severely distressed" where physical deterioration, high concentrations of poverty, insufficient services, and absence or abandonment of services (NCSDPH 1992). These characteristics influenced the goals and objectives of the HOPE VI program. The Commission suggested a 10 year $7.5 billion plan to rejuvenate the depleted public housing stock (Popkin *et al* 2004).

In 1993, Congress appropriated funds for the Urban Revitalization Demonstration program (later becoming HOPE VI) to address the concerns raised by the NCSDPH (McCarty 2005). The program was first designated to help the 40 largest public housing authorities (PHA), promising

to open up other PHAs in later years. Within the first two years, Congress had authorized $1.2 billion in grants to 32 PHAs (Bair and Fitzgerald 2005).

HUD offers two main forms of grants to PHAs, revitalization and demolition. The vast majority and largest are revitalization grants, while demolition grants are given when it not cost-efficient to redesign or redevelop existing public housing units (McCarty 2005). As of FY2010, HOPE VI has designated $6.7 billion in grants, but the majority, $6.2 billion, of these grants was in the form of revitalization grants (Smith 2013).

3.6 HOPE VI

To best understand the evolution of the HOPE VI program, the following section is divided into several discussions: the General Audit Accounting(GAO) audits 1997-2008, public housing architecture, the adoption of poverty deconcentration policies, and the created of mixed-financed public housing developments. The review of the GAO audits provide insight into the evolution of the program, while it highlights the dysfunction of a fledgling federal program in the face of a tumultuous time for the Department of Housing and Urban Development (HUD). One of the biggest initiatives of the HUD's new policy towards public housing has been the adoption of New Urbanism, and the physical reshaping of the public housing landscape. The adoption of neoliberal policies by HUD in the 1990s spurned two of the most controversial elements of the HOPE VI program: poverty deconcentration and the adoption of mixed-finance policies. These elements are just small snippets of a burgeoning multidisciplinary body of literature that evaluates the legacy of HOPE VI.

GAO Audits

The Government Accounting Office (GAO) conducted a series of audits and assessments on the HOPE VI program from 1997-2003, and these audits serve as a benchmark to understand the

evolution of the program from a policy perspective. In 1997, just four years after the

implementation of the program, GAO found that from FY 1993 to FY 1995 $1.59 billion had

been appropriated, and of that, $1.54 was appropriated for capital improvements (GAO 1997).

Capital improvements encompass activities such as demolition, rehabilitation, new construction,

and the costs of relocating displaced residents. So very early on, a small portion of the allocated

money was for community and technical services. Furthermore, in 1998, the second of the

reports, GAO found that even though public housing authorities (PHAs) could spend 20% of the

grant total on community services, but the average was only 12% from 1993-1995. It should

also be noted that in FY 1997, the amount able to be spent on community services changed from

20% of the grant to $5,000 per unit (GAO 1998). This report also found that HUD's limited

oversight and lack of management responsibilities created issues with dispersion of funding and

completion redevelopments. In fact, the report found that over 73% of grants funds had yet to be

dispersed.

    The final three GAO audits are a multi-part comprehensive assessment of the viability of the

HOPE VI program from 2002- 2003. These reports closely examined the ability of grants to

leverage private funds, the management strategies of HUD, and examined early relocation

outcomes from previously completed developments. In 2002, the GAO audit found that even

though the average grant size have decreased since FY 1993, the ability for PHAs to leverage

private funds have increased. The GAO estimated that for every $1 in federal grants, an

additional $1.85 was leveraged from local public-private partnerships. The GAO found their

estimate to be fairly lower than the number provided by HUD $2.07, citing the inclusion of other

federal funding sources in HUD's tally (GAO 2002). The GAO also found that budgeted funds

for community services were becoming mostly composed of leveraged funds, increasing from 22% to 59% of total budgeted funds community services.

The lack of oversight and regulation of HOPE VI grantees by HUD was found to be a problem in these audits. In the 2002 report, GAO found that HUD was not fulfilling its legal responsibility of completing its annual reports. HUD often did not follow its own grant selection procedure, and also lacked enforcement policies (GAO 2003a). It was not until FY 2002 that HUD stated that an applicant with one or more existing HOPE VI revitalization grants would be disqualified if one or more of those grants failed to meet certain performance requirements defined in the grant agreement. Even with this added stipulation, HUD still reviewed troubled PHAs on a case by case basis, which provided no incentives for the offenders to change their ways. Furthermore, prior to 1998, to provide funding for the HOPE VI program, Congress had to pass an annual Appropriations Act each year, which consequently created different new funding criteria for PHAs (Smith 2013). This created problems for PHAs as they had to adjust to the constantly changing criteria. That problem was solved with the passage of the Quality Housing and Work Responsibility Act of 1998 (QHWRA), which made HOPE VI a permanent program.

In 2003, the final of the three audits, the GAO reported on early resident relocate outcomes in housing developments in various stages across the country. The report finds that grantees expect 46% of the relocated original residents to return to the redeveloped site, but the percentage of residents who actually return varies across sites (GAO 2003b). Furthermore, the report found that the estimated return rate of the original residents to the HOPE VI site decreased from 61% to 46%. That 15 percentage point drop would be indicative of the adoption of the grantee plans submitted after 1998 that utilized higher mixed-financed plans. Additionally as of June, 2003, 76,393 units had been demolished and only 44,781 of the units had been replaced.

Finally, the GAO reported on HUD's insistence that PHAs use leveraged funds to finance sustainable community services that will last long after the HUD grant disappears. As was seen in the 2002 report, leveraged funds were in fact comprising larger portions of the total budgeted funds for community services. Examples of sources to leverage community service funding are education, public libraries, private foundations, non-profits, and faith-based organizations (GAO 2003b).

The Changing State of Public Housing Architecture

The adoption of modernist architecture by PHAs following World War II created the iconic high-rise structures often associated with public housing in the United States. Following a history of limited funding from Congress, PHAs turned to high-rise construction as a cost-efficient housing option, but also allowed for more units to be built on a tract of land (Smith 2006). The logic modeled after Corbusier sought to encourage heavier development on the tract of land, but minimize building footprint as to allow for increased recreational use. The lack of a defined open space and a one-size fits all design provided few economic and social opportunities for its residents (Calthorpe 2009).

Furthermore, Modernism's adoration for the automobile, highways, and segregated land use provided the foundation for urban sprawl, which helped to hollow the inner city. As the inner city declined, so too, did upkeep and maintenance of the public housing projects. The physical and social conditions in these almost forgotten projects declined in the 1980s. The inability to provide sufficient maintenance and limited redevelopment options caused many PHAs to remove the most troubled units through a process known as de facto demolition (Goetz 2012). In doing so, PHAs failed to rent vacant units or provide proper care to units to the point that the units were

inhabitable. Thus, by the time of the Commission on Severely Distressed Housing, the number of 'distressed' units has swelled to 86,000 units, 6% of the total stock.

In the early 1990s, it became apparent that the Modernist design for public housing had failed, and a new design element needed to be incorporated. New Urbanism became the method of choice for altering the physical state of public housing (Kleit 2005). New Urbanism is a movement that advocates design strategies based on more traditional urban forms that help put a stop to suburban sprawl, central city decline, and works to build a stronger community and neighborhood (Bohl 2000). The incorporation of New Urbanist ideas eliminated high-rise, high-density public housing units, in favor of low-rise garden apartments and townhomes. The shift toward low-rise housing was an attempt to lift the veil of architectural isolation created by old public housing units (Kingsley et al 2003). Furthermore, planners realigned street patterns and adopted similar neighborhood architecture to aid in the creation in a more visibly cohesive neighborhood (Calthorpe 2009). This created community was mixed along the lines of ethnicity, income, and age with major design initiatives to encourage daily interaction and the strengthening of social capital and networks (Kleit 2005).

HUD and the Congress of Urbanism (2000) partnered to outline fourteen New Urbanism design elements that would be worked into future HOPE grant sites. Critics of the adoption of New Urbanism cite that physical planning alone cannot solve issues related to poverty, and that further funding for community services was necessary (Goetz and Chapple 2010). Alternatively, since the main object of the New Urbanist design is to incorporate mixed-use with the objective, there comes increased private investment. Peter Calthorpe (2006), one of the prominent New Urbanist minds, even went as far to say that the loss of public housing units in HOPE VI developments was a "tradeoff" to create vibrant, sustainable communities. This spurred new

private investment into public housing, and an increased number of market rate units have opened forgotten areas to gentrification (Wyly and Hammel 1999; Goetz 2010, 2012).

Public-Private Partnerships

Public housing in America originally targeted the submerged and potential middle class, but over the years public housing consolidated the poor (Vale and Freemark 2012). For instance, in 1950 public housing residents made 57% of the area median income, and by the 1990s, residents were making less than 20% of the area median income (Vale and Freemark 2012). Public housing in the last part of the 20th century, with the help of leveraged private funding, has sought to once again target low-income families. In doing so, two major mechanisms have been used to transform the social and demographic composition of public housing, poverty deconcentration and social/income mixing. In Janet L. Smith's 2013 article titled 'The End of US Public Housing as We Knew It', she finds that HOPE VI has served as the model to permanently change public housing in America.

Poverty Deconcentration

One of the most controversial components implemented by HOPE VI policy concerns poverty deconcentration. The justification for the dispersal of the urban poor finds theoretical roots in the belief that poor neighborhood environments can have negative effects on their residents (Bauder 2002; Imbroscio 2008; Manzo, Kleit, and Couch 2008; Greenbaum *et al* 2008: Goetz and Chapple 2010; Goetz 2013). This idea of neighborhood effects built off the work of Wilson (1987) and placed the responsibility for the economic and social marginality of the neighborhood's residents onto the residents themselves (Bauder 2002). The relocation of these

disadvantaged residents is intended to break up the unhealthy creation of negative habits, and allow for positive social norms to be formed (Greenbaum *et al* 2008; Briggs 1998).

The poverty deconcentration efforts initiated by the HOPE VI program drew upon two previous mobility programs, the Gauteaux program and Moving to Opportunity (Goetz and Chapple 2010). The Gauteaux program was a desegregation housing program that came out the court case in the 1970s concerning racial discrimination in the Chicago Housing Authority (Varady and Walker 2003). This voluntary relocation program mandated that relocatees moved to neighborhoods that were at 70 percent or more White. From 1976 to 1988, over 7100 families were relocated to predominantly White suburbs.

The Moving to Opportunity (MTO) program began in the 1990s, and was a voluntary mobility program that required relocatees to move from public housing units in areas with poverty rates greater than 40% to areas of low poverty rates, typically below 10% (Goetz and Chapple 2010). Residents were divided into three groups: experimental or those families that moved into areas with poverty rates less than ten, comparison or those families that are provided vouchers with no geographic restrictions, and control or those who are not given a voucher and remain in public housing (Varady and Walker 2003). HOPE VI poverty deconcentration efforts differed from both the Gautreaux and MTO programs, in so that relocation was not voluntary, but in fact, mandatory (Popkin 2006). Moreover, residents relocated through HOPE VI had limitations to which neighborhoods that they could move to.

The tool most often utilized to relocate HOPE VI residents has been the Housing Choice Voucher, formerly Section 8. These vouchers cover up to 30 percent of the difference between resident's monthly income and that of the average rent in the neighborhood (Hackworth 2003; Varady and Walker 2003; Clampet-Lundquist 2004; Boston 2005; Fraser and Nelson 2008). This

resulted in more low-income families in the private market than are in traditional public housing, with vouchers now numbering over 2 million users (Smith 2013). While proponents of relocation favor this method since it provides freedom of choice, resident relocation results have been mixed when it comes to the program.

An alternative source for affordable housing has been the use of low income housing tax credits (LIHTC). These credits are annually transferred to the states, and then are allocated to private developers. These developers construct or rehabilitate housing for moderate to low-income families (Galster *et al* 1999). Consideration to receive credits placed emphasis on development in neighborhoods with higher levels of poverty; however, developers using these credits are able to assist families with typically higher incomes than allowed by public housing authorities.

A growing body of research is confronting the need for dispersing the urban poor due to the lack of positive outcomes for the original residents. Imbroscio (2008) in his rebuke of the petition signed by a group of over 200 academics—which he calls the "Dispersal Consensus", following Hurricane Katrina that called for the massive dispersal urban poor—finds little to no positive outcomes for the original residents, and an over-selling of evidence from the Gautreaux and MTO programs. Greenbaum *et al* (2008) found that relocates were stigmatized as problem families by their new neighbors, and new little social interaction occurs. Goetz and Chapple (2010) conclude that the only positive outcomes of dispersal policy are that residents report feeling safer and healthier. Comey (2007) found that only 14% of relocatees moved outside of the city, and Goetz (2010b) found that relocatees moved to areas that had lower poverty rates, but where rates were still higher than city averages. Many problems have plagued the use of housing vouchers such as landlords unwilling to rent in tight markets and unaffordable rent

(Varady and Walker 2003). Kingsley *et al* (2003) found that those who "vouchered out" moved an average of 3.9 miles and a median of 2.9 miles from their original location; furthermore, he found that relocatees did move to tracts with lower levels of poverty. However, Pardee and Gorham (2005) found in regard to the case of relocation at the various HOPE VI sites in New Orleans that "markets" were not set up to provide affordable housing to everyone, but rather, only to those who can afford it. They found that the current rate of public housing unit destruction created a long term housing shortage for those who were in the most need.

Social/Income Mixing

Mixed-use housing has received more research and negative reviews views of late (Rose 2004; Davidson 2008; Lees 2008; Bridge *et al* 2012). Mixed developments represent a determined effort to construct multifamily developments that mix various income groups as part of both its financial and operating plans (Brophy and Smith 1997). Mixed-income developments are supposed to affect lower-income residents in a number of positive ways, i.e. through the creation of social networks, social control and decrease in crime rates, providing higher-income residents to serve as role models and to create a stronger political voice to gain access to better services (Joseph *et al* 2007). Mixed income developments function in two formats: people based and place based. People-based mixing involves the strategy of dispersion, which combats concentrations of the urban. Place-based mixing involves the strategy for remaking the place where the poor live and inviting higher income into the neighborhood (Fraser *et al* 2010). Housing Choice vouchers would be considered people-based, and the HOPE VI developments themselves would be place based.

The goal for social mixing is to instill economic self-sufficiency into the residents of a lower social and economic stature by locating them closer to residents with better economic means. The poorer residents could get to know these more affluent neighbors and use these ties to gather information related to services and employment to better themselves (Briggs 1998; Goetz and Chapple 2010). Some writers even to state that the poor social connections amongst members of similar disadvantaged conditions have negative value and hinder upward mobility (Wilson 1987; Briggs 1998). The goal for social mixing is to instill economic self-sufficiency into the residents of a lower social and economic stature by locating them closer to residents with better economic means. The poorer residents could get to know these more affluent neighbors and use these ties to gather information related to services and employment to better themselves (Briggs 1998; Goetz and Chapple 2010). But some writers even state that the poor social connections amongst members of similar disadvantaged conditions have negative value and hinder upward mobility (Wilson 1987; Briggs 1998).

Critics of the adoption of mixed housing as an element of HOPE VI cite the lack of evidence supporting the use of mixed housing (Cole and Goodchild 2000; Kleit 2005; Reid *et al* 2006; Frasier *et al* 2012). A recent report by the Right to the City Alliance (2010) found that despite the negative representations in media, many residents have strong emotional and social connections to their public housing community. The growing sentiment that all of those ideas of social capital, role modeling, social control, and increased services all lack hard evidence of their effectiveness. Mounting research points out that mixing does not work because little mixing occurs among social groups, and the working-class residents are priced out of their previous neighborhoods (Butler 2003; Lees 2008; Davidson 2010; Davidson and Lees 2010). Butler and Robson (2003) argued that the incoming residents and original residents keep to themselves, live

in their proscribed place, and have limited social interaction among each other in their new developments.

3.7 The Connection between Public Housing Policy and Gentrification

Gentrification has evolved into varying forms since the since its inception in 1964 (Lees 2000). Hackworth and Smith (2001) theorized the evolution of gentrification as a series of three waves, with three small transition periods that coincided with economic downturns and the recessions, thus showing gentrification's interconnectedness with national and local economic conditions. These transitional periods also help explain that gentrification can be hindered by economic woes, but rather than stopping gentrification, the process slows to below its pre-recession levels (Lees and Bondi 1995; Smith 1996). This served to refute those who had proclaimed the demise of gentrification in the early 1990s (Bourne 1993; Lees 2000).

The first wave, incuded gentrification up to1973, was defined by sporadic, localized gentrification and state funding to counteract years of private disinvestment in the inner city. Often the revalorizations of areas of urban decline were used to justify the state's intervention, and were also triggered by large-scale suburbanization from the previous twenty years (Wyly and Hammel 2001). Hackworth and Smith describe the second wave as the point where gentrification became embedded in disinvested areas of the city. This second wave involved far less state-sponsored gentrification as governments made a greater push for private investment. The third wave becomes the most crucial to this study. This wave is defined by the expansion of gentrifying areas; larger developers have become involved in the process (Logan 1993), local resistance towards gentrification has subsided (Wyly and Hammel 2001), and finally, the state has taken a much more active role in the gentrification process (Hackworth and Smith 2002).

While gentrification has undergone changes since its inception, so too, has the relationship of neoliberalism and urban policy. Neoliberalism, which often defined as competitive and unregulated markets that have been freed from state interference represents the best mode for economic growth (Bourdieu 1998; Brenner and Theodore 2002). Neoliberalism represents a return to the original writings of liberalism; such has John Locke and Adam Smith (Smith 2002). The city becomes acts less as a regulator of the market, but rather begins to focus on capital accumulation (Peck 2006). The shift toward neoliberal polices tended to expose the majority of the populous to the rigors of the dynamics of the market, while maintaining social protections for those who could afford it (Gill 1995; Brenner and Theodore 2002).

The third-wave of gentrification is used in neoliberal urban policies that are pushed in state driven community redevelopments and have begun to lay siege to the remnants of the early Keynesian welfare urban policies, such as public housing (Crump 2002; Wyly and Hammel 2005; Lees and Ley 2008; Hackworth 2007). These Neoliberal efforts have sought to privatize low-income housing, seeing that the private market is much more cost-efficient (Wyly and Hammel 1999, 2001, 2004). President Nixon placed a moratorium on the construction of public housing and shortly thereafter in1974 Congress introduced the Section 8 Voucher System, which allotted subsidies for low-income families to enter the private housing market (Varady and Walker 2003; McCarty 2005). Couple this social isolation with the slow construction for alternative housing for the original residents and the small number of subsidized units in the new development, HOPE VI has a history of displacing the urban poor (Popkin *et al* 2004; McCarty 2005; Jones and Paulson 2011). A seminal shift in public housing policy was in 1995, when President Clinton suspended the one for one replacement of public housing in redevelopment efforts, thus introducing a seemingly permanent deficit of available public housing (Salama

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1999; National Housing Law Project 2002; Crump 2002). Popkin *et al* (2004) estimated that for every 100 public housing units that existed before development only 51 are replaced. Return rates of those displaced to the HOPE VI site are as low as 11.4 percent program wide (National Housing Law Project). Those who do not return are left to either "voucher out" or are transferred to other public housing sites within the city. This has shifted the focus away from the social benefit of public housing redevelopment, and toward a standpoint that sought the most financially profitable use of the land.

3.8 Finding the Lacuna: HOPE VI, Gentrification in Memphis, Tennessee

There have been many contributions to research fields of both gentrification and HOPE VI. These contributions have shown how dynamic both of these two topics can be. The geography of both gentrification and HOPE VI has been expanded rapidly showcasing the need for the unevenness of the processes and policies that are taking place, which is resulting in different outcomes from site to site (Lees 2000; Smith 2002; Hackworth 2003).

Little work describing the processes of gentrification in Memphis, Tennessee has been undertaken. Memphis provides an excellent site for exploring gentrification as a concerted effort in the recent past to revitalize downtown. Plans to revitalize downtown may have influenced the redevelopment of five different public housing sites in and around downtown. Little work has been done to explore the connection between gentrification and HOPE VI grant sites, yet. Until recently few efforts concerning HOPE VI in Memphis has also been researched. Popkin et al. (2013) and Frieman et al (2013) assessed the services available to residents affected by the HOPE VI initiatives in the city. They found that Memphis presents unique set challenges with

higher than average unemployment and poverty rates. They found that services were available to those in need, but a need voiced by interviewees was better access to employment.

While a greater understanding of the implications of urban policies is increasing, there remains a widely under researched prospective. What kind of relationship, spatial and temporal, does gentrification and public housing redevelopment initiatives such as HOPE VI, share in the urban setting? Does mixed-income housing represent gentrification by stealth (Bridge *et al* 2010)? As a growing number of displaced low-income residents from HOPE VI initiatives and the shrinking number of available public housing units constitute gentrification, when does it qualify as gentrification?

Chapter 4: Methodology

The neoliberal public housing policy shift toward one that favors demolition, reduction, and privatization of the public housing unit pool has opened forgotten portions of cities to streams of reinvestment and gentrification (Wyly and Hammel, 1999). Census data has been shown, with relative accuracy, to lend itself to model the gentrification, and help understand the gentrification landscape (Hammel and Wyly 1996; Wyly and Hammel 1999). Memphis provides a unique space to study the relationship between gentrification and HOPE VI as both forces increasingly have manifested themselves within similar timeframes. Research has found that public housing authorities (PHAs) with the highest amount of unit destruction face the greatest gentrification pressures; Memphis ranks in the top 10 in both PHAs with the most units removed and highest percent of units removed from 1990 – 2007 (Goetz 2011). This chapter will introduce and discuss the research framework, the methods employed in this research, and essential assumptions and limitations associated with this research project.

4.1 Data and Software

Data

Data for this research comes from a number of sources encompassing socio-demographics, housing conditions, and GIS shapefiles. The first dataset used was Geolytics' Neighborhood Change Database that provides Census data from 1970 -2010. The proprietary database has normalized the census data values to the most recent census tract boundary. This normalization of the data allows for researchers to compare census variables over a period of time without the need to address the changing boundaries and populations from census to census. Census variables were selected using the results from Wyly and Hammel (1999) as a guideline. The variables selected were: White population share in 2010, African-American population share

in 2010, White non-family households share in 2010, change in White non-family households share from 1970-2010, share of population 25 or older with some college in 2010, change in share of population 25 or older with some college from 1970 - 2010, share of population 25 or older with a college degree in 2010, change in share of population 25 or older with some college from 1970 - 2010, share of managerial and administrators in workforce in 2010, poverty rate in 2010, share of population of people between the ages of 30-44 in 2010, change in the share of population of people between the ages of 30-44 from 1970-2010, homeownership rate in 2010, average household income in 2010, average household income ratio (2010/1970) in constant dollars. All variables, except for White and African-American population share, poverty rate, homeownership rate, and average household income, were created in Microsoft Excel with basic calculation. The Census Tiger/Line tract boundary GIS file was downloaded to join to the normalized data.

The 2014 Shelby County Assessor Tax Parcel Database was used to document the housing condition of all residential parcels in the city of Memphis, and used to conduct the windshield survey of the gentrified tracts. Two main tables within the database were used, DWELDAT and COMDAT, which contained information on the structure's original year built, the structure's effective year, and the structure's grade. The original build year field is important, since building age is a key component in the classification structure. The use of the effective build year gave a time stamp for when major renovations or additions occurred on the property. Effective build years serve as a proxy to evaluate the health of the neighborhood. Finally, the structure's grade field represents the quality of the construction, which can serve as testament to the physical condition of the structure. Interestingly enough, the Shelby County Assessor's office

has single-family homes in the DWELDAT table, and classifies multi-family homes as commercial portion, so the COMDAT table was included for this reason.

The Mortgage Disclosure Act (HMDA) requires lending institutions to release the date related to their mortgage lending practices, and has created a plethora of available data to dissect mortgage lending in neighborhoods. I will also use the database controlled by the Federal Financial Institutions Examination Council to identify the level of lending in neighborhoods during the HOPE VI redevelopment process through the use of home purchase loans from 2000 – 2013. Likewise, I will use the home purchase loans data from 1990, 2000 and 2010 to identify the existence of a rent gap in these neighborhoods.

The final set of data that will be used in this research project concerns public housing. Consulting data publicly available from United States Department of Housing and Urban Development (HUD) and the Memphis Housing Authority (MHA), researchers can gauge the level of displacement caused by public housing redevelopment. Two HUD databases, Picture of Subsidized Household and Assisted Housing Properties, and the MHA redevelopment portfolio was consulted to gather the number of demolished units, relocated residents, and number of replaced units in the newly developed sites

Software

To properly conduct the methods for this research project, software such as Google Street View, Zillow, ArcMap, and R were used. Google Street View and Zillow were used to validate the accuracy from the data taken from the Shelby County Assessor Tax Parcel Database. Google Street View has recently been shown to be an effective method to measure the effects of gentrification over time (Hwang and Sampson 2014), while Zillow provided insight into the overall economic health and vitality of each parcel. Zillow also allows the user to compare the

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housing prices across different geographic areas. ArcMap was used to access simple geospatial

tools such as joining geometries to data files, and clipping the extent of the geometries to that of

the research study. ArcMap was also utilized for basic cartographic purpose. Adobe Illustrator

allows for the production of maps and graphics for strong communicative representation of the

data. The final software component used in this research project was the open-source statistical

program, R. Many of the top statisticians have written their own R mini programs, or packages,

to conduct statistical analysis. R is more than capable of conducting the classification

methodology listed above.

4.2 Modeling Gentrification Using Census Data

Research Background and Design

While no consensus exists on quantifying gentrification, Hammel and Wyly (1996) and

Wyly and Hammel (1999) have shown that a mixed method approach, which combined archival

research and fieldwork with decennial census tract data to calibrate statistical models, has proven

to be an effective measure for identifying gentrification. The same *a priori* classifications used

by Wyly and Hammel are adopted for this analysis, and are delineated into four groups: core

gentrified, fringe gentrified, non-gentrified, and rest of inner city. Core gentrified tracts are

census tracts that were below the 1970 average central city household income level and that have

seen significant redevelopment and reinvestment in the built environment. Furthermore, there is

at least one improved structure on each block & at least one third of residential structures show

evidence of reinvestment. Fringe gentrified tracts are census tracts that were below the 1970

average central city household income level, and that have seen a smaller amount of

redevelopment and reinvestment in the built environment than compared to the core gentrified

tracts. These tracts have at least one improved structure on the majority of the blocks and at least

one block where one third of the structures show evidence of reinvestment; the inclusion of this classification helps to eliminate bias and temporal differences between the field survey data and collection of the census data. The third group, rest of inner city, consists of census tracts that were below the 1970 average central city household income level that did not experience increased level of reinvestment or redevelopment of the build environment. The last group, non-gentrified, are the census tracts that were above the 1970 central city average household income level (Wyly and Hammel 1999).

By conducting archival research, a preliminary list of gentrified census tracts was created to visit during the windshield survey of the housing structures to assess to level of reinvestment. Here too, the nomenclature for the survey was adopted from Wyly and Hammel (1999), and after viewing the structure's level of reinvestment (i.e. the structural soundness of the structure or reconstruction of porches or fences, etc…), structures were classified in one of three ways: new, improved, or unimproved. New units were structures built after 1970, improved units were structures showing reinvestment, while unimproved units were structures with visible forms of reinvestment. After the completion of the survey, this census data was used to calibrate a multivariate statistical model that best distinguishes the gentrified areas from other neighborhoods using linear discriminant analysis and logistic regression. In the end of this section, we will see which of these methods provides for stronger classification results.

Linear Discriminant Analysis

Discriminant Analysis encompasses several statistical techniques, and is closely related to ANOVA and linear regression. Discriminant Analysis is described as a statistical technique that allows a researcher to examine differences between groups of objects using several variables

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(Klecka 1980). The particular function of interest is Linear Discriminant Analysis (LDA), which was first introduced in the seminal work of Fisher (1936), and utilizes a model that tries to create a linear combination of the input variables to create the greatest group distinction. The objective of LDA is maximizing the following equation known as the Fisher Criterion:

$$J(w) = \frac{w^T S_B w}{w^T S_W w}$$

where S_B represents the between classes scattermatrix and S_W represents the between groups scatter matrix (Welling 2005). LDA maximizes the distance between the group means of two groups and minimizes the variation within each of the groups. While LDA is simple in its goal, the method is restricted by numerous assumptions. A key assumption made by LDA is that the data follows a Gaussian distribution, or that the data is normally distributed. Some of the other assumptions made by LDA are the homogeneity of variances or covariances, and the means and variances of variables across groups are not correlated. Violations of the assumption of normality are often the reason for selecting an alternative classification, but any violation of any of these assumptions can weaken its classification and predictive power of LDA (Pohar *et al* 2004).

Logistic Regression

While Linear Discriminant Analysis (LDA) makes key assumptions about the nature of the underlying data, Logistic Regression (LR) is far less restrictive and more flexible, as it does not make the assumption about normality (Pohar et al 2004). LR utilizes a dependent categorical outcome variable, usually binary (either 1 for yes or 0 for no), and creates a probability that the outcome variable belongs to a certain group (G. James *et al* 2013). LR uses the logit model, which is as follows:

$$\log \frac{\rho(X)}{1 - \rho(X)} = \beta_0 + \beta_1 X$$

where we see that this is a logarithmic function of the input variables, and looks similar to that of the linear regression. However, LR is a non-linear regression that will always produce a S-shape curve since it models the probability of group membership, and probability is always between 0 and 1. With the use of the maximum likelihood method, logistic regressions attempt to estimate regression coefficients for the predicted probabilities of each case, so that they are as close as possible to their observed groups (James *et al* 2013).

4.3 Exploring Gentrification and HOPE VI's Relationship

Much of the research into HOPE VI developments across the country relies heavily on qualitative research. Commonly the researchers have conducted intensive personal interviews to assess elements such mental health, relocation satisfaction, and safety (Greenbaum *et al* 2008; Mano, Kleit, and Couch 2008; Goetz 2013). Furthermore, Goetz (2013) has shown that ethnographic style research provides the best insight into how displacement affects those affected by dispersion. A smaller portion of the research has found that there are spillover neighborhood effects associated with HOPE VI redevelopment (Zielenbach 2003; Zielenbach and Voith 2010; Turbov and Piper 2004; Popkin *et al* 2004). Few researchers have examined the spillover effects associated with the redevelopment of public housing in the context of gentrification, several notable exceptions Goetz (2010b) and Wyly and Hammel (1999). To better understand the dynamic relationship between HOPE VI and gentrification in Memphis, these spillover effects will be examined through the lens of gentrification. The basic gentrification tenets will be applied quantifying gentrification in HOPE VI census tracts using the model from the prior section, examine the mortgage lending levels in these neighborhoods in relation to other parts of

the city, examine these neighborhoods for the existence of a possible rent-gap, and finally,

conceptually examine the displacement as a result of redevelopment.

Applying the Gentrification Model to HOPE VI Tracts

The most direct application of gentrification analysis of the HOPE VI developments in

Memphis used in this research project will be the use of the gentrification model developed

previously in this chapter. I will use the model, either LDA or LR , that provides the best

classification results to directly assess whether public housing redevelopment constitutes

gentrification. Census tracts that contain HOPE VI developments that have been fully completed

by the 2010 Census will be used to limit the amount of variability in the socio-demographics.

Only three developments were completed in this timeframe: Uptown, College Park, and

University Place; these three developments cover five census tracts. It should be noted that

Memphis has received five HOPE grants, but the reasoning for only including these tracts is to

limit of the number of temporal incongruences between dispersal, demolition, and re-habitation

and the collection of the Census data in 2010.

Alternative Conceptualization of Public Housing Redevelopment Neighborhood Effects

HOPE VI has a record of displacing poor tenants of public housing units. Gentrification

can be defined by socio-demographic transitions, as well by class-based distinctions. Public

Housing in the United States is predominantly inhabited by African-American residents, and in

Memphis, African-Americans constitute 99% of the public housing population while only

accounting for 63% of the city's overall population (Census 2010; HUD 2010). Likewise, public

housing has consolidated high levels of the urban poor with many residents earning below

twenty percent of the area median income by the 1990s. Thus, as grantees were encouraged to

create fewer on-site subsidized units and create public-private partnership to leverage funding,

these marginal groups were further marginalized and displaced.
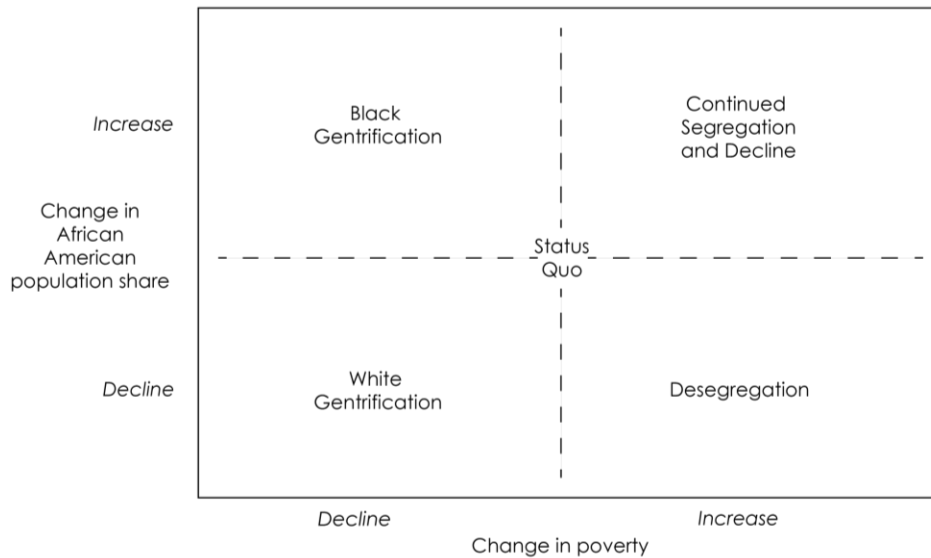
Figure 4.1 Alternative Conceptualization of HOPE VI Neighborhood Change. Figure modified from Goetz (2011b).

Goetz (2011b) has shown that the neighborhood effects from HOPE VI development can

be conceived to occur along two dimensions, poverty and racial turnover (Figure 4.1). It should

be noted that Goetz used census blocks with a half-mile radius around HOPE VI developments,

but due to data availability, I am using the census tracts that encompass HOPE VI developments.

Using this conceptualization, neighborhoods that do not see a significant change in either poverty

or racial profile can be seen as unchanged in the face of public housing redevelopment. Census

tracts that see a significant shift in the racial profile, either White or African-American, and a

significant decrease in poverty rates neighborhoods can be said to be experiencing gentrification.

If the African-American population share increases then the neighborhood can be said to be

experiencing African-American gentrification; if the population share decreases then the neighborhood is experiencing White gentrification.

4.4 Procedures

The methods for this research project have been broken into two endeavors: to map the gentrification landscape in Memphis, Tennessee from 1970 – 2010 and to explore the relationship between gentrification and the HOPE VI developments in the city. The procedures listed below are subdivided amongst these endeavors for increased clarity.

Mapping the gentrification landscape

1. Purchase a special report from the Geolytics Neighborhood Change Database containing the variables identified in Hammel and Wyly (1999).

2. Compute various population count, percent, and percent change variables in Microsoft Excel.

3. Request and receive a copy of the 2014 Shelby County Assessor's Tax Parcel Database.

4. Use ArcMap to join the normalized census data to the census tract geometry files.

5. Conduct a housing survey of the census tracts identified in the review of planning documents and academic literature using the data from the tax parcel database.

6. Classify the census tracts in Memphis' central city into four categories: core gentrified, fringe gentrified, rest of inner city, and non-gentrified.

7. Statistically and graphically analyze the results from the classifications in the statistical program R.

Exploring the relationship between gentrification and HOPE VI

1. Use Microsoft Excel to calculate the change in African-American population share and change in poverty rates of HOPE VI neighborhoods from 1990-2010.

2. Use the calibrated gentrification model on only the HOPE VI developments that were completed by the time of the 2010 Census.

3. Use Adobe Illustrator to create direct displacement graphic based on Goetz (2011b).

4.5 Assumptions and Limitations

The following assumptions were made in this research:

1. The weighting and computation of census variables from the Geolytics Neighborhood Change Database were accurate.

2. The use of variables from the Shelby County Assessor's Database tables, DWELDAT and COMDAT, best captured the housing condition in Memphis. Four of the nine gentrification tracts were verified to be accurately graded in the database through the use of Google Street View and Zillow.

3. There was little significance in the gap between the collection of the census data and the collection of the Shelby County Assessor's Data.

Several methodological limitations were identified:

1. The use of census data aggregated to the tract level presents spatial incongruities between the actual location of the neighborhood and aggregation the data to the census tract; as often is the case, neighborhoods may only comprise a small portion of the census tract or be divided between multiple census tracts.

2. The limited presence of gentrification in Memphis produces biased results in the LR leading to perfect separation, and poor statistical modeling capabilities. To combat this issue, a bias reduction method developed by Firth (1993) was applied through the "brglm" function in R. This function computes and applies a penalized maximum likelihood when computing the logistic regression models.

3. The various stages of completion of the HOPE VI may cause some variation in the level of neighborhood change caused by redevelopment; however, to combat this only sites that had completed relocation and demolition by 2010 were included in this analysis.

Chapter 5: Results and Analysis

The main thrust of this research was to identify and understand the gentrification landscape in Memphis, Tennessee; furthermore, applying this understanding of this landscape, one can begin to understand the outcomes being experienced in HOPE VI neighborhoods. This chapter is divided into three sections: identifying gentrification and the gentrification landscape through statistical models, testing for the existence of gentrification with these statistical models, and finally, providing alternative conceptualizations of the neighborhood changes occurring within these neighborhoods targeted for redevelopment.

5.1 Identifying Gentrification

This research compared two statistical classification models to find the most suitable option to model gentrification in Memphis. Both of these models, linear discriminant analysis and logistic regression, are very strong statistical techniques, but possess different assumptions and strengths, so a comparison is needed to select the best technique. Each model's analyses and results are discussed individually, and then the results are compared to choose the best model. This subchapter is divided into four sections: gathering and preparing the data, performing linear discriminant analysis, performing logistic regression, and comparing the two models.

Gathering and Preparing the Data

Housing Survey

The key starting point of this research is to create *a priori* classifications to place census tracts in Memphis, Tennessee into the four groups: non-gentrified, rest of inner city, fringe gentrified, and core gentrified. Similar to Hammel and Wyly (1996) and Wyly and Hammel

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(1998, 1999), planning documents and archival research were consulted to create an initial list of gentrifable tracts to be further examined using a housing condition survey (CBANA 2008, 2010; Smiley et al, 2014). Using a similar taxonomy not only allows for a comparison of the level of gentrification between different cites, but this taxonomy provides a glimpse of the areas in the city with increased reinvestment.

Housing conditions were captured in the Shelby County Assessor's Tax Parcel database by the fields of grade, effective build year, and year built. After the list of tracts to examine had been created, data from the Shelby County Assessor's Tax Parcel Database was used to fully assess the building conditions in each of these tracts. The DWELDAT and COMDAT tables in the database contain a field that lists the grades of the construction quality of the structure on each parcel. The DWELDAT table grades ranged from 10-70, and were reclassified to meet Wyly and Hammel's classification of "improved" and "unimproved". Improved consisted of values from 10 to 35, and unimproved consisted of values from 40 to 70. The COMDAT grade values consisted of mixture of numbers ranging from 10-40 and strings ranging from E to A++. Similar to the DWELDAT values, the COMDAT grades were reclassified into improved and unimproved categories. The improved structures consisted of the value 40 and the strings B to A++, and unimproved structures consisted of the values 10 to 30 and the strings E to D+. All structures with build years after 1970 were classified as new.

As would be expected, gentrification levels in Memphis were small; the results of the housing survey are cartographically represented in figure 5.1. The housing survey yielded three core tracts and six fringe tracts. The core tracts are located along the riverfront of the city, where revinvestment has been on rise since the 1980s. Many of the fringe tracts lie within the Midtown area of the city, which is home to numerous historic districts and cultural institutions. The

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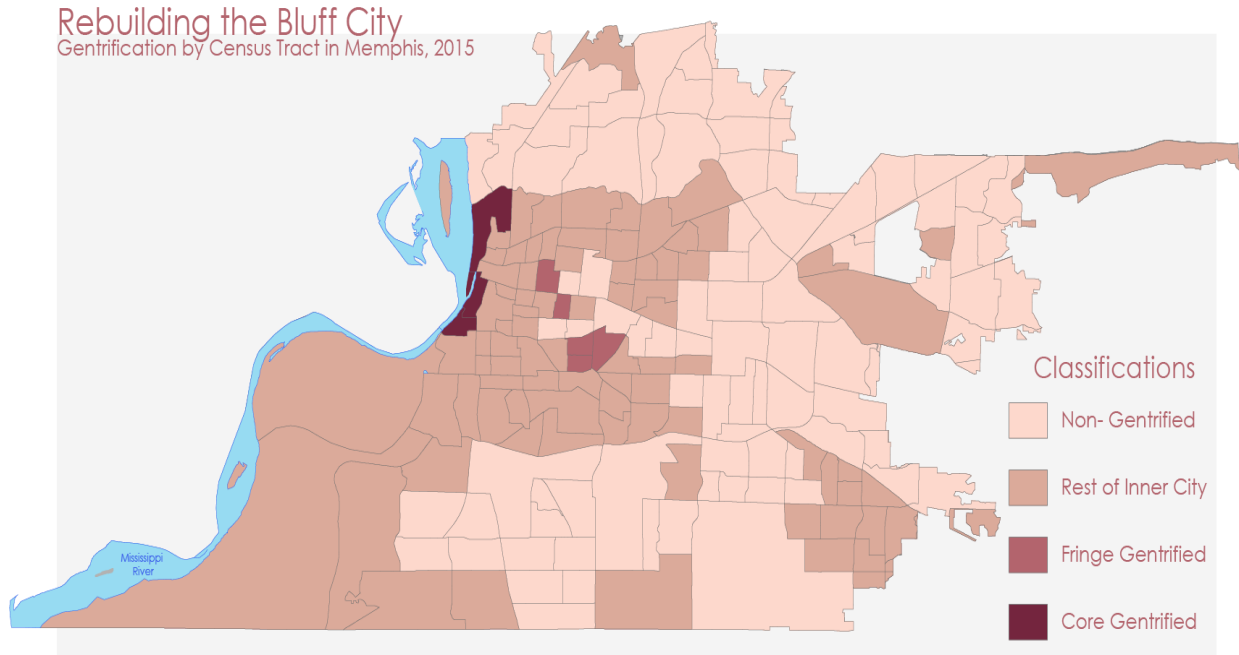
Figure 5.1 Housing Survey Results. Cartography by D. Gadeke (2015).

Cooper-Young neighborhood was even considered one the nation's ten great neighborhoods in 2012 (Sells 2012).

Preparing the Data

Basic calculations were performed on the data from the Geolytics Neighborhood Change Database in preparation for statistical analysis. These calculations included addition of population counts, subtraction to compute the percent change in various education and population variables, and division to get the share of the population variables. All of the calculations were conducted in Microsoft Excel, and then exported as a comma separated values (csv) file. This file was imported into ArcMap to be joined with the census tract TIGER/LINE shapefile for Shelby County, and then clipped using the Memphis city boundary. The central city census tracts are then exported as a csv. Two models are created from the original file, one that includes core tracts and. inner city tracts and one that includes fringe tracts and inner city tracts.

The census tracts 9801, 9802, 9803, 9804, and 212.00 were removed from these files due to missing values.

<center>*Linear Discriminant Analysis*</center>

Previewing and Processing the Data

An underlying assumption of linear discriminant analysis is that the data is normally distributed, so the data must be examined prior to the analysis. If the data is not normally distributed, a transformation must be applied to force the data into a more normal distribution. To view the normality of the two models, the scatterplot function in R is used (Figures 5.2-5.3). These plots incorporates a histogram with a scatterplot matrix to show the distribution of the data.
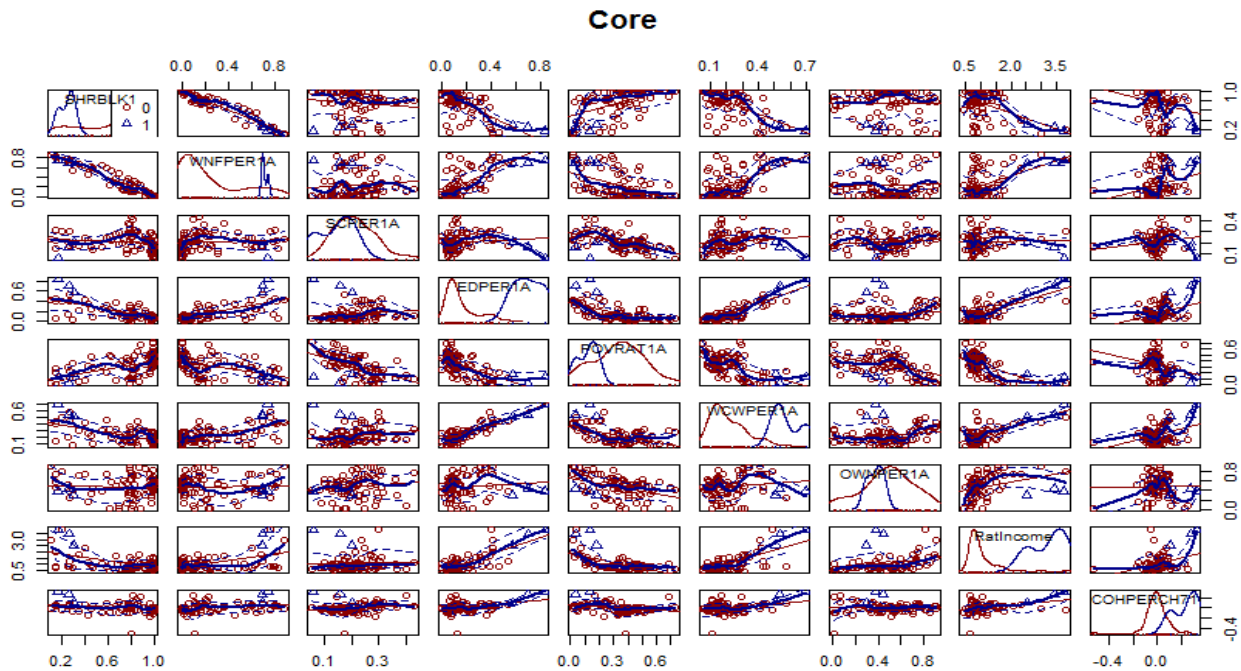
<center>Figure 5.2 Core Model Scatterplot (Core = 1 and Inner City = 0)</center>
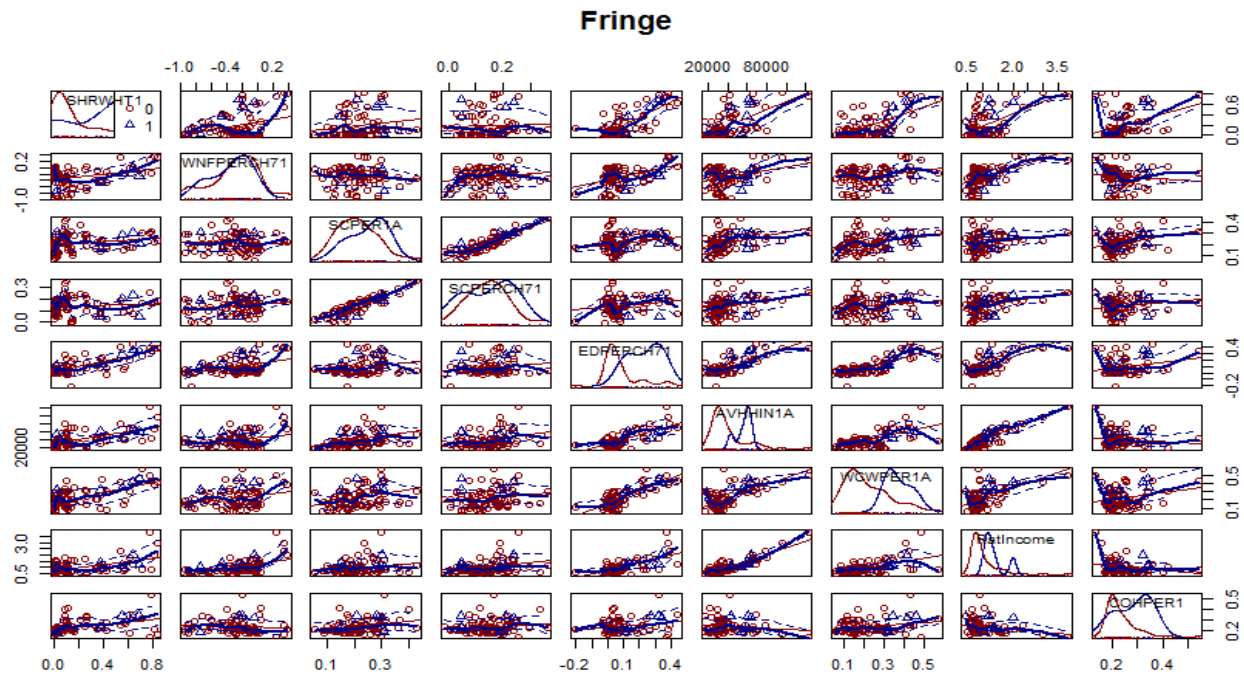
Figure 5.3 Fringe Model Scatterplot (Fringe = 1 and Inner City = 0)

These plots show that in many cases the data are bi-modal (more than one peak), and reinforce the need to transform the data. Similarly, each of these datasets are significantly skewed, and Pohar *et al* (2004) has shown that linear discriminant analysis is most effective when the skewness of the data is ±.2. Using the preProcess function in the caret package, a Yeo-Johnson power transformation is applied to each dataset. The Yeo-Johnson transformation centers and scales the predictor values, and allows the predictor variables to be both negative and positive values. The skewness of the core dataset ranged from -1.09 to 2.52 before the transformation function was applied, and the transformed data's range decreased to -0.47 to 0.34. Similar results were found in the fringe dataset after the transformation was applied, the range decreased from a range of -0.43 – 2.72 before processing to 0.002 to 0.47. Based on these results, one would expect the LDA method to work well, but the higher skewness values invites the use of logistic regression.

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To conduct linear discriminant analysis, two primary packages in R were used, MASS and klaR. MASS has a built in linear discriminant analysis function, while klaR has a built in stepwise function to select the most discriminating variables using Wilks Lambda. Similar to Wyly and Hammel, an appropriate F-Statistic test decision level was set as 0.15, and the variables that do not meet this criterion were removed from the model. The results are shown in Figure 5.4 and Figure 5.5 with the core model yields the best results decreasing the in-group variation to 0.62 compared to the in-group variation of 0.82 in the fringe model. The variables listed in Figures 5.4 and 5.5 were used to calibrate each model, and one should expect that the core linear discriminant analysis model would yield better classification results based on the Wilk's Lambda values. The true power of linear discriminant analysis is the ability to predict group membership, and thus, both the core and fringe modules are split into two subsets, training data and test data. Following the general rule that 80 percent of each data set is used to train or calibrate the mode, the remaining 20 percent is used to assess the accuracy of the model's predictive power.

Core vs. Inner City Model		Aggregated Values	
Variable Name	Wilks' Lambda	Core	Inner City
Change in the share of population of people between the ages of 30-44 (%) 2010	0.78	22.99 %	-0.76%
Share of population 25 or older with some college (2010)	0.71	14.04 %	20.99 %
Share of population 25 or older with 4+ years college degree (2010)	0.62	70.00 %	14.58 %

Figure 5.4 Results from the Core Model Stepwise Variable Selection

Fringe vs. Inner City Model		Aggregated Values	
Variable Name	Wilks' Lambda	Fringe	Inner City
Share of Population in the White-Collar Workforce (2010)	0.90	36.96 %	21.21 %
Share of population of people between the ages of 30-44 (2010)	0.87	28.32 %	23.24 %
Average Household Income Ratio (2010/1970) (Constant Dollars)	0.86	1.36	1.01
Change in White Non-Family Households Share (2010)	0.82	-33.64 %	-28.12 %

Figure 5.5 Results from the Fringe Model Stepwise Variable Selection

Core Model Results

Figure 5.6 shows the plotted training data of the core LDA model that was calibrated

from the census variables selected in Figure 5.4. The core tracts show strong indicators of a

younger middle-class with an increase of nearly 23% in the cohort of 20-34 year olds and has

70% of their residents with at least a Bachelor's degree. Given those numbers, it is not surprising

that the poverty rate in the core tracts is one-third of the inner city tracts' rate. What is surprising

is that the inner city tracts have almost six percent higher rate of persons 25 years or older with

some college education than the core tracts, which indicates that residents in the inner city tracts

may not be finishing their degrees. However, it should be noted that some of these numbers may

be due in part to the students that live in the surrounding neighborhoods, whom have not yet

graduated.
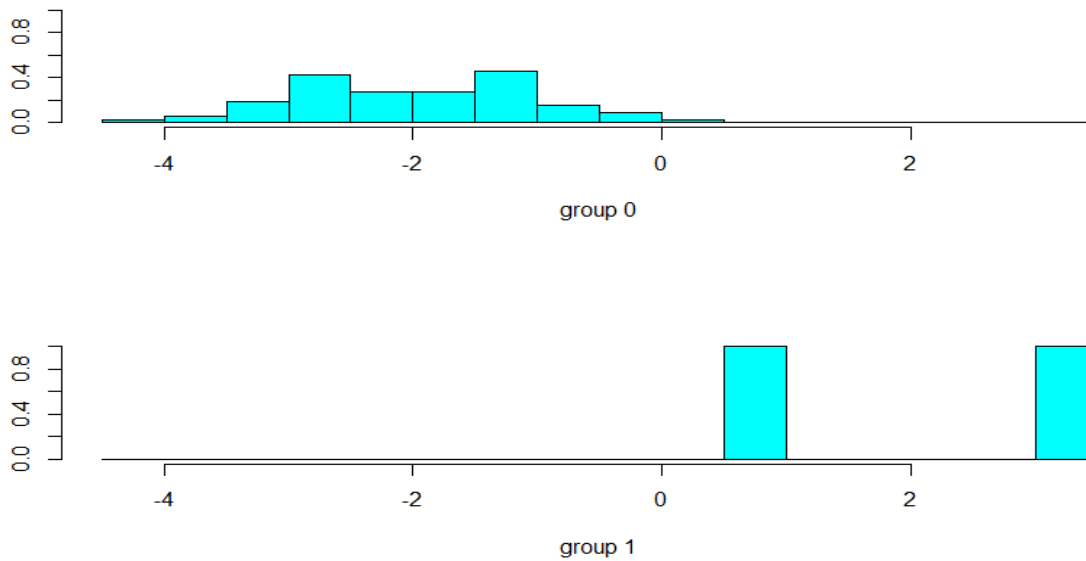
Figure 5.6 Plotted training data for the Core Model. (Core tracts =1 and Inner City =0)

Based on in Figure 5.6, one would assume that due to the overlap of group membership of both groups on the x-axis the model would misclassify some of the tracts. The results from the model's prediction are placed in a confusion matrix in Figure 5.7. The model performed fairly well, with an overall accuracy of 94.1%. With only type I error, or falsely identifying an inner city tract as part of the core group, this model provided a moderate estimate for the reinvestment in the core tracts. This models shows that even with a limited number of positive outcomes, the core tracts separate themselves from the rest of the inner city tracts.

Predicted Outcome	Actual Outcome	
	Rest of Inner City	Core
Rest of Inner City	15	1
Core	0	1

Figure 5.7 Confusion Matrix of Core Model Results

The weak lambda values from the stepwise variable selection indicated that fringe tracts

would be more difficult to identify from the inner city tracts. The variable with the greatest

discriminatory power is the white-collar workforce share, which is fifteen percent higher in the

Fringe tracts. Similar to the Core tracts, the population share for the cohort of residents that are

18-34 increased at a greater than the inner city tracts. What is surprising in the fringe dataset is

the percent change of White non-family households, or people living alone or living with

unrelated individuals, decreased five percentage points more in the fringe tracts than in the inner

city tracts. Even though the income ratio did increase by thirty-five percent points greater in the

fringe tracts, this variable still has weak discriminating power. The plot in Figure 5.8 shows that

the fringe model possesses poor predictive power, as there is quite a bit of overlap between the

two groups.
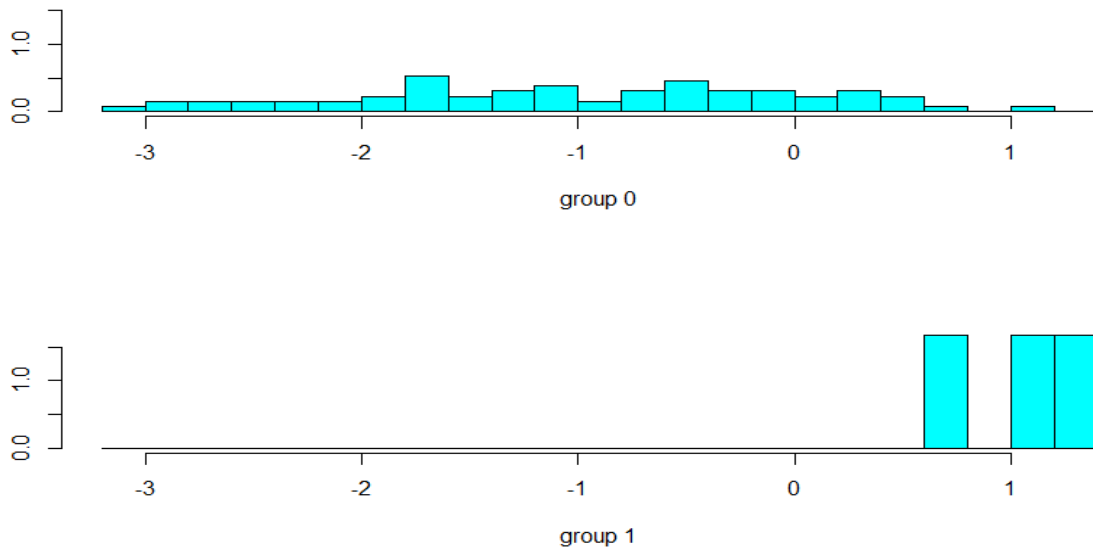
Figure 5.8 Plotted Training Values for the Fringe Model. Fringe =1 and Inner City = 0.

Figure 5.9 proves that the fringe model has weak predictive power as the model fails to correctly predict many of the fringe tracts, and has an overall accuracy of 72.22%. The model has one type I error, wrongly identifying inner city tracts as fringe, and four type II errors in which the model wrongly identifies the fringe tracts as inner city tracts. Based on these results, the Fringe model does not provides a real picture of the gentrification landscape in Memphis.

Predicted Outcome	Actual Outcome	
	Rest of Inner City	Fringe
Rest of Inner City	12	4
Fringe	1	1

Figure 5.9 Confusion Matrix based on the results from the Fringe Model

Logistic Regression

Previewing and Processing the Data

Due to the relatively high skewness and poor predictive power of the linear discriminant models, an alternative modeling approach utilizing logistic regression was conducted. The same group classifications and variables were used to compare each model's accuracy. In general,
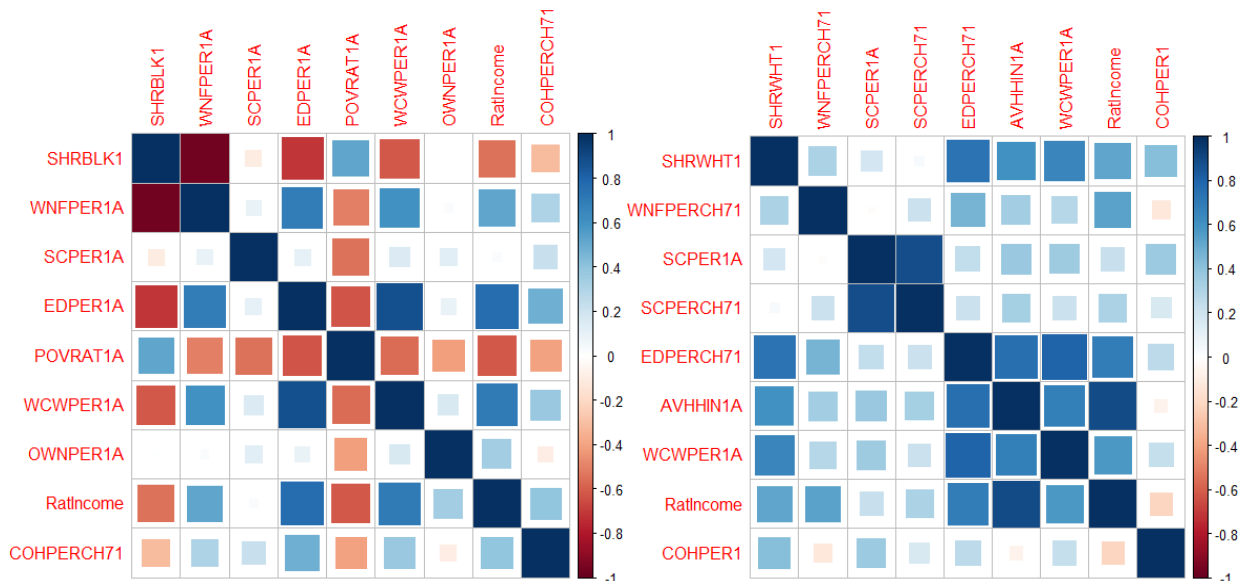
Figure 5.10 Core Correlations (left) and Fringe Correlations (right)

the regression models' efficacy are hampered by multi-collinearity, and Figure 5.10 shows correlation values for each dataset with a darker color representing the correlation strength. The correlation trend in the core dataset is one of strong positive correlations, while the fringe dataset has much more negative correlations. Due to these high correlations, a principal component analysis was conducted on each dataset to remove redundant variables, highlights variation, and to center and scale the data.

Model Results

Core Model

The results from the principal components for the core model are shown in Figures 5.11 and 5.12. Following the general rule, all principal components that have a variance, or standard deviation, greater than one are selected to stay in the analysis, and in this case, the first three components meet this criterion. Just over three-fourths of the variance, 78.39, is captured in the first three components with over half of the variation being captured in the first component.
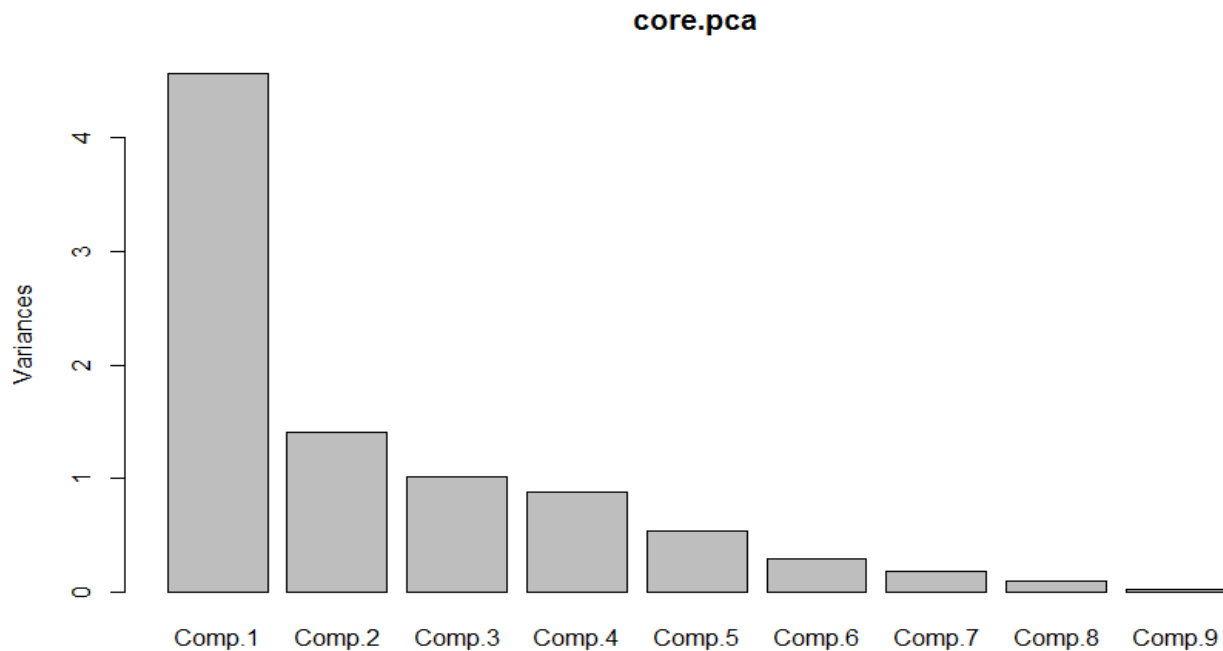
Figure 5.11 Principal Component Analysis Results

Variable	Component 1	Component 2	Component 3
African-American Population	0.389	0.279	-0.101
White Non Family	-0.385	-0.280	
Some College	-0.130	0.563	0.615
College Degree	-0.428	-0.135	
Poverty Rate	0.362	-0.415	
White Collar Workforce	-0.401		
Homeownership	-0.124	0.574	-0.575
Income Ratio	-0.383		-0.337
18-34 Cohort Change	-0.217		0.379

Figure 5.12 Principal Component Analysis Loadings

Similar to the linear discriminant models, the core data is split into two groups, eighty percent into a training set and twenty percent into a testing set. Due to the limited sample size, a bias reduction method must be applied to our logistic regression based using the brglm function in R. The model parameters and confusion matrix from the core dataset are listed in Figure 5.13. The model results show that only the first component, and simply the mean of the input variables is significant. The model was re-run using only the first principal component (not-shown), but there were no performance improvements. The results from this reduced model show that the means of the variables are significant. There is a slight improvement over the linear discriminant analysis model, however due to the limited number of positive outcomes. This conclusion could change with the addition of a larger sample size.

	Estimate	Std.Error	Z Value	Pr (>|z|)
(Intercept)	-4.6622	1.4107	-3.305	0.00095***
Component 1	-0.7761	0.3563	-2.178	0.02941*
Component 2	-0.8657	0.7288	-1.188	0.23493
Component 3	-0.5774	0.7730	-0.747	0.45512

Predicted Outcome	Actual Outcome	
	Rest of Inner City	Core
Rest of Inner City	16	0
Core	0	1

Figure 5.13 Core Model Results (left) and Confusion Matrix (Right)

Fringe Model

Similar to the core model, principal component analysis was conducted on the dataset. Since the variable for average households has such a different scale compared to the rest of the variables in the dataset, PCA was based on correlation instead of covariance. The first three components captured just over 81% of the variance, with slightly less than half of the variation coming from first component. The first component has contributions from every variable except population share of people aged 18-34 (Figure 5.15). It is not surprising that these contributions are negative given the negative correlation relationships between the variables, as was seen in Figure 5.10.

The same procedures performed in the core model are conducted on the fringe datasets (i.e. splitting data into training and test datasets and applying the bias reduction logistic regression.) There are more census tracts in the fringe model due to there being more tracts classified into the fringe group, so the fringe test dataset is slightly bigger (n=5 vs n=3). The model parameters and confusion matrix from the core dataset are listed in Figure 5.16.
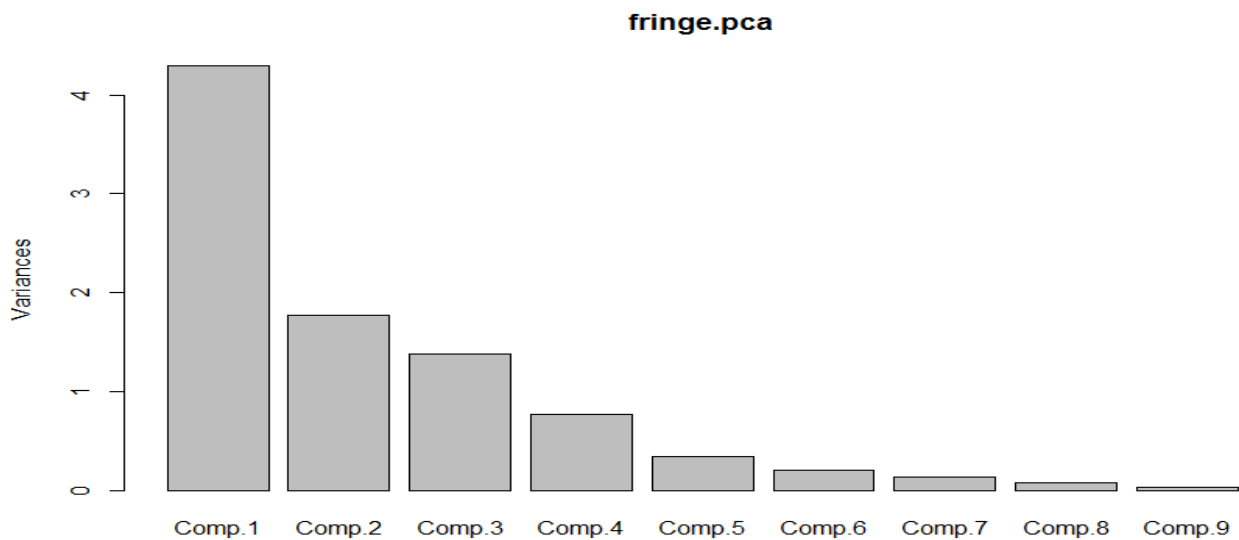
Figure 5.14 Fringe Principal Component Analysis Results

	Component 1	Component 2	Component 3
White Population %	-0.372	0.126	-0.385
White Non Family Change %	-0.238	0.257	0.225
Some College %	-0.235	-0.632	0.134
Some College Change %	-0.213	-0.576	0.351
College Degree %	-0.435	0.138	-0.179
Average HH Income $	-0.428		0.190
White-Collar Workforce %	-0.400		-0..209
Income Ratio	-0.405	0.200	0.309
18-34 age Cohort %		-0.344	-0.673

Figure 5.15 Fringe Principal Component Analysis Loadings

The model results only show that the intercept is significant. Given those results, the model is not very good, and failed to identify any of the fringe tracts. Component one is the closest components to being significant, but even with input from eight of the nine variables, the model fails to find it significant. The fringe model far underperformed in comparison to the core model. With two Type I and two Type II errors, the model fails to provide any realistic representation of the gentrification landscape. The logistic regression version of the gentrification model is underwhelming in comparison to the linear discriminant version.

	Estimate	Std.Error	Z Value	Pr (>|z|)
(Intercept)	-2.8254	0.5643	-5.007	5.52e-07 ***
Component 1	-0.3385	0.2064	-1.641	0.101
Component 2	-0.2382	0.4004	-0.384	0.701
Component 3	-0.1807	0.3413	0.742	0.458

Predicted Outcome	Actual Outcome	
	Rest of Inner City	Fringe
Rest of Inner City	16	2
Fringe	0	0

Figure 5.16 Fringe Model Results (left) and Confusion Matrix (Right)

The problem of a limited sample size during the steps of the modeling process, and has made comparing the linear discriminant based models and logistic regression based models more challenging. Both sets of models were able to distinguish the inner city tracts from classified gentrification tracts fairly well, but the problem came with correctly identifying small number of gentrification tracts. The fringe model using both methods produced similar poor performances, which means that the levels of gentrification in these tracts, according to these variables, is not much higher statistically than seen in the inner city tracts. A larger sample size with more positive outcomes is needed to verify the superiority of one method to the other.

The outcomes from the Core models were more complex, and due to the limited number of positive outcomes and model runs, the selection of the method is more subjective. More information can be known about the variables used in the analysis using the linear discriminant models through plots and the Wilks' Lambda, but the logistic regression showed a slight improvement. In the following section, the linear discriminant model will be used because of the additional information that can be gathered from the input variables.

6.2 Modeling Gentrification and HOPE VI

The model identified areas of the city that experienced significant shift in the socio-demographics evocative of the gentrification process. Now, it is time to test the gentrification model on the previously withheld HOPE VI development tracts. It should be noted that these tracts are those that did undergo demolition and relocation by the 2010 census. As seen in the previous section, gentrification in Memphis, Tennessee remains sparse and concentrated in the Downtown Core. The Core tracts were the best performing classification from the model; thus,

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the HOPE VI developments will be compared against these tracts. The process will be very similar to that of the previous section.

Before the type of model can be selected (i.e. LDA or LR), the data needs to be previewed to examine the normality and classification potential. As seen in Figure 5.17, this dataset is slightly skewed, and is bi-modal. So as before the data will need to be transformed to appropriately 'normalize' the data. Even though the data is skewed, the results from Figure 5.18 indicate that there is a great deal of separation between the two groups based on the groupings. Due to the small sample size, no noticeable difference in the method for modeling the relationship; furthermore, the grouping in Figure 5.18 indicate that regardless of the method chosen that either model should be able to discriminate between the two groups. The method that will be employed will be the linear discriminant analysis based model.
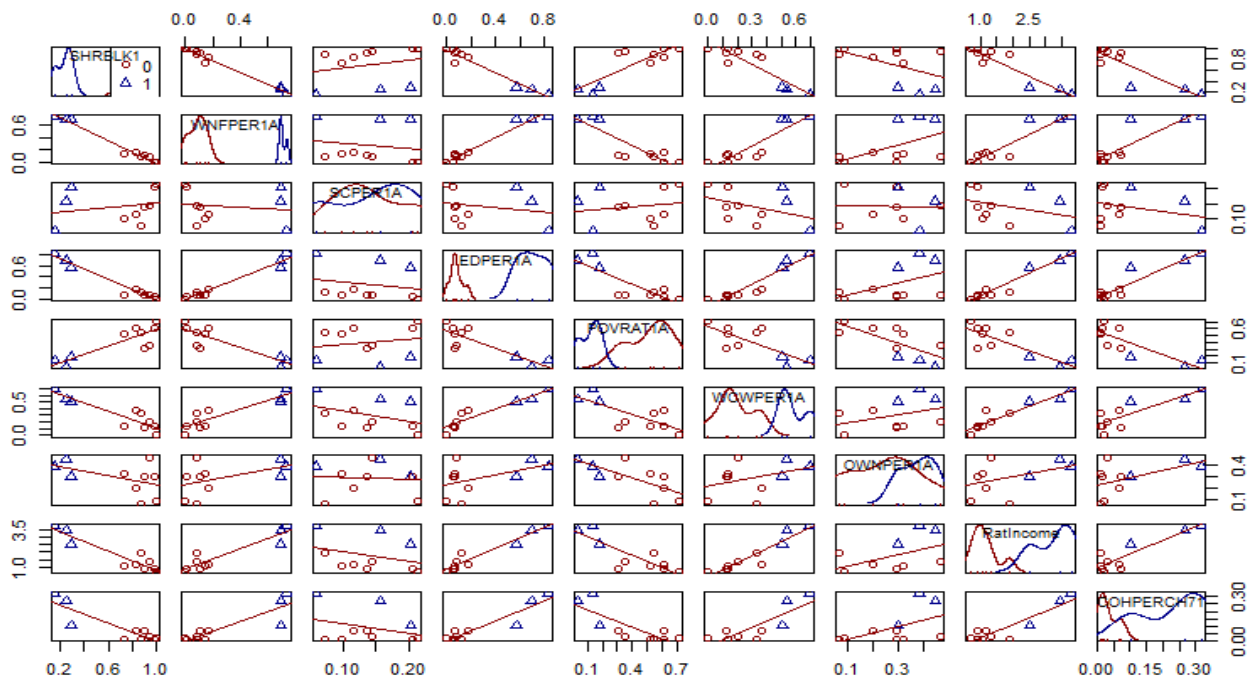
Figure 5.17 Pre-Processed Distribution of Data. 1 = HOPE VI tract and 0= Core Gentrified Tract

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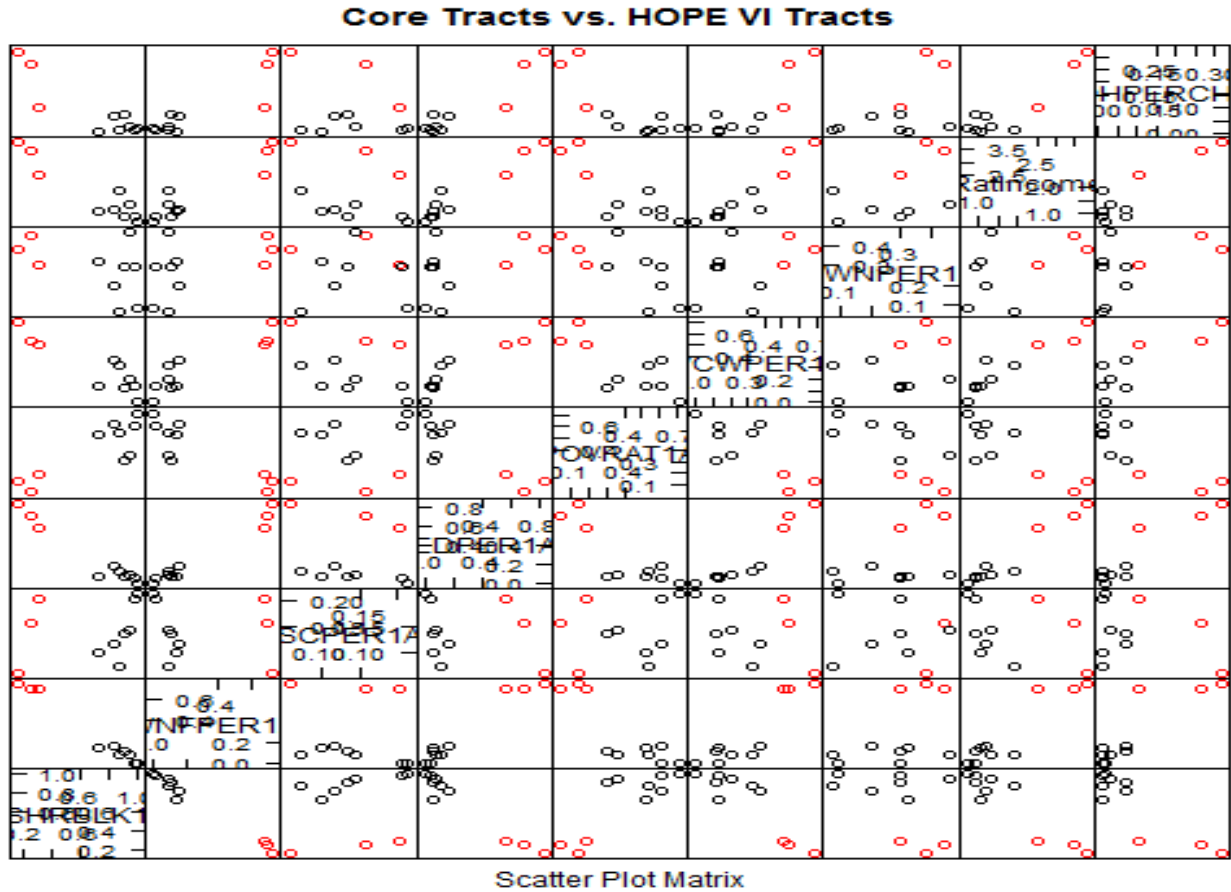
Figure 5.18 Classification Preview. Red = Core tracts and Black = HOPE VI tracts

Core vs. HOPE VI Model		Aggregate Values	
Variable Names	Wilks' Lambda	Core	HOPE VI
Share of population 25 or older with 4+ years college degree 2010 (%)	0.13	69.99%	7.70%
Share of Population in the White Collar Workforce 2010 (%)	0.04	57.92%	18.53%

Figure 5.19 Wilks' Lambda Results Core vs. HOPE VI Model

The assumptions based on Figure 5.18 are further validated by the results of the stepwise variable selection based on the Wilk's Lambda value in Figure 5.19. With just two variables, population share with at least a bachelor's degrees and population share in the white-collar workforce, all but 0.04 of the between group variation can be removed. The rate for the population to have at least a bachelor's degree is ten times higher in the Core tracts than in the HOPE VI tracts. Furthermore, the population share in the white-collar workforce is three times larger in the Core tracts than in the tracts containing the HOPE VI developments. These results are not surprising since those developments targeted by HOPE VI were 'severely distressed' and had large concentrations of poverty. Now using the variables to calibrate the model, the results are listed in Figure 5.20 and show that the model was able to discriminate between the two groups. This would indicate that with the use of variables indicative of class there is still a gap between the Core gentrified areas and the redeveloped public housing sites. The use of data aggregated to the census tract level may be obfuscate some the changes that occur at the site.

Predicted Outcome	Actual Outcome	
	HOPE VI	Core
HOPE VI	1	0
Core	0	1

Figure 5.20 Confusion Matrix from the Core vs. HOPE VI Model

6.3 Alternative Conceptualization of Gentrification and HOPE VI

Goetz (2011b) has shown that the relationship between HOPE VI redevelopment and gentrification can be conceptualized graphically along two axes, change in the poverty rate and change in the African-American population share. The first development to receive a HOPE VI grant was the LeMoyne Gardens was received in 1995, and demolition and relocation occurred

from 1996 to 1998. So the change reflected in Figure 5.21 occurred from 1990 to 2010. This

figure includes four of the five HOPE VI development grants: LeMoyne Gardens (1995), Hurt

Village/Lauderdale Court (2000), Lamar Terrace (2003), Dixie Homes (2005). Goetz (2011b)

uses census blocks in analysis, but due to limited funding, census tract level data was used. This

may not be as spatially refined as Goetz's method, but should still provide reliable results.
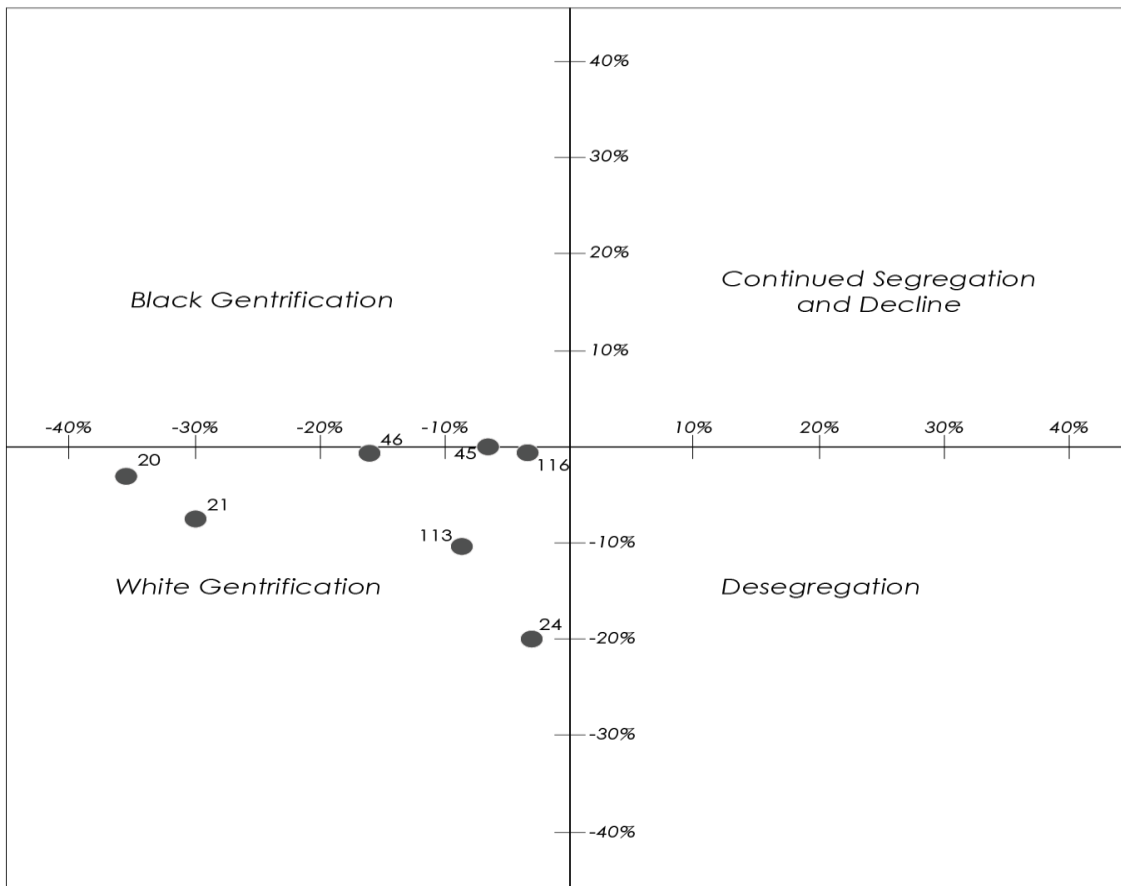
Figure 5.21 Change in Poverty and African-American Population Share

The results in Figure 5.21 show a net decrease in the population share of African-

Americans in these tracts, but that is not surprising given that African-Americans comprise 99%

of the total public housing population in Memphis. The decrease in the poverty rate in all tracts is

not surprising given that one of the target goals of the HOPE VI plan was to deconcentrate poverty. What is interesting is that several of the tracts show signs of decreases in the poverty rate, but limited changes in the racial profile of the tract, which is indicative of wealthier African-American families moving into those. Juxtaposed against those tracts that saw limited racial turnover, two tracts saw decreases of greater than ten percent in the African-American population share. However, both of these tracts saw a smaller decrease in the poverty rates over the observed period. This alternative view of conceptualizing the levels of gentrification being experience in HOPE VI tracts provides useful insight that may be overshadowed in the statistical model.

Chapter 6: Discussion

The major focus of this research has been concerned with identifying the gentrification landscape in Memphis and understanding its relationship with the HOPE VI redevelopment efforts throughout the city using Census demographic data. Complex relationships were discovered through the use of statistical modeling, visual and cartographic representations. This chapter is divided into three sections: the status of gentrification in Memphis, reinvestments efforts in gentrifying tracts and a critical assessment of the relationship between HOPE VI and gentrification efforts that already exist in the city. This study applied principal elements of gentrification theory to public housing sites redeveloped as part of the HOPE VI throughout the city of Memphis, Tennessee.

6.1 The Gentrification Landscape

The results from the statistical modeling of the gentrification landscape reveal that the process is far less robust than in other cities in North America. Southern cities create interesting landscapes for the possibility of gentrification as they are far less dense and have more expansive urban sprawl. Recalling Pete Saunders' (2014) conceptualization of gentrification into four types, the results from the models agree with his assessment of the gentrification occurring in Memphis. Although the model results indicate a weak presence of gentrification, the gentrification process is poised to leave an indelible mark on the Bluff City. Much can be understood about the process by examining socio-economic data due to the ability of the data to show difference between neighborhoods over time. The following section is broken down into two main sections: key gentrification socio-demographic changes in Core, Fringe, and HOPE VI neighborhoods compared against city-wide averages, and a look at the average home loans for these categories from 2000 – 2013.

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Socio-Demographics Indicators of Gentrification

As has been shown in the modeling process, the core classification was the best performing category. Researchers have commonly used Census demographic data to describe the changes occurring in neighborhoods undergoing the gentrification process (Ley 1986; Schaffer and Smith 1986; Atkinson 2004). A breakdown of key census variables indicative of class change helps to illuminate how the core tracts outpaced the Fringe, HOPE VI, and city averages in redevelopment efforts. Moreover, the use of socio-demographic variables allows for researchers to pseudo-pinpoint a turning point in the gentrification process. It should be noted that the city-wide averages only include the central city tracts, not the metropolitan statistical average (MSA). Furthermore, the HOPE VI tracts only include the census tracts that had completed demolition and relocation by 2010. The variables discussed in this section are neighborhood racial composition, poverty rates, population share with a bachelor's degree or higher, population share in the white-collar workforce, average household income, and median household value.

A key element in the discussion of gentrification is the racial turnover of the neighborhood; furthermore, gentrification is often described as a process that is a dominated by the White middle-class (Schaffer and Smith 1986; Goetz 2011b). The level of decrease in the African-American population in the Core tracts since the 1970s is rather remarkable (Figure 6.1). At the time of the 1970 Census, the African-American population share of the core tracts were over double the city average (34%) and over three times the average of the fringe tracts (24%). As a matter of fact, Mud Island and the South Bluffs tracts had African-American population share both over 85%. Interestingly by the 1990 Census the Core tract African-American population share had dropped by nearly half, and by 2000, this number had dropped to 29%. By
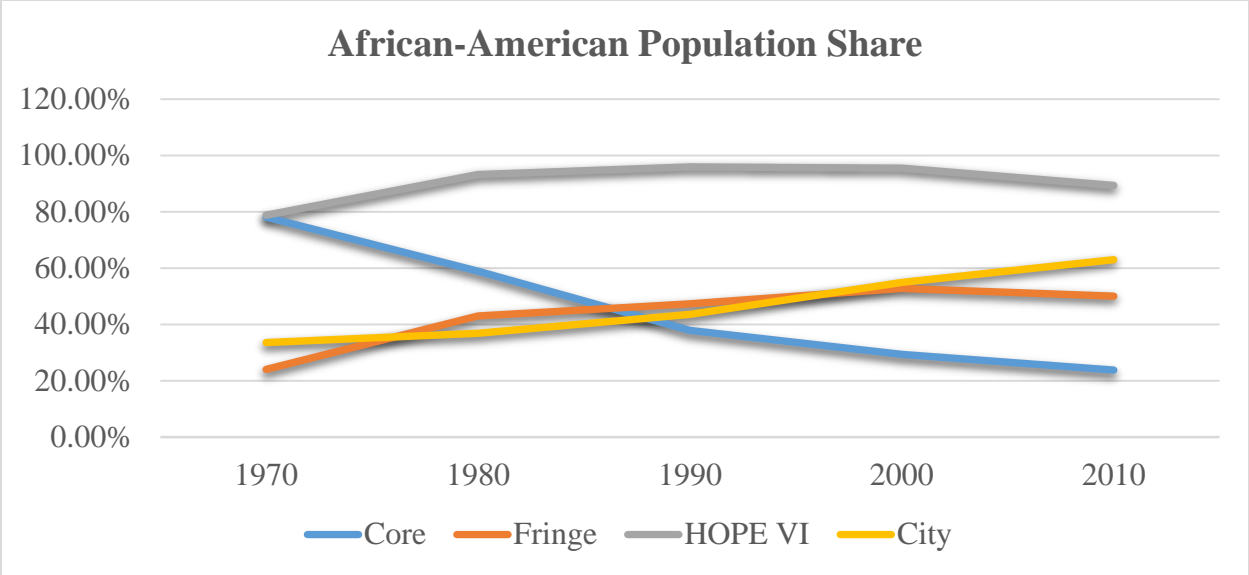
Figure 6.1 African-American Population Share (1970 - 2010)

the time of most recent Census, the Core African-American population share was one-third of

the city average (63%) and one-half of the Fringe tract average (50%). From 2000 – 2010, the

tract that contains the South Main District and the South Bluffs saw nearly a 4% increase in the

African-American population share that would indicate that there may be a small presence of

African-American gentrification occurring within the tract.

The levels of change in the Fringe tracts were not nearly as noticeable as compared to the

Core tracts, and these tracts tended to stay close to the city-wide average; however, there appears

to be some divergence in the last Census. This may indicate a shift in the number of African-

American middle-class families fleeing Memphis for the suburbs. What becomes apparent in

Figure 6.1 is that while the city was suffering from White Flight to the suburbs, the Core tracts

were rapidly more heavily settled by the White middle-class. The most dramatic shifts in the

neighborhood racial composition is seen in the city and HOPE VI averages, which increased

almost 20% from 1970-1990, while the city average increased by 10 % and by 2010 had nearly

doubled the 1970 rate. Prior to relocation efforts beginning in earnest in 2000, the tracts

comprising the HOPE VI developments had a African-American population share 95%, but that

number dropped 6% by the 2010 Census. Moreover, the census tract containing the Legends

Park development, formerly Dixie Homes, had an African-American population share decrease

of nearly 25% during this same time period.

While there has been an apparent racial shift in Memphis and its various neighborhoods

over the past half century, another socio-demographic element highlights the growing disparity

between the Core tracts and the rest of the city, poverty rates (Figure 6.2). In 1970 the city-wide

poverty average was less than one-half of the Core tract average (51%) and slightly above the

Fringe tract average of 18%. By the 2010 Census, the Core tract average (11.8%) was less than

the city-wide and Fringe averages of 24.1% and 25.7%, respectively. Consequently, due to these

high rates, the Memphis MSA holds the top spot in the country for both overall and childhood

poverty MSAs with populations over one million.

This rise in poverty presents problems for cities that must still find ways to collect taxes

and revenue to fund vital city services, and serves as a drain on the local economy. The rise in

poverty rates has not gone unnoticed by community and government officials. Beginning in the

1990s, public housing authorities (PHAs) nationwide began looking for a way to combat the ills

of urban poverty. The HOPE VI imitative is intended to target high concentrations through the

use of demolition and relocation. So one would expect to see a decrease in the poverty levels in

the HOPE VI tract after the 1990 Census, and that is seen. What is surprising is that there is a

bigger decrease between 1990 – 2000 rather than 2000 – 2010, which is not when most of the

HOPE VI relocation occurred. Furthermore, the census tract containing the first HOPE VI grant
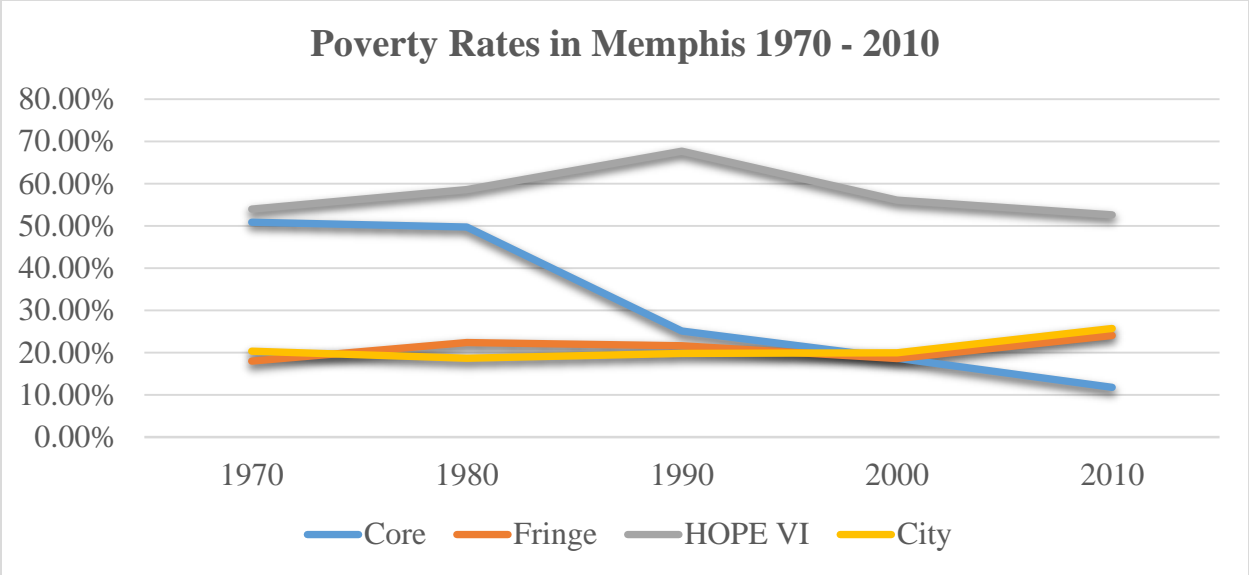
Figure 6.2 Memphis Poverty Rate 1970 – 2010

site saw the poverty rate from 1990 – 2000 drop by nearly half, but saw that number nearly double returning close to its pre-relocation number. This indicates that either many of the HOPE VI relocatees were able to return or poverty deconcentration failed on that site. Furthermore, two sites saw poverty rates climb between the 2000 and 2010 census. Chronic poverty in Memphis gained national attention when the Initiative for a Competitive Inner City, a national non-profit group, sought to draw attention to the problem and called Memphis "a key battleground on the war on poverty"(ICIC 2014). Even more recently Mayor Wharton has developed a plan to decrease the poverty rates by percentage points by the 2024. (Sells 2014).

The problem of the rapid increase in the African-American population and chronic poverty issues are well documented urban issues, but some key socio-demographic variables provide a more clear delineation between the Core, Fringe, HOPE VI, and the city tracts. Often cited class related social demographics indicative of a shift towards gentrification include increases in education levels, population share in the white-collar workforce, and increased income. Figure 6.4 shows the increases of these variables from the beginning of the study in

1970 to 2010. A clear class divide become starkly apparent in the categories. Moreover, numerous case studies of the neighborhood improvement of HOPE VI sites following relocation and demolition have indicated increased levels in many of these same variables (Holin *et al* 2002; GAO 2003b).

Education attainment rates across the four groups in Figure 6.3 vary greatly. The Fringe and city tract averages from 1970 to 2000 remained in close proximity to one another. That being said, the Fringe tract average does deviate from the city average between the 1990 and 2010 Census increasing by 11%, while the city average remained almost unchanged. Education attainment levels in HOPE VI tracts started low (2.59%) and remained low (7.61%). The 2010 education attainment levels were one-third of the city average, and nearly a one-tenth the Core average. As has been seen in the model results, education served as the best discriminatory variable between the Core and HOPE VI tracts. Although the increase in education attainment is an increase of three-fold, the number is still quite low, showing mixed for those promoting deconcentration. Interestingly, the tract containing McKinley Park, the homeowner portion of the Legends Park site which is still under construction, contained zero college educated residents within its boundaries during the 2010 census. However, the levels of education attainment at specific sites were higher than average levels with the tracts containing part of the Uptown site increased to 16.99% and University Place to11.96%.

The level of change in education attainment in the Fringe tracts is dwarfed by that of the Core tracts. The Core tracts average has gone from well under half of the city and Fringe tract averages, but by the 2010 Census, the Core tracts average has more than doubled the Fringe tract average, and more than tripled the city-wide average. Furthermore, the census tract containing

Population Share with at least a Bachelor's Degree					
	1970	1980	1990	2000	2010
Core	4.5 %	9.91 %	35.94%	59.99 %	69.99 %
Fringe	11.08 %	17.85 %	23.69 %	27.06 %	34.69 %
HOPE VI	2.59%	3.44%	3.78%	5.03%	7.70%
City	11.05 %	17.29 %	20.99 %	22.50 %	22.52 %
Population Share with in White-Collar Workforce					
	1970	*1980*	*1990*	*2000*	*2010*
Core	8.97 %	16.63 %	45.09 %	62.82 %	57.92 %
Fringe	24.25 %	28.99 %	30.34 %	35.60 %	36.96 %
HOPE VI	8.43%	9.21%	12.02%	12.88%	18.53%
City	22.67 %	26.41 %	29.74 %	29.84 %	27.85 %
Average Household Income					
	1970	*1980*	*1990*	*2000*	*2010*
Core	$5,281.38	$9,358.37	$36,663.54	$64,400.45	$95,610.94
Fringe	$7,623.20	$14,420.57	$26,049.72	$41,970.44	$56,288.16
HOPE VI	$4,155.74	$7,779.80	$10,526.44	$20,617.41	$26,548.36
City	$9,648.42	$18,525.29	$34,393.61	$47,973.23	$52,855.74

Figure 6.3 Class Based Demographics 1970 - 2010

Harbor Town has a college attainment level of 83.33%. Interestingly, the South Main tract saw a slight decrease in college educated population share (-1.33%). The much higher levels of college attainment in the Core tracts indicate that an increasing concentration of educated professionals are moving into the downtown and its reinvested surrounding areas.

As seen in the education levels, more educated professionals are locating around Downtown Memphis. One would assume that with an increase in the concentration of educated residents there would be a rise in the white-collar workforce. Additionally, a small reliance on manufacturing in the local economy, and the presence of several Fortune 500 companies, such as FedEx and AutoZone, located near downtown it is not surprising that these workers are locating in the Core tracts. As seen in the other demographics, the Core tracts average is dwarfed by both the Fringe and city-wide averages in 1970, but by 2010, the Core tracts average doubled the city-

wide average. However, between 2000 and 2010 censuses, the tracts that contained the South Bluffs and Mud Island each saw a dip in the level of the white-collar workforce. This may be attributed to the overall decrease in the Memphis city population over the last decade to the suburbs. The availability of quality built housing near their place of work in downtown Memphis provides a clear incentive for the educated working class to locate in the Core tracts.

Following that same line of logic, the low levels of workers in the white-collar workforce is not surprising. The HOPE VI white-collar workforce began at similar points as the Core tracts in 1970, but greatly diverged thereafter. Not surprisingly, the biggest increase in the workforce occurred between 2000 and 2010. Three tracts actually saw their white-collar workforce share more than double, and the HOPE VI average overall increased by its largest margin during the study period. The rate of increase in the white-collar workforce between 2000 and 2010 (5.65%) is almost the same size as the white-collar workforce decrease in the Core tracts (4.9%). Due to the close proximity to Downtown Memphis some of these middle-class residents of the Core tracts may be relocating to the market rate units or homeownership opportunities in the newly redeveloped HOPE VI sites.

The Fringe tracts household income average remained behind the city average until the 2010 Census, which seems to be related to the 7% increase in the educated professionals that have located in the last decade. A greater disparity is seen in the HOPE VI developments, which have an average household income in 2010 that is less than half of the city average. Some of the changes experienced in the HOPE VI tracts far exceed the group average. The tract containing University Place saw an increase of $24,705 to $43,208 and the tract containing part of the Uptown development saw an increase of $15,298 to 34,079. Three tracts actually saw a decrease in the average household income. The Legends Park tract had a slight decrease of $205, the

McKinley Park tract had a slightly larger decrease of $1,274, and finally, the College Park tract

had the largest decrease of $3,679. These changes in average household income show that results

vary from site to site, more than likely depending on the stage of development.

The Core tracts average once again paled in comparison to the city and fringe averages

until the 1990 Census, then dwarfed the other groups' averages. Furthermore, common sense

would indicate that an increase in educated professionals in service based professions in census

tracts with low levels of poverty would see higher than average household income levels. The

staggering gap between income attainments is reflective of the large concentration of well-

paying jobs that are located within the downtown area of which, government, medical, and

management jobs are among the most available and lucrative. In fact, the census tract containing

the South Bluffs' average household income for the 2010 Census was over $113,000. The close

proximity to well-paying jobs seems to be a pull factor and serves to help distinguish the Core

tracts from the Fringe and other city tracts.

While various census variables often are described as class identifiers by gentrification

researchers, the reflection of change in the gentrification landscape is best illuminated in the

median house values from 1990 – 2010. Gentrification in its purest form represents a concerted

reinvestment effort into a neighborhood's housing stock. As seen in the previous figures, the

1990s appear to be the bifurcation between the Core tracts and all other groups of tracts. The

1990s area turning point in the livelihood of Downtown Memphis is the Harbor Town

neighborhood on Mud Island opened in 1992, and increased investment is occurring in the

downtown core. This point is further made in Figure 6.4, where there is a clear separation

between the Core tracts and the rest of the city. From 1990 to 2010, the census tracts containing

Mud Island and the South Bluffs saw a median house value increase of over $220,000

Average House Value			
	1990	2000	2010
Core	$102,521.00	$233,143.33	$254,566.67
Fringe	$60,438.60	$90,536.00	$133,480.00
HOPE VI	$35,027.71	$46,516.57	$85,242.86
City	$69,686.49	$92,336.16	$118,086.09

Figure 6.4 Median Housing Values 1990 – 2010

and $290,000, respectively. Even with the taking into account inflation that amounts to almost a five and one-half times increase in Harbor Town tract and a twenty and one-third times housing values. Even though these tracts are part of brownfield developments, these two tracts are perfect examples of new-build gentrification (Davidson 2009; Lees and Davidson 2010).

In the HOPE VI tracts the rate of changes in the median value of homes was most significant from 2000 – 2010, where the group average nearly doubled from just over $46,516 to just over $85,000. This change in housing value obviously is the outcome of the significant investment into the housing market during redevelopment. Several of the sites contained homeownership opportunities, which would lead to more newly built houses. In fact, the tract containing part of the Uptown site saw a drastic change in the housing value in this time period, where the value increased from $26,900 to $128,400. Moreover, every site had at least a 25% percent increase in the median house value except for one, the McKinley Park site. This site may have been under construction during the collection of the census data, and the results for this development may not be truly reflected until the 2020 Census.

As has been seen in a simple dissection of class-based and social based indicators of the gentrification process, the Core tracts have significantly outpaced the Fringe tract, the HOPE VI, and city-wide averages. While the Core tracts have clearly delineated themselves as beacons gentrification in Memphis, the Fringe tracts have consistently barely outperformed the city-wide averages; thus, it is not surprising based on the above statistics that the Fringe model delivered

such poor results. Furthermore, the South Main District alone has an estimated $200 million of new projects underway ranging from new apartment developments, a new brewery, and even a multi-modal connector project to connect the Uptown neighborhood to the South Main (Donahoe 2014). Based on investments levels like this, it is clear to see why Core tracts are outpacing the rest of the city.

HOPE VI neighborhoods have not seen strong shifts in the socio-economic data as seen in other sites across the country. This may be a result of a weak housing market, the recession of 2008, or just due to limited site re-habitation at the time of the census. That being said, as can been seen in the discussion of these data, the results vary across the various site to site, but the results present a mixed bag of results. A GAO audit (2002) estimated that it took 7-10 year after redevelopment before a site could be truly evaluated on its efficacy. Thus, the results from these redevelopment sites may not be truly interpretable until the 2020 census,

Mortgage Lending Activity

Extended and significant periods of mortgage lending have been shown to be indicators of gentrification (Smith, Duncan, Reid 1989). Wyly and Hammel (1999) have shown that increases in the mortgage lending levels in HOPE VI neighborhood occur due the inclusion of mixed-finance plans. Additionally following FY 2002, PHAs were required to show in their grant proposals how the redevelopment of public housing would attract outside funding (GAO 2003). To examine mortgage-lending levels in Memphis' HOPE VI census tracts, home purchase loan data provided by the Federal Financial Institutions Examination Council (FFEIC) is used for the years 2000 – 2013. The home purchase loan data is averaged for each census tract in Memphis (MSA), and each of these census tracts are divided into four groups: Core, Fringe,

HOPE VI, and Memphis, and these four groups will be plotted as a line graph. It should be noted that in this section, unlike the previous, the HOPE VI category does include all census status regardless of the completion of demolition and relocation; furthermore, the city group includes the metropolitan statistical area average (MSA). The use of these four groups shows how mortgage-lending levels not only compare to the average Memphis (MSA) tracts, but also to the tracts that have been identified as having seen increased investment activity.

As can be seen in Figure 6.5, despite the early dip in the average home loan purchase values in 2002, the Core tracts show much higher levels than the rest of the other groups. These results show that the housing market in the Core tracts is healthiest of the four groups. The Core tracts consistently have at least a $50,000 larger average than that that of the Fringe tracts. The highest average attained by the Core tracts was in 2008 just before the housing crash, but despite the slight decrease in prices in 2009, the Core tracts housing have rebounded quite nicely. The average home purchase loan only drops below $150,000 three times in that 13-year period.
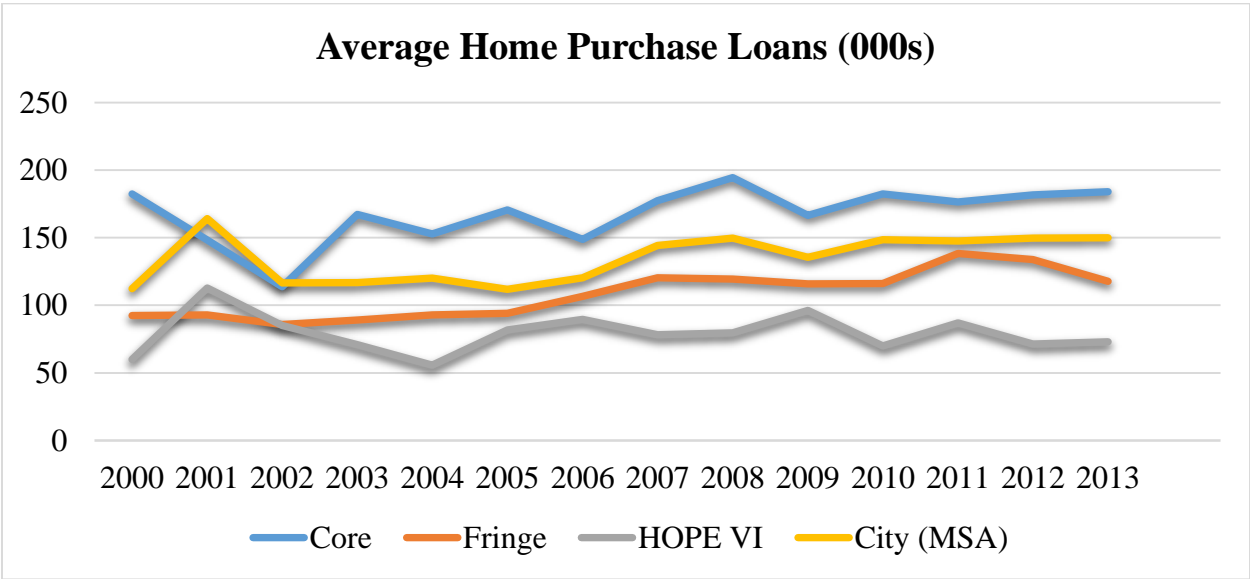

Figure 6.5 Average Home Purchase Loans 2000 – 2013

The higher average purchase loan values for the Memphis (MSA) group must deal with the fact that these figures include many of the large homes in suburbs, such as Germantown and Collierville. Interestingly, the high average home purchase loan values in the Core tracts show how far these have come since revitalization. Given what has been shown in the socio-demographic data, one could assume that these high loan values are due to the residents of these tracts having more disposable income to invest into the build environment, higher quality of the available houses, and the overall availability of credit in these neighborhoods.

The mortgage lending activity inside of the HOPE VI tracts was surprising small, which had no years with averages above $100,000. Furthermore, between the years 2000 – 2013, there was not a single year that every HOPE VI tract reported loan activity. As can be seen in Figure 6.5, the mortgage activity in the HOPE VI tracts is doubled, if not tripled, by the Core tract levels, which would validate much of what was found in the socio-economic data. Similar to what has been seen in the socio-demographic seen in Memphis' HOPE VI developments have not been able to trigger massive neighborhood level reinvestment on par with other HOPE VI developments in the county (Holin *et al* 2002). Some of this problem can be attributed to the fact that not all of the HOPE VI developments have homeownership opportunities or that many of these developments may be surrounded by weak housing markets. While redlining has been outlawed, and the provision of more transparent lending practices has made HDMA data more readily available, the lack of available credit in these HOPE VI neighborhoods can limit the ability for residents to get loans.

6.2 Changes in the Built Environments in Gentrifying Neighborhoods

As we have seen in the discussion of the changing demographics in the Fringe and Core tracts, a clear distinction can be seen in the areas of the city seeing the greatest amount of reinvestment in the past twenty-five years. The same can be seen in the investment in the built

environment. Much like that the previous discussion, the emphasis of this discussion is on the

changes in the housing stock that is occurring within the Core tracts. That being said, this

subchapter on changes in the built environment is broken into two sections, Core and Fringe. The

changes seen in the demographics have created markets of consumption that then are transposed

onto the built environment. While socio-demographics collected in the decennial census describe

the changes that have occurred in the urban landscape, changes in the built environment during

the interim of these censuses allow researchers to see the manifestations of these changes. The

built environment acts as the physical manifestation of human habit and form.

Core Tract Investment

As has been seen in an earlier chapter, all of the Core tracts lie in districts known as

business improvement districts (BID). Mud Island, North Memphis, and Uptown neighborhoods

comprise the North CBID; the Pinch District, Main Street, and most of the area surrounding the

FedEx Forum like in The Core, and the South Main Historic District comprise the South CBID.

A business improvement district is a geographically defined area within which businesses pay an

additional tax to help fund projects within the district (Loyd and Peel 2013). As the name

implies, no residential properties are assessed, but rather businesses in these districts in Memphis

are assessed at sixty-five cents per $100 of assessed value; furthermore, only commercial

properties assessed at over $25,000 are eligible to be taxed (DMC 2015). The benefits of using

these districts allows for the reduced rate interest loan to go to development projects, attract new

business, and provide benefits for developments such as hotels and multi-family housing. The

Downtown Memphis Commission (DMC) estimates that the CBIDs in Memphis generate nearly

$3 million (DMC 2015). This attention to the attraction of business helps to create strong

neighborhoods and in turn, leads to investment into the built environment. This section will provide a short assessment of the investments in the build enivronment in the South Bluffs, South Main Historic District, Downtown, and on Mud Island that are assisted by the existence of business improvement districts.

The South Bluffs and South Main Historic District

The South Main District and South Bluffs are among the healthiest neighborhoods in the Memphis area. Whereas they share many common socio-demographic characteristics, the nature of the how each of these neighborhoods has left their mark on the urban landscape does vary. The South Main District and South Bluffs are in the southern portion of Downtown Memphis. More specifically, it should be noted that the South Bluffs description used in this discussion refers to the area surrounding the South Bluffs apartments developed by Henry Turley, the developer of the Harbor Town, near the intersection of West Georgia Avenue and Riverside Drive. The South Bluffs are a prime example of the new-build gentrification, while the South Main District is homage to the traditional form of gentrification with flair. As can been seen in Figure 6.6, both of these neighborhoods have high quality housing, as well as, newly built apartments or condos. The health of these neighborhoods is indicative of the rapid increase over 60% in the census tract median house value from 2000 – 2010. This far outpaced the rest of Core tracts, let alone the citywide average.

The South Main District gained prominence through its development as a railway connection hub, and many companies invested heavily in the area. With the collapse of the

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Building Survey Results for Census Tracts 42 and 43

Residential
- No Grade Available
- Unimproved
- Improved
- New

Commercial
- No Grade Available
- Unimproved
- Improved
- New

- Census Boundaries
- Mississippi River
- Unmapped Area
- Roads
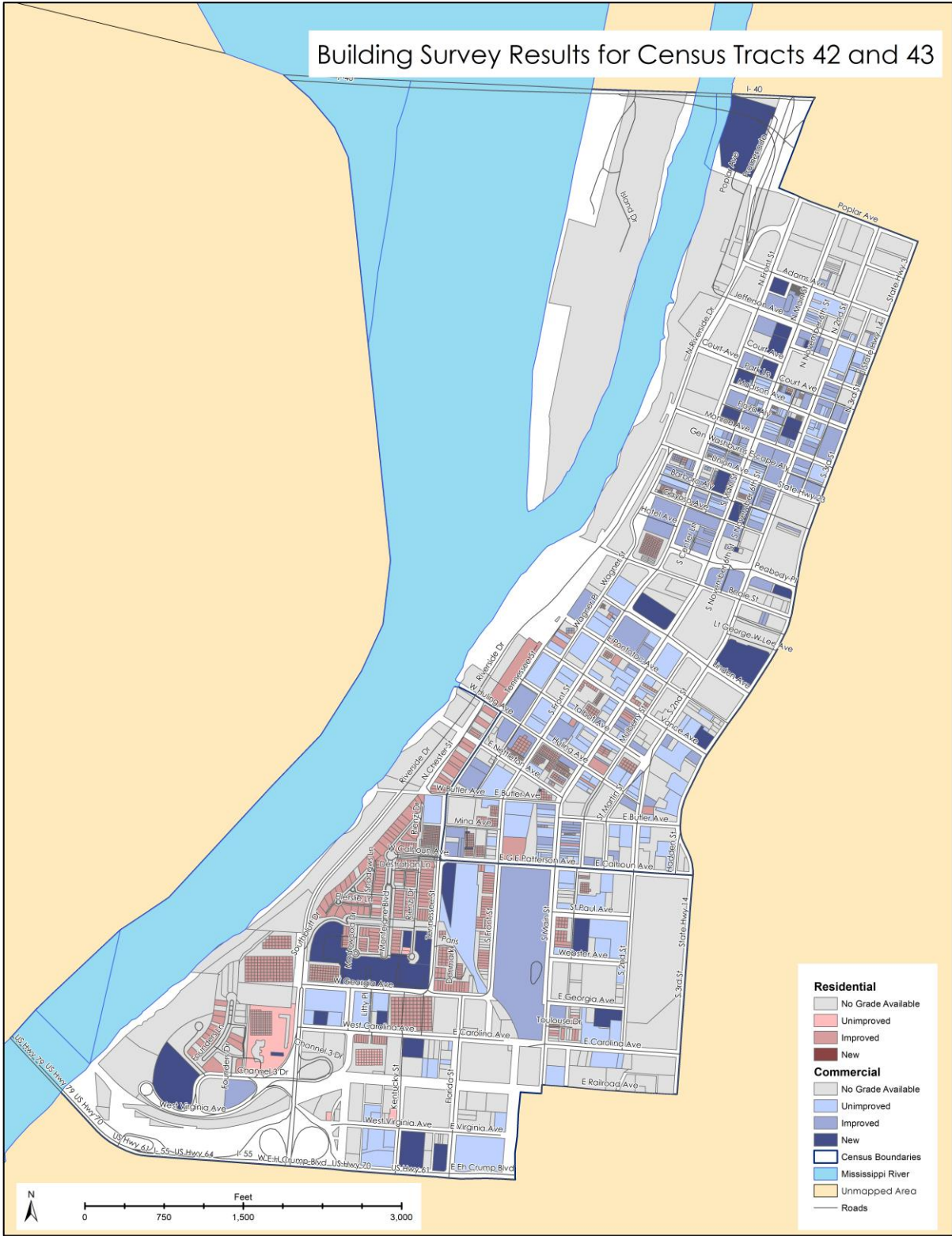
Feet
0   750   1,500   3,000

N

Figure 6.6: Census Tracts 42 and 43 Building Conditions, 2015.

railroad industry in the 1950s, the area began to go into a decline, but not in the 1990s (South Main webpage). Interestingly enough, the South Main webpage unknowingly attributes gentrification with the salvation of the district. The district's buildings were left intact because developers were never interested in the properties, and artists and 'creatives' were attracted to the beautiful aesthetics of the South Main in late 1980s and early 1990s. The South Main in now home to over 2500 people and is on the cutting edge of development in Memphis (South Main Page 2015). It is estimated that over $200 million worth of projects are underway in and around the district. Many of residential projects that are underway utilize mixed-use methods to utilize the walkability of the areas. Furthermore, the close proximity to Beale Street made South Street the ideal home for the new Blues Hall of Fame set to open in 2015. The close proximity to sporting, cultural, and historical landmarks has made the South Main District home to growth and reinvestment.

The South Bluffs, while growing partially due to prominence of the South Main District, has experienced a different investment pattern. The infill development of once heavily trafficked rail yard serves as yet another quintessential example of new-build gentrification in Memphis. Coming once again from the mind of developer Henry Turley, these apartments and surrounding areas sought to capitalize on the urban feel and integrated new-urbanist principles into their designs. As can be seen in Figure 6.7, much of the surrounding developments are in fairly close proximity to the one another, and there is also a growing number of condos in the area. Many of these newly constructed condos are capitalizing on the beautiful views from the bluff overlooking the nearby Mississippi River, and ease of access to many of the surrounding amenities. Hopes of continued growth in the area increased with the recent purchase of the partially completed vacant luxury condo tower, the Horizon. The new owner hopes to open the

101

development by the end of 2015 (Poe 2014b). Furthermore, as documented in Smiley *et al*

(2014), the expansion of bicycling into the South Main and the South Bluffs will encourage more

young professionals to move into the urban core.

Downtown

Downtown Memphis is home to many historic buildings, including the gentrification

aesthetic that serves as a pull factor for residents. In 1977 the Center City Commission, now the

Downtown Memphis Commission (MDC), was created to direct a redevelopment plan aimed at

re-injecting life into a decrepit central business district by working with local government

officials and private business leaders (MDC 2014). As has been seen, the MDC currently serves

as a strong instigator of investment in to the urban landscape. Moreover, a local non-profit,

Memphis Heritage Incorporated (MHI), has a served as an agent for the preserving the local

architecture since the mid-1970s, and under their guidance Memphis has managed to create a

large number of historic districts (Bond and Sherman 2003). MHI promotes a mission to

"educate and coordinate individuals and groups to save, improve, reuse, and maintain

architecturally and historically significant buildings" through the use of smart development to

offset urban sprawl (MHI 2015). MHI even offers tax incentives for the reuse of historic

buildings, and has helped many facilitate the transition of numerous historical buildings into

condominiums and apartments (Bond and Sherman 2003).

The close proximity of government offices, the medical district, as well as, ample

availability of historically beautiful buildings in Downtown Memphis, have created a thriving

spot for reinvestment and urban transformation (Figure 6.7). In a more typical fashion of

gentrification, many of these historic buildings have been converted to residential such as the

Shrine and Exchange Buildings. Investors have scoured downtown pouring money into the transition of these buildings into condominiums over the past twenty years. The healthy housing market in Downtown Memphis saw a increase three-fold in the condo sales from 2002 – 2005. Likewise, in 2006, the highest rate of condo sales occurred with the sale of 464 units, which was a 167% increase from the previous year (Smith 2007). The housing bubble of 2008 would stymie this healthy market. While the beginning of the 2000s were prosperous for Downtown Memphis, the end of the decade was rough on the median house value in the Downtown area. In fact, while housing values climbed in Harbor Town, the South Main Historic District, and South Bluffs, the median house value in the Downtown census tract dropped by nearly $90,000. However, signs are appearing that demand across the city for condos is recovering. Prices per square foot are still recovering ($120-$150), but are still well below the threshold to warrant new development of rough $200 per square foot (Poe 2014b).

A discussion of the investment in the core of Downtown Memphis would be remiss without a mention of the involvement of sports. Memphis has long had a strong, healthy sports environment, and is currently home to one NBA team, the Memphis Grizzlies, and the St. Louis Cardinals Triple-A affiliate, the Memphis Redbirds. Each of these teams' facilities is located in the Core of Downtown Memphis. The first arena to appear in Memphis is the iconic Pyramid, homage to the connection to the ancient Egyptian city, which was constructed in 1991 in the Pinch District. Memphis had long been trying to attract a professional sports team, and was able to attract the Memphis Grizzlies in 2001; however, the team relocated to the newly built FedEx Forum in the southeastern corner of the Core CBID not far from the Redbirds ballpark. (Bond and Sherman 2003). The Redbird relocated into their current Downtown ballpark, AutoZone Park, in the 2001 – 2002 season. This ballpark is nestled in the heart of historic buildings, and is

across the street from the Peabody Hotel. These sports facilities add a boost to the local economy, and serve as pull factors for growth. These facilities lie in the Sports and Entertainment District, and are within walking district to the South Main District and the South Bluffs. The goal of this district is to encourage the mix of business, sports, entertainment, and residential activity.

Mud Island

The final Core area discussed here is Mud Island, more specifically Harbor Town. Mud Island prior to the 1960s was uninhabitable, until the Army Corps of Engineers raised the tract of land above the 100 year flood stage (Bond and Sherman 2003; Sadler 2014). It is interesting that Mud Island is called an island, when in fact the area is actually a small peninsula. In the early 1980s near the southern portion of the island, the Mud Island Park opened. The park focused on the beauty of the Mississippi River, and even boasted a 2,000-foot flowing model of the river; however, the park never fully blossomed into its full potential in reinventing Mud Island into a desirable tract of land (Bond, and Sherman 2003). It was not until local developer Henry Turley purchased the northern portion of the island, around 130 acres, for $2.25 million in 1987 that the fortune of the island began to change (Sadler 2014). The Harbor Town neighborhood opened in 1992, and has been successful in creating a thriving economy in what once was a brownfield. As has been in the demographic shift in the island from 1970, the socio-demographic indicators of a class change became starkly visible.

A building condition map of Harbor Town is not included here, because the area was developed after the beginning of the study period, the entire tract of land is classified as 'new'. There is a range of available housing options in the neighborhood including apartments, condos,

and single-family homes. The neighborhood is compact, walkable New-Urbanist inspired neighborhood reminiscent of other New Urbanist towns like Seaside, Florida. The separation of such a neighborhood from the rest of the city almost creates a city all to itself. The tract containing Harbor Town has a population that is four times more likely to have a college degree, nearly three times as likely to be employed in the white-collar workforce, and a one-third as likely to be impoverished as the rest of the city. The health of housing values in the neighborhood and relative safety have made Harbor Town a haven for educated professionals that work in the Downtown area. As will be discussed later, the close proximity of this gentrified neighborhood to derelict neighborhoods may have spurred investment in the surrounding neighborhoods.

Tax increment financing (TIF) is a concept that has been used more widely across the country, but has just recently taken hold in the city of Memphis. TIFs differ from business improvement districts (BIDs) in that TIFs create a special taxing district around an area slated for redevelopment, and earmarks future property tax revenues to these redevelopment efforts. TIFs are a way of extracting value from the land that then can be used to fund the redevelopment of residential and commercial properties (Weber 2002). TIF districts recollect the leveraged public funds through the incremental increase in the number of properties during the life of the district (typically $20 - 25$ years). Essentially, cities are betting that the redevelopment will be profitable in the future, but one of the chief complaints in using the method is that is reduces short term revenue and increases public debt. With that being said, Memphis has three TIF districts: with a fourth in the planning process: the Highland Row near the University of Memphis TIF, The
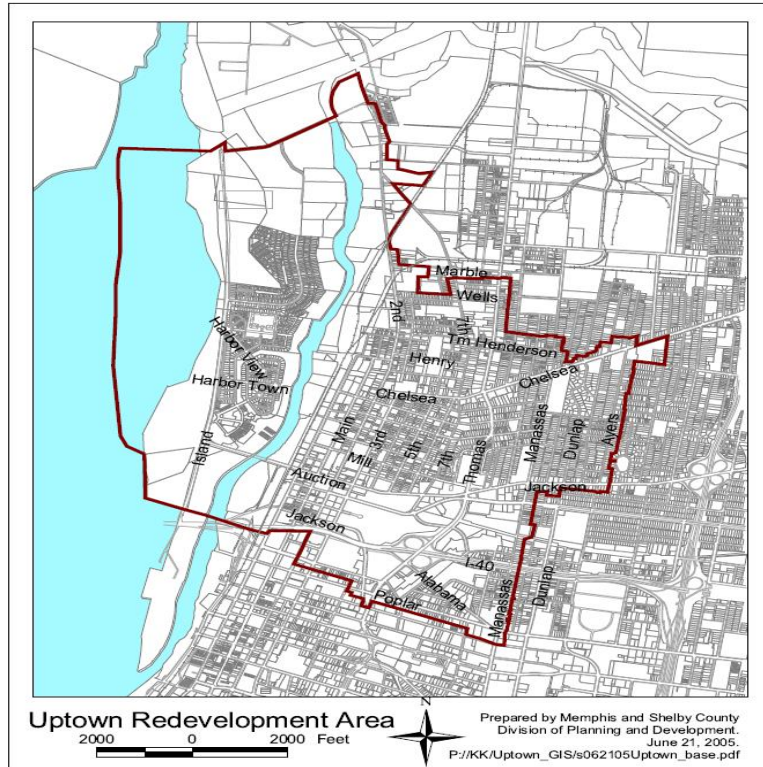
Figure 6. 7 Uptown TIF District by Shelby County Division of Planning and Development

Uptown Neighborhood TIF, and Graceland, the home of Elvis Presley in South Memphis TIF. There is even another TIF district encompassing most of the Downtown Core, as part of the Heritage Trail, but the plan has come under heavy criticism. The TIF district of interest in this discussion is the Uptown TIF. TIF districts are poised to leave an indelible mark on the Memphis landscape for the foreseeable future.

As can be seen in Figure 6.7, the Uptown TIF district utilizes the property tax revenue from many of the areas in Core gentrified tracts to provide a steady stream for capital for investments in several of the tracts targeted by the HOPE VI development. Large investments have been made in the residential and commercial built environment, such as the conversion of the Pyramid into a giant Bass Pro Shop. The reason for the inclusion of this district in this study is that this area is poised for significant growth. Betts and Buchanan (2008) found that many of

the vacant houses in this neighborhood were held by private investors that are waiting for the market to recover to then sell to developers. This neighborhood should be on the forefront of gentrification for the foreseeable future adding to the mix of available capital and interests for redevelopment.

Fringe Tract Investment

Much of the ongoing gentrification in Memphis in this chapter has been focused on the Core Tracts, which is due in part to the strong outcomes from the model and the socio-demographic analysis. Many of the neighborhoods that are in the Fringe category abut up to very strong, wealthy neighborhoods, or home to strong neighborhood societies. Furthermore, this section of Memphis, known as Midtown, is home to some of the wealthiest and well-kept neighborhoods in the city, such as Central Gardens and Evergreen. Moreover, the proximity of the University of Memphis and Overton Park has kept much of Midtown in great shape in terms of housing conditions. The Fringe tracts that surround these wealthier neighborhoods have shown much weaker levels of gentrification and are further away from the investment in the downtown core. A wide variety of investment activity has been seen in those areas, but for the Fringe tracts, the distance from this investment has shown that gentrification efforts decrease as distance from the urban core increases. However, that trend may be changing in the coming decades, since a recently approved plan to redevelop the fourteen story Sears Crosstown building located in Census tract 25 changes this pattern.

The Sears Crosstown building was built in 1927 for the Sears, Roebuck, & Co. as a mail processing center. Due to much of the problems that have already been discussed, i.e. shifting workforce and suburbanization, Sears was forced to close the lower levels of the building in the

late 1980s, and finally vacate the building in early 1990s (Crosstown Concourse 2015). An example of potential for this development to attract further investment into the surrounding neighborhoods is seen in the Sears Crosstown redevelopment project. The site has been vacant for more nearly twenty years, but recently, developers broke ground on a $200 million dollar project that would convert the abandoned warehouse building into a multi-use, mixed-income space. Using inspiration from cities like Minneapolis and Atlanta, developers are converting the building into a vertical urban village. The newly renovated building slated for completion in 2017, will have over 600,000 square feet that will be leased; additionally, the site will be home to a mix restaurants, health fitness shops, and over 250 apartments. The design of the new building is aimed at "dissolving" access barriers, and will promote interconnection (Crosstown Concourse 2015). Furthermore, the site hopes to access one of the most diverse neighborhoods in Memphis to build a healthy integrated development. Will the neighborhood become a healthy diverse neighborhood or another enclave of the rich middle-class? The answer should begin to manifest in the next Census in 2020.
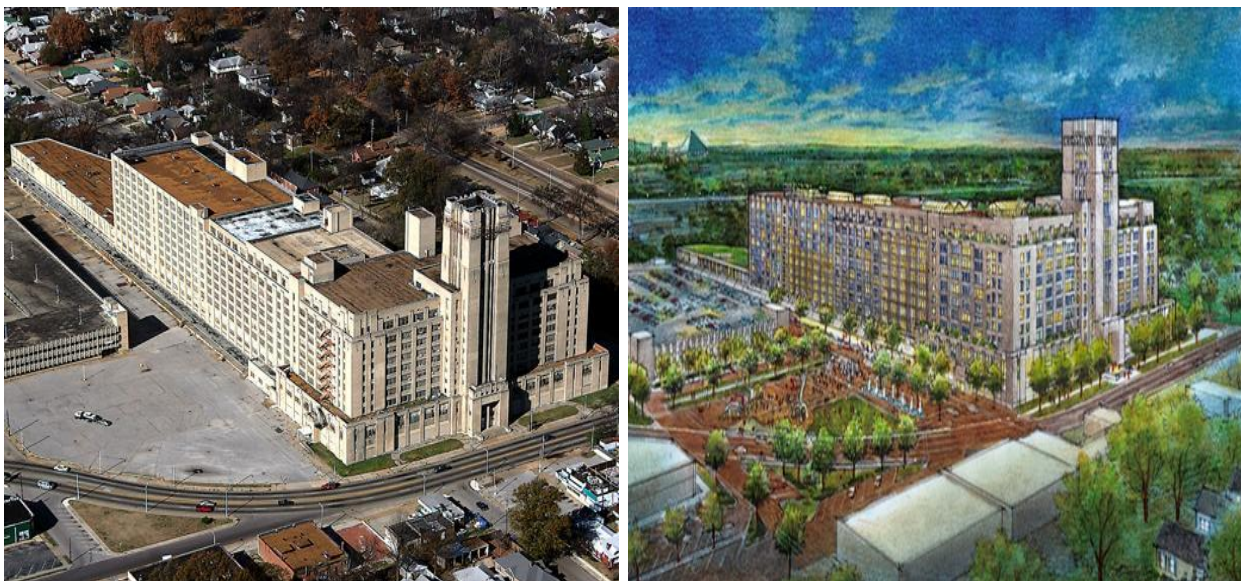

Figure 6.8 Sears Crosstown prior to redevelopment (left) and proposed redevelopment plans (right). Source Ashby, 2012 and Crosstown Course, 2015
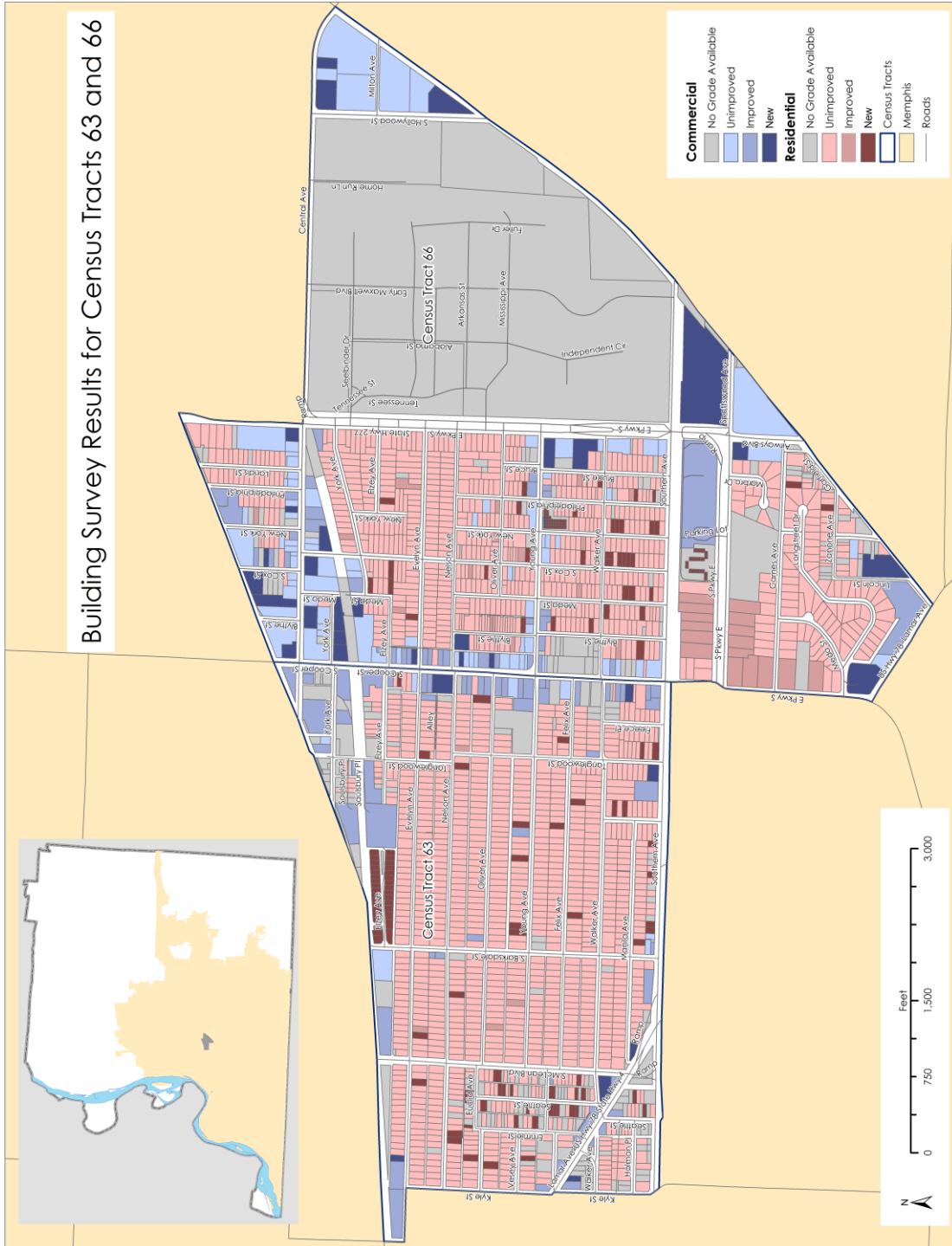
Figure 6.9 Building Conditions in Census Tracts 63 and 64

An often cited neighborhood for gentrification is the Cooper-Young neighborhood;

however, the problem with quantifying this neighborhood as gentrified through the use of the

model is that the neighborhood straddles two census tracts (Figure 6.8). It is bounded to the west

by McLean Blvd, to the south by Southern Avenue, to the east by East Parkway, and to the north

by Central Avenue; so essentially, the neighborhood is split evenly among tracts 63 and 66.

Cooper-Young is home to over 1600 households. Cooper-Young became listed on the National

Register of Historic places in 1989 and has seen an increase in redevelopment efforts since the

early 1990s (Cooper-Young Community Association 2015). Furthermore, fifty more homes have

been renovated in the last twenty years.

The neighborhood markets itself a "historically hip" neighborhood boasting an eclectic

assortment of shops, bars, and restaurants. Moreover, the neighborhood hosts the Cooper-Young

Festival, a "celebration of people, art, and culture", which in 2010 reached an attendance record

on over 100,000 (Cooper Young Visitor website). Cooper-Young is home to a large gay and

lesbian community, which has led to the establishment of the Memphis Gay and Lesbian

Community Center in the neighborhood. Some gentrification researchers have found that the

involvement of the gay community in the 'urban renaissance' is in large a response to a history

of urban oppression and 'othering' (Lauria and Knopp 1985; Knopp 1992). This viewpoint

expresses that the city is an arena and forum for emancipation. This neighborhood does fit the

mold of the gentrification, but due to the spatial problems faced with using Census tract data, the

methodological approach used will have trouble identifying the investment activity in the

neighborhood.

6.3 Conceptualizing Gentrification and Displacement in HOPE VI Neighborhoods

As the results from the last previous section have shown, the desired neighborhood change has not been as great in the HOPE VI census tracts than any of the three other groups. Furthermore, the model has shown that gentrification levels within these tracts pale in comparison to those of Core tracts, but this is not to say that gentrification has not occurred in some form. Goetz's (2011b) alternative conceptualization of the gentrification process within HOPE VI tracts does provide insight into the change that is happening. Although the data is aggregated to the census tract levels, some insights can still be made. While gentrification researchers often cite the lack of measurable displacement associated with the process, HOPE VI relocation and unit replacement figures provided by local public housing authorities do provide a baseline for assessing displacement from redevelopment. This subsection is divided into two sections: the conceptualizing gentrification in HOPE VI neighborhoods and assessing displacement caused by redevelopment of these sites.

Conceptualizing Gentrification

The utilization of Goetz's (2011b) method for conceptualizing gentrification levels in HOPE VI neighborhoods does allow for the assessment of existing gentrification levels. As already seen, the tracts that contain public housing developments targeted for demolition and relocation though the HOPE VI program contained high rates of the urban poor levels and population shares of African-American residents. In fact, the 2013 Picture of Subsidized Housing Database lists the African-American population share of these developments at 98%, which is almost ten points higher than the HOPE VI tract average; furthermore, these developments are home to residents that earn 25% of the area median income. Moreover, 95% of these residents

are classified as very low income earners, and 72% as extremely income earners. So it can be assumed that any shift in the poverty and racial profile caused of a given tract caused by the relocation of the original residents and influx of wealthier new residents should produce visible results.

Figure 6.10 Neighborhood Change in HOPE VI Tracts from 1990 -2010
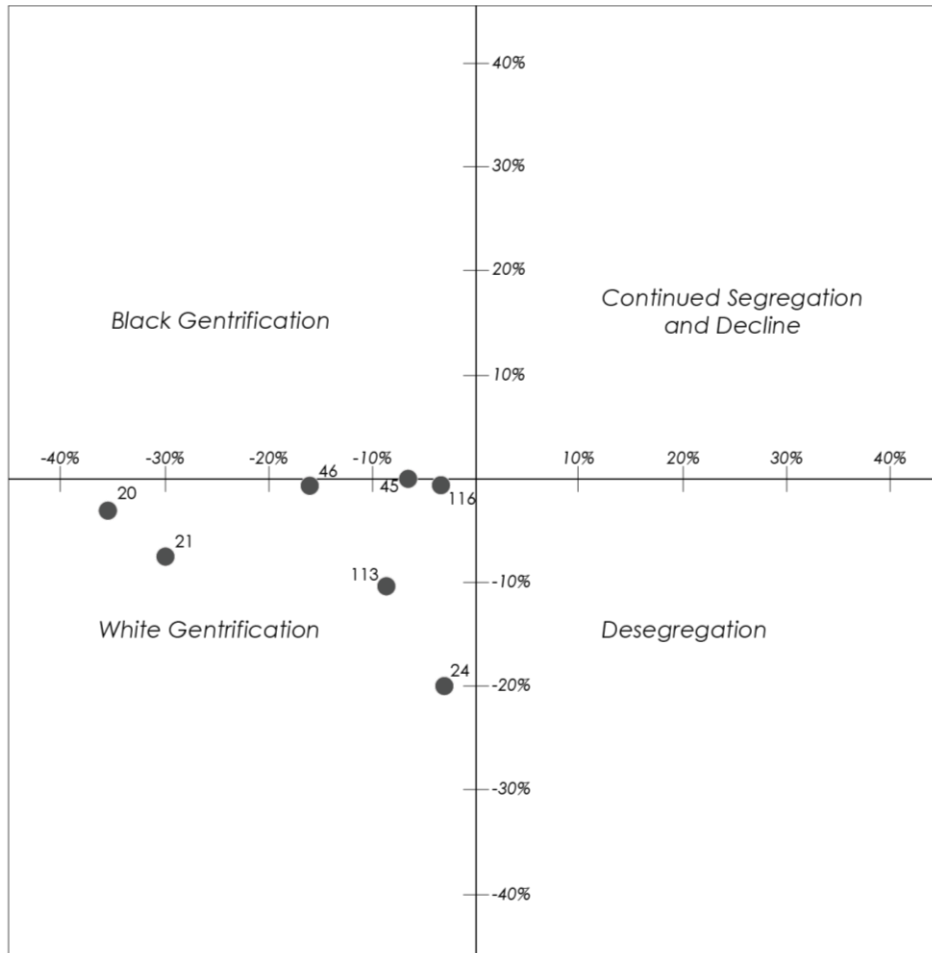
As can be seen in Figure 6.10, there is a varied level of decrease in the poverty and African-American population shares across the tracts. The tract containing the Legends Park development (Tract 25) had the biggest shift in the African-American population share, but saw the second smallest decrease in the poverty rates. This racial transformation only shows that a

slightly wealthier group has moved rather a sign of gentrification; simply a decrease in the

African-American population share does not always trigger neighborhood level change, let alone

gentrification. While the Legends Park tract shows signs of a larger racial transition, every other

tract saw a much smaller racial transition from 0.04% to 11.8%. This points to a much smaller

influx of White residents, but also shows the varied levels of change across the city.

Furthermore, two or three tracts show signs of African-American gentrification within the

HOPE VI neighborhoods. Tracts 45, 46 and 20 saw small changes within the racial profile of the

neighborhood coupled with decreases in poverty rates ranging from 6.2% to 35.8%. Tract 20 is

home to two of three home rental sites of the Uptown HOPE VI site, which consisted of 100%

affordable housing options, but also is home to the Metropolitan Place apartments that only saw

a 35% replacement rate of the affordable housing units. This means that the decrease in poverty

is partially occurring due to the reduced number of available number of affordable housing units

at the Metropolitan Place site, but more than likely wealthier public housing resident have moved

into the rental homes. Tract 21 and 113 do show signs of White gentrification as these tracts see

the higher rates of change in poverty rates and African-American population shares. These two

tracts comprise the other portions of the Uptown HOPE VI site, and indicate that all three tracts

of the site are showing signs of gentrification, but granted at a much weaker level than seen in

the Core tracts.

The changes seen in Figure 6.10 show that tracts are seeing some level of gentrification,

but Figure 6.11 shows how these changes compare with the Core tracts. The model and socio-

demographic show that the two groups are not very similar, but by reducing the variables and the

time period, some more visible similarities are apparent. While the tract containing Mud Island

saw the biggest decrease in the African-American population share, it barely edges an Uptown

tracts for second largest decrease in the poverty rates. Also, the tract containing South Main and the South Bluffs actually saw signs indicative of African-American gentrification on par with that of the University Place development. While all of the HOPE VI tracts saw no increase in poverty rates, the Downtown Core tract saw nearly 8% spike in poverty rates over the twenty year period.

For the HOPE VI tracts that completed demolition and relocation by 2010, a decrease in the average decline in the African-American population share was 6.67%, and average poverty rate decreased by 14.25%. The Core tracts average decrease in the African-American population HOPE VI tracts are experiencing levels of African-American gentrification, where wealthier
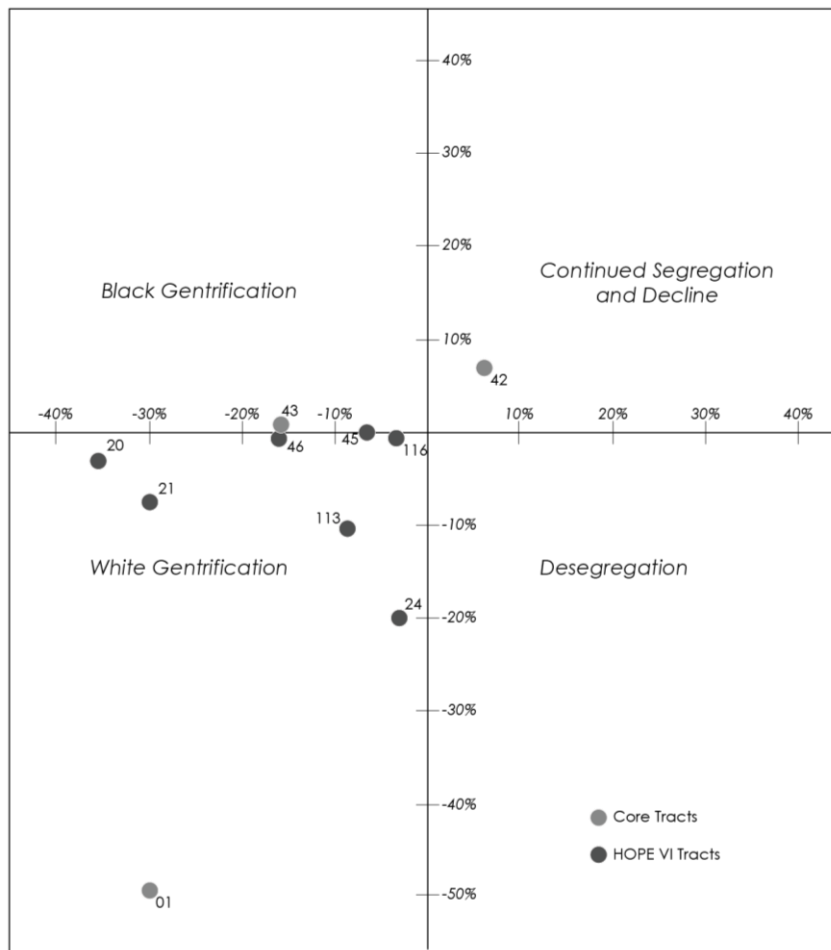

Figure 6.11 Core vs HOPE VI Neighborhood Change

African-American families are moving into these redeveloped sites; however, as will be discussed in the next section, this leads to the displacement of the original residents.

Assessing HOPE VI Displacement

An element of gentrification that is often used to downplay the negative effects of the process is displacement. Atkinson (2000, 163) says that measuring displacement is "measuring the invisible" due to availability of data in such a coarse geographic scale. Furthermore, with occurrence of displacement it is implied that the residents of interest have left the places that researchers go to look for them (Newman and Wyly 2006). The availability of data from local public housing authorities detailing the relocated residents and replaced public housing units allows for a proxy estimation of the level of displacement occurring at different HOPE VI sites. Moreover, displacement experienced through the HOPE VI development has taken the form similar to a term defined by Peter Marcuse (1986), exclusionary displacement. He this as when a household is not able to move into a dwelling due to a change in its condition or its immediate surroundings, which among other things, is beyond the household's ability to control, and occurs despite the household's ability to meet the previously set criteria, and is significantly or the changes are spatially concentrated from that of the local market (Marcuse 1986). As has been noted by Popkin (2006), relocation associated with the HOPE VI program affects the development's population rather than a small voluntary portion of previous public housing initiatives.

Residents that are relocated through the HOPE VI program are given three options: move to another public housing site, enter the private market, or receive a housing choice voucher (formerly Section 8). Figure 6.12 shows the outcome of the relocation efforts at the five HOPE

sites, which saw the relocation of 1692 residents from 1996 – 2010. The preferred method for

relocation used at the sites around the city, not surprisingly, was housing choice vouchers

(HCV), accounting for 49.82% of all relocations. Even though Lamar Terrace had the smallest

number of relocated residents, it had the highest percentage of relocation through the use HCVs

at 71.72%. The second highest method was relocation to another public housing development.

Interestingly enough, Memphis has seen the second highest percentage removal of its total public

housing stock since 1990, so the available options for public housing relocation shrank for
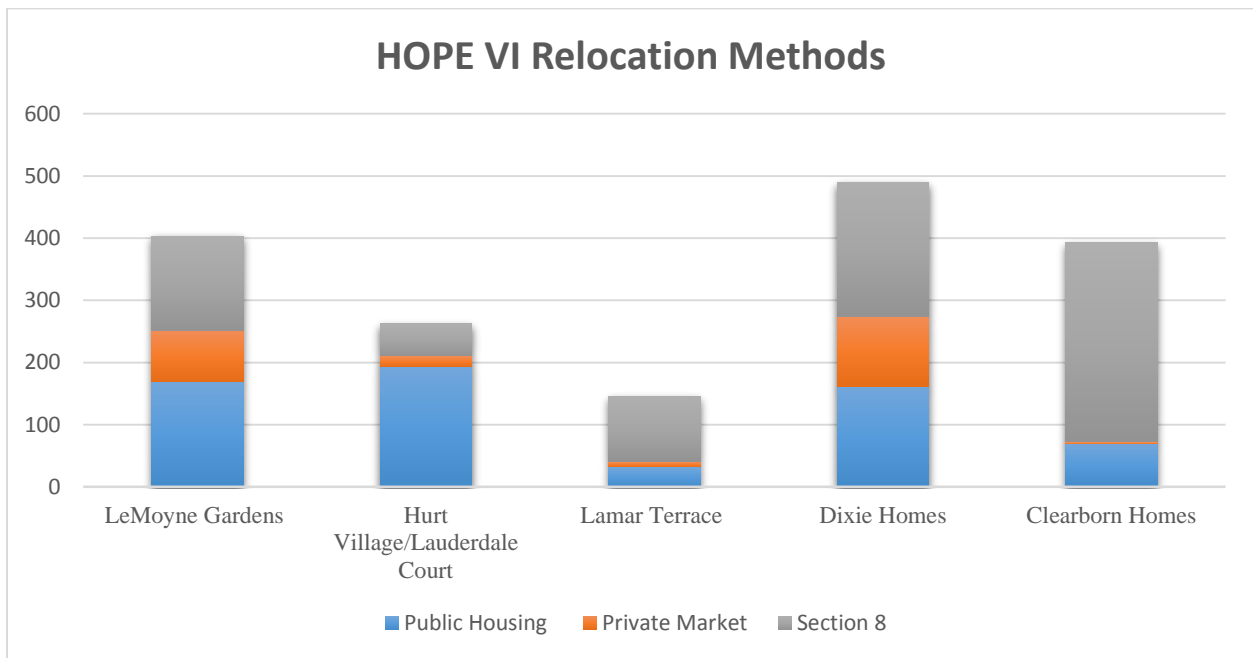
residents.

Figure 6.12 HOPE VI Relocation Numbers

Relocation through HCVs have shown minimal improvement in the economic and

education sectors; furthermore, the mean distance of relocation is 3.9 miles (Kingsley *et al*

2003). In a recent study of the community services at Memphis HOPE VI sites, Freiman *et al*

(2014) found that many of the residents are relocated to the larger neighborhoods on the periphery of the city, Hickory Hill to the southeast, Frayser to the north, and Raleigh to the northeast. The combination of the concentration of the HOPE VI development sites and the limited availability of mass public transportation in the city was a complaint cited by residents in the report. Moreover, recalling Figure 1.7, the University of Memphis 2010 housing study found that many of the immediate census tracts surrounding the HOPE VI development do not have either affordable owner-occupied, renter-occupied housing options or both. This is partially the reason that many residents are moving as far away as found in the previous studies of HOPE VI community services. This points to exclusionary displacement of the original residents.

HOPE VI Public Housing Replacement Rate

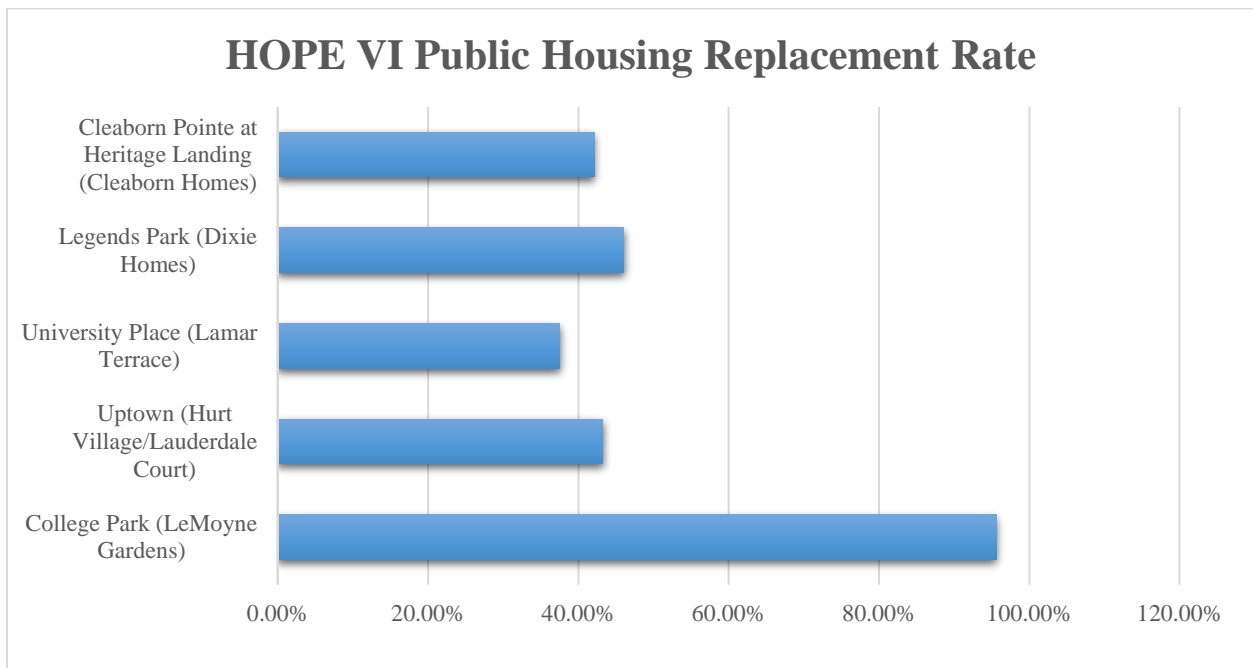| Development	Replacement Rate
Cleaborn Pointe at Heritage Landing (Cleaborn Homes)	~43%
Legends Park (Dixie Homes)	~46%
University Place (Lamar Terrace)	~38%
Uptown (Hurt Village/Lauderdale Court)	~44%
College Park (LeMoyne Gardens)	~96%

Figure 6.13 HOPE VI Public Housing Units Replacement Rates

While it has been shown that residents relocated through the use of HCVs have been forced to move greater distances and have experienced decreased availability of community services, Figure 6.13 shows how residents are physically limited from re-inhabiting the

development sites. As previously mentioned, since 1990 Memphis has demolished a high percentage of its total public housing stock, but limiting this figure to just the five HOPE VI sites, the total number of units comes is still staggering. From 1996 – 2011, the Memphis Housing Authority has demolished 2925 units; furthermore, by the completion of the Cleaborn redevelopment, the number of available public housing units in these five grants alone will decrease more than 800 units alone. Figure 6.13 shows that only one site, College Park, has more than 50% of its available units designated for public housing residents. Given the limited number of available units after development and more stringent resident screening practices, relocation levels across the country vary, but according to Freiman *et al (*2014), they estimate that less 4% of the original residents return to the redeveloped site. It should be noted that their data only covered Dixie Homes, Lamar Terrace, and Cleaborn Homes relocation efforts, so it can be assumed that number may be higher. However, one would not expect that number to be much higher given the small number of replaced units at the given sites.

Displacement is occurring at the HOPE VI sites in Memphis, but given the limited amount of time between the completion of redevelopment and the collection of the census data the results may not have manifested themselves, yet. Due to the manner of the blaming the poor for the downturn in the city, relocation efforts have removed residents from destroyed social networks and isolated residents in different portions of the city. Despite mixed results on the dispersal policy, dispersion still remains the main tool in the arsenal for fighting concentrated poverty. Rather than increase spending on the institutional issues that create such chronic poverty levels, government officials continually fund efforts that uproot entire neighborhoods and communities. The dispersion of the urban poor has not been shown to be an effective measure of combatting this issue, but rather spreads the issues of poverty to new neighborhoods. Poverty

rates in Frayser, Raleigh, and Hickory Hill are expected to continue to rise. Until the institutional issues that create urban poverty are addressed, Memphis will continued to be defined by income and racial segregation.

Chapter 7 Conclusion and Recommendations

Memphis has a rich and storied past, but during the past half century has fallen on hard times. Despite this decline, specific parts of the city have seen significant increases in investment and in-migration of wealthier middle to upper class residents. This has led to a growing disparity of among the rich and poor. Furthermore, Memphis ranks first in large metros with the highest rate of segregation wealthy and ranks third in large metros with highest levels of income (Florida and Charlotta 2015). Although the discussion presented here did not take into consideration all of the wealthy enclaves within the city, just those that have gentrified, this gap can be seen as clear in the statistical modeling and socio-demographical analysis. Gentrification is often only discussed in cities of the Northeast, usually dismissing the suburban sprawl of the US south as a limiting factor in the process, but the analysis put forth in this research project has found that gentrification is evident in the city of Memphis. The results in this study corroborate Pete Saunders's "nascent" general classification of the gentrification process occurring in the south.
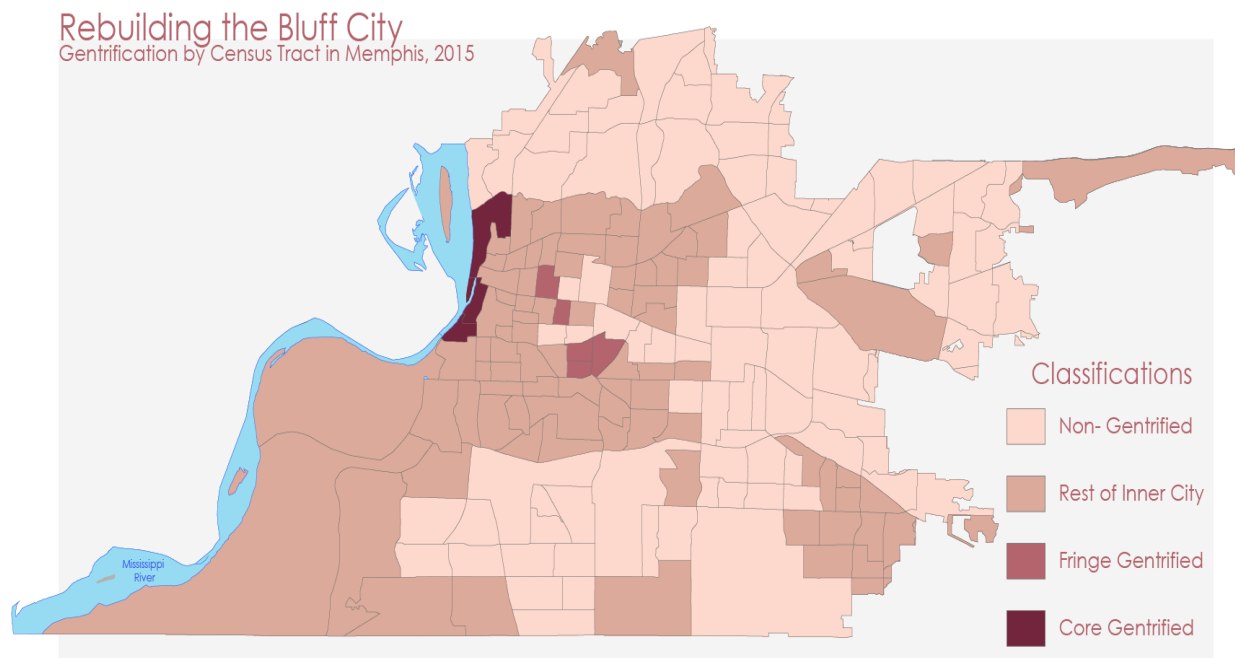

Figure 7.1 Classification Results for the city of Memphis

The first objective of this research was to identify the gentrification landscape in the city of Memphis. Through the use of qualitative building surveys, archival research, and statistical modeling, this analysis produced some interesting results and are as follows:

- *Gentrification forces are located in the Downtown Core and is concentrated in three census tracts.*

- *Gentrification forces are much weaker in other parts of the city with the Fringe Tracts failing to clearly discriminate themselves from the rest of the city averages.*

- *The major form of gentrification is known as 'new'-build gentrification and involves the creation of middle-class consumption markets through the use of infill development. Key examples of this process are in the Harbor Town neighborhood on Mud Island and in the South Bluffs neighborhood to the south of the South Main Historic District.*

- *Core tracts are defined by a clear delineation from Fringe, HOPE VI, and city-wide averages in the often cited class based demographics such racial profile, average household income, and median house value*

- *The census tract containing the South Bluffs and South Main Historic District did see a slight increase of the African-American Population Share (3.7%) from 2000 – 2010 indicative of African-American gentrification within the tract.*

- *The average home purchase loans in the Core tracts was much higher than the Fringe, HOPE VI, and city-wide averages from 2000 – 2013. Only in three of these years did the Core average dip below $150,000.*

- *The use of various tax incentives such as tax increment financing (TIF), business improvement districts (BIDs) have been effective methods for extracting values from the land in the Core tracts.*

- *The 'historically' hip neighborhood of Cooper-Young is washed out in the statistical modeling due to the siting of the neighborhood between two census tracts.*

The second objective of this research project was to examine the neighborhood effects and displacement associated with the redevelopment of four public housing developments in the city to see if these were indicative of third wave gentrification. The results from this analysis provided mixed answers, and are as follows:

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- *The statistical models show quite clearly that the neighborhood effects associated were not gentrification. The model had an accuracy of 100%, and was able to reduce the between group variation down to 0.04 with just two variables, education attainment and white-collar workforce.*

- *Moreover, the anticipated results from the massive relocation of the original residents has not triggered a massive overhaul of the neighborhood's socio-demographic profile. Many of these sites may not have not matured enough by the 2010 Census to truly assess effects of the change.*

- *When visually compared against the Core tracts to the changes in poverty rates (x-axis) and African-American population share (y-axis) from 1990 - 2010, the differences were not as clear.*

- *Two of the three Core tracts had smaller decreases in the African-American population shares than the HOPE VI average, furthermore the HOPE VI tracts had a larger average decrease in poverty rates (14.25%) which was a point greater than the Core average.*

- *During 1996 - 2010 the Memphis Housing Authority (MHA), relocated 1692 residents and demolished 2925 as part of the redevelopment of five HOPE VI sites.*

- *The preferred method for relocation was Housing Choice Vouchers (HCVs) at 49.82%.*

- *Overall, these sites lost over 800 public housing units during redevelopment.*

- *The relocation efforts felt during this process are very similar to exclusionary displacement: unaffordable housing markets and forced relocation are forced to move to neighborhoods further away such as Raleigh, Frayser, and Hickory Hill.*

- *The close proximity and spatial clustering of the targeted sites to the gentrified Core tracts played a role in creating a desire for redevelopment of these sites.*

I echo many colleagues who write much more prolifically on subject matter, than I. Critical social research leads informed policy decisions, and here are the recommendations from this research:

- *Stop blaming the victims (the poor) for the decline of the city, and provide more funding toward the institutional issues that cause poverty such as providing technical training and more local job opportunities.*

- *Build more public housing units and permanently guarantee housing options, which would the limit neoliberal policies given PHAs in the 1990 (i.e. limit displacement,*

homelessness, and evictions). These "hard units" would be lower density to avoid many of the short falls of previous generations, and need to be better integrated into the surrounding neighborhoods.

- *Complete the building of these redevelopments in phases throughout the process so that the original residents can still live on-sight and limit the levels of displacement.*

- *Reinstate the one to one replacement requirement.*

- *Expand the public transportation system to accommodate the large, sprawling spatial footprint of the city.*

The research presented here divulged that the link between gentrification and HOPE VI developments in Memphis have a relationship that is still maturing. While the temporal bias of these sites being at different stages of development at the time of data collection, or the noise of using data aggregated to the census tract level may have obfuscated any noticeable neighborhood level change, the results presented here found that some noticeable changes has occurred. Gentrification is a process that will continue to expand and will begin outward from the Central Core. Over the next twenty year, it is this author's opinion that the sites targeted by HOPE VI will lead to much more visible neighborhood level socio-demographic changes. Moreover, the MHA has declared war on public housing and has fully adopted the HOPE VI model for all of its public housing developments. Those displaced by continual public housing redevelopment efforts will have to move further away from the much needed services, therefore economic segregation will continue to exist in the city.

Directions for Future Research

This research has divulged many interesting characteristics about the level of investment ongoing in the city of Memphis, and has begun to answer all of the questions. Further economic based studies are needed to understand why the year 1990 appears to be the initial point of

increased gentrification activity in the core tracts. While the models employed here provide insight into census tracts that underwent gentrification in the past, future research could turn these basic models into models that have the power to predict gentrification forces in the near future. One of the main problems concerning this research was the issue of time and space. These issues pertain to the fact this research was conducted in between the decennial census and many phenomena were too small to be effectively captured at the census tract level. A way to improve upon this method would be to re-conduct these methods employed shortly after the 2020 Census and at the census block level. This finer spatial resolution may provide insight into particular neighborhoods that are undergoing gentrification. Further refinement of these methods will lead to a better understanding of how gentrification impacts less dense, sprawling cities of the American South.

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Appendices

A. R Scripts

B. Photographs

Appendix A - R Scripts

Linear Discriminant Analysis Gentrification Model Script

```
require(MASS)

require(klaR)

require(caret)

require(car)

require(ggplot2)

require(moments)


#read in data files

##Linear Discriminant Analysis

#all core tracts

gentrificationcore.LDA <- read.csv("Core_Binary_1.csv")

core.LDA <- gentrificationcore.LDA[-c(1)]

core.LDA$GROUP <- as.factor(core.LDA$GROUP)


#all fringe tracts

gentrificationfringe.LDA <- read.csv("Fringe_Binary_1.csv")

fringe.LDA <- gentrificationfringe.LDA[-c(1)]

fringe.LDA[,'GROUP'] <- as.factor(fringe.LDA[,'GROUP'])


#examine the data before pre-processing to view normality

splom(core.LDA[,1:9],col=core.LDA[,'GROUP'], main="Core Tracts vs. Inner City Tracts")

splom(fringe.LDA[,1:9],col=fringe.LDA[,'GROUP'], main="Fringe Tracts vs. Inner City
Tracts")


#creates a scatter matrix with a histogram to help shows the normality of our data

scatterplotMatrix(core.LDA[,1:9], groups=core.LDA[,'GROUP'],
col=c("darkred","darkblue"),main="Core")

scatterplotMatrix(fringe.LDA[,1:9],groups=fringe.LDA[,'GROUP'],
col=c("darkred","darkblue"), main="Fringe")
```

```
#skewness test before processing

skewness(core.LDA[1:9])

skewness(fringe.LDA[1:9])

#Now it is time 'normalize' the data

#center, scale and Yeo-Johnson transform our data

transform.core.LDA <- preProcess(core.LDA[ ,1:9], method = c("center", "scale",
"YeoJohnson"))

transform.fringe.LDA <- preProcess(fringe.LDA[ ,1:9], method = c("center", "scale",
"YeoJohnson"))


core.LDA.t <- predict(transform.core.LDA, core.LDA[,1:9])

fringe.LDA.t <- predict(transform.fringe.LDA, fringe.LDA[,1:9])


core.LDA.t[,'GROUP'] <- core.LDA[,'GROUP']

fringe.LDA.t[,'GROUP'] <- fringe.LDA[,'GROUP']


#examine and plot data after processing to visualize data transformation & normality

splom(core.LDA.t[,1:9],col=core.LDA.t[,'GROUP'], main="Core Tracts vs. Inner City Tracts")

splom(fringe.LDA.t[,1:9],col=fringe.LDA.t[,'GROUP'], main="Fringe Tracts vs. Inner City
Tracts")


scatterplotMatrix(core.LDA.t[,1:9], groups=core.LDA.t[,'GROUP'],
col=c("darkred","darkblue"), main="Core Model Transformed")

scatterplotMatrix(fringe.LDA.t[,1:9],groups=fringe.LDA.t[,'GROUP'],
col=c("darkred","darkblue"), main="Fringe Model Transformed")


#skewness test after processing

skewness(core.LDA.t[1:9])

skewness(fringe.LDA.t[1:9])
```

#conduct LDA on the core dataset

#GROUP is the classification of the tract (0 = Inner City Tract & 1 = Core Gentrification Tract)

#The code below runs all of the data in frame against the group classifications

#The use of Greedy Wilks function illustrates which variables contribute the greatest discriminatory power to the algorithm

gw_core.LDA.t <- greedy.wilks(GROUP~ ., data = core.LDA.t, niveau = 0.15)

#View Results

gw_core.LDA.t

#separate into training and validation groups

core.lda.training.index <- sample(nrow(core.LDA.t), floor(nrow(core.LDA.t)*.80))

#conduct LDA on the core dataset

#GROUP is the classification of the tract (0 = Inner City Tract & 1 = Core Gentrification Tract)

clda <- lda(GROUP~ COHPERCH71 + SCPER1A + EDPER1A, data = core.LDA.t, prior = c(0.5,0.5), subset = core.lda.training.index)

core.lda.predicted <- predict(clda,core.LDA.t[-core.lda.training.index,])

#lists the results with linear discriminants

#with two groups, there can only be one linear discriminant

clda

#plot the results

plot(clda)

#assess accuracy

confusionMatrix(core.LDA.t[-core.lda.training.index,]$GROUP, core.lda.predicted$class)

#The use of Greedy Wilks function illustrates which variables contribute the greatest discriminatory power to the algorithm

```
gw_fringe.t <- greedy.wilks(GROUP~ ., data = fringe.LDA.t, niveau = 0.15)


#View Results

gw_fringe.t


#conduct lda on the fringe tracts

#separate into training and validation groups

fringe.lda.training.index <- sample(nrow(fringe.LDA.t), floor(nrow(fringe.LDA.t)*.80))


#GROUP is the classification of the tract (1 = Inner City Tract & 2 = Fringe Gentrification Tract)

#The code below runs all of the data in frame against the group classifications

flda <- lda(GROUP~ SHRWHT1 + WNFPERCH71 + RatIncome, data = fringe.LDA.t, prior = c(0.5,0.5), subset = fringe.lda.training.index )

fringe.lda.predicted <- predict(flda,fringe.LDA.t[-fringe.lda.training.index,])


#lists the results with linear discriminants

#with two groups, there can only be one linear discriminant

flda


#plot the results

plot(flda)


#assess accuracy

confusionMatrix(fringe.LDA.t[-fringe.lda.training.index,]$GROUP, fringe.lda.predicted$class)
```

```
require(MASS)
require(klaR)
require(caret)
require(car)
require(ggplot2)
require(corrplot)
require(brglm)


#core tracts with  variables
gentrificationcore.LR <- read.csv("Core_Binary_1.csv")
core.LR <- gentrificationcore.LR[-c(1)]
core.LR$GROUP <- as.factor(core.LR$GROUP)


#all fringe tracts with all variables
gentrificationfringe.LR <- read.csv("Fringe_Binary_1.csv")
fringe.LR <- gentrificationfringe.LR[-c(1)]
fringe.LR$GROUP <- as.factor(fringe.LR$GROUP)


#graphical correlation matrix for core tracts
core.LR.correlation <- cor(core.LR[1:9])
core.correlation <- corrplot(core.LR.correlation, method="square")


#graphical correlation matrix for fringe tracts
fringe.LR.correlation <- cor(fringe.LR[1:9])
fringe.correlation <- corrplot(fringe.LR.correlation, method="square")


#perform principal component analysis to see how many components to include in the analysis
#correlation used instead of covariance
```

```
core.pca <- princomp(core.LR[1:9], center=TRUE, scale=TRUE, cor=TRUE)

summary(core.pca)

core.pca$loading

screeplot(core.pca)


fringe.pca <- princomp(fringe.LR[1:9], center=TRUE, scale=TRUE, cor=TRUE)

summary(fringe.pca)

fringe.pca$loading

screeplot(fringe.pca)


#Pre-Process Core Data using PCA

transform.core.LR <- preProcess(core.LR[,1:9], method = c("scale", "center","pca"),
pcaComp=3)

core.LR.t <- predict(transform.core.LR, core.LR[,1:9])

core.LR.t$GROUP <- as.factor(core.LR$GROUP)


#Pre-Process Core Data Using PCA

transform.fringe.LR <- preProcess(fringe.LR[,1:9], method = c("scale", "center","pca"),
pcaComp=3)

fringe.LR.t <- predict(transform.fringe.LR, fringe.LR[,1:9])

fringe.LR.t$GROUP <- fringe.LR$GROUP


#CORE data modeling
# training withheld all core

core.LR.train.ind <- sample(nrow(core.LR.t), floor(nrow(core.LR.t)*.80))

core.LR.train <- core.LR.t[core.LR.train.ind,]

core.LR.train$GROUP <- as.factor(core.LR.train$GROUP)

summary(core.LR.train)

core.LR.test <- core.LR.t[-core.LR.train.ind,]

core.LR.test$GROUP <- as.factor(core.LR.test$GROUP)
```

```
summary(core.LR.test)


# fit bias reduced model for the core tracts with reduced number of variables

brglm.core.LR <- brglm(GROUP ~ ., core.LR.train, family = binomial(), method="brglm.fit")

summary(brglm.core.LR)

stem(brglm.core.LR$fitted.values)



#assess the accuracy of the results

#construct a confusion matrix

LR.predicted <- predict(brglm.core.LR,core.LR.t[-core.LR.train.ind,], type="response")

class.predict= rep("Inner City", 17)

class.predict[LR.predicted >0.5] = "Core Tracts"

actual.core <- core.LR.test$GROUP

confuse.core <- table(class.predict, actual.core)

confuse.core


#FRINGE MODELLING

# training withheld all fringe

fringe.LR.train.ind <- sample(nrow(fringe.LR.t), floor(nrow(fringe.LR.t)*.80))

fringe.LR.train <- fringe.LR.t[fringe.LR.train.ind,]

fringe.LR.train$GROUP <- as.factor(fringe.LR.train$GROUP)

summary(fringe.LR.train)

fringe.LR.test <- fringe.LR.t[-fringe.LR.train.ind,]

fringe.LR.test$GROUP <- fringe.LR.test$GROUP

summary(fringe.LR.test)


# fit bias reduced model for the fringe tracts with reduced number of variables

brglm.fringe.LR <- brglm(GROUP ~. , fringe.LR.train, family = binomial(), method="brglm.fit")

summary(brglm.fringe.LR)
```

```
stem(brglm.fringe.LR$fitted.values)


#assess the accuracy of the results

#construct a confusion matrix

LR.predicted <- predict(brglm.fringe.LR,fringe.LR.t[-fringe.LR.train.ind,], type="response")

class.predict= rep("Inner City", 18)

class.predict[LR.predicted >0.5] = "fringe Tracts"

actual.fringe <- fringe.LR.test$GROUP

confuse.fringe <- table(class.predict, actual.fringe)

confuse.fringe
```

Linear Discriminant Analysis HOPE VI Gentrification Model

```
#Install needed Packages
x <- c("MASS", "klaR", "caret", "car", "ggplot", "moments", "e1071")
install.packages(x)


#open the necessary the packages in this R session
require(MASS)
require(klaR)
require(caret)
require(car)
require(ggplot2)
require(e1071)


#read in data files
##Linear Discriminant Analysis
#all core and HOPE VI tracts
gentrificationcoreH6.LDA <- read.csv("core_BinaryH6.csv")
coreH6.LDA <- gentrificationcoreH6.LDA[-c(1)]
coreH6.LDA$GROUP <- as.factor(coreH6.LDA$GROUP)



#examine the data before pre-processing to view normality
splom(coreH6.LDA[,1:9],col=coreH6.LDA[,'GROUP'], main="Core Tracts vs. HOPE VI
Tracts")


#creates a scatter matrix with a histogram to help shows the normality of our data
scatterplotMatrix(coreH6.LDA[,1:9], groups=coreH6.LDA[,'GROUP'],
col=c("darkred","darkblue"), smoother=FALSE)
```

```
#skewness test before processing

skewness(coreH6.LDA[1:9])


#Now it is time 'normalize' the data

#center, scale and Yeo-Johnson transform our data

transform.coreH6.LDA <- preProcess(coreH6.LDA[ ,1:9], method = c("center", "scale",
"YeoJohnson"))


coreH6.LDA.t <- predict(transform.coreH6.LDA, coreH6.LDA[,1:9])


coreH6.LDA.t[,'GROUP'] <- coreH6.LDA[,'GROUP']


#examine and plot data after processing to visualize data transformation & normality

splom(coreH6.LDA.t[,1:9],col=coreH6.LDA.t[,'GROUP'], main="Core Tracts vs. HOPE VI
Tracts")


scatterplotMatrix(coreH6.LDA.t[,1:9], groups=coreH6.LDA.t[,'GROUP'],
col=c("darkred","darkblue"), smoother=FALSE, main="Core v HOPEVI Model Transformed")


#skewness test after processing

skewness(coreH6.LDA.t[1:9])


#conduct LDA on the coreH6 dataset

#GROUP is the classification of the tract (0 = Inner City Tract & 1 = coreH6H6 Gentrification
Tract)

#The code below runs all of the data in frame against the group classifications


#The use of Greedy Wilks function illustrates which variables contribute the greatest
discriminatory power to the algorithm

gw_coreH6.LDA.t <- greedy.wilks(GROUP~., data = coreH6.LDA.t, niveau = 0.15)

#View Results
```

gw_coreH6.LDA.t

#separate into training and validation groups

coreH6.lda.training.index <- sample(nrow(coreH6.LDA.t), floor(nrow(coreH6.LDA.t)*.80))

#conduct LDA on the coreH6 dataset

#GROUP is the classification of the tract (0 = HOPE VI Tracts & 1 = core Gentrification Tract)

clda <- lda(GROUP~., data = coreH6.LDA.t, prior = c(0.5,0.5), subset = coreH6.lda.training.index)

coreH6.lda.predicted <- predict(clda,coreH6.LDA.t[-coreH6.lda.training.index,])

#lists the results with linear discriminants

#with two groups, there can only be one linear discriminant

clda

#plot the results

plot(clda)

#assess accuracy

confusionMatrix(coreH6.LDA.t[-coreH6.lda.training.index,]$GROUP, coreH6.lda.predicted$class)

Appendix B – Photographs

B.1 Abandoned Building on Corner of E.H. Crump Blvd and Kentucky Street (D. Gadeke 2015)

B.2 Abandoned Church on the Corner of Trigg Ave and Willie Mitchell Blvd (D. Gadeke 2015)

B.3 Barry Tower, a redeveloped non-HOPE VI public housing development (D. Gadeke 2015)

B.4 College Park at the intersection of Provine Ave and Porter S.t (Wommack 2015)

B.5 Looking Down Lenow Park Drive in College Park (C. Wommack 2015)

B.6 Playground in the Park in the Center of the College Park Development (C. Wommack 2015)

B.7 Sign in front of the University Place Apartments (D. Gadeke2015)

B.8 University Place Management Office (C. Wommack 2015)

B.9 Multi-family Housing Options in University Place Development (C. Wommack 2015)

B.10 Looking Down Withers St. in University Place(C. Wommack 2015)

B.11 Entrance to Legends Park (D. Gadeke 2015)

B.12 Park along the edge of Legends Park (D. Gadeke 2015)

B.13 New playground set in Legends Park with Le Bonheur Hospital in the Background (D. Gadeke 2015)

B.14 Homes with Le Bonheur Children's Hospital in the Background (C. Wommack 2015)

B.15 Art in Legends Park (C. Wommack 2015)

B.16 Intersection of E Pauline Cir and N Pauline Street in Legends Park (D. Gadeke 2015)

B.17 Askew Place - Another non-HOPE VI redeveloped public housing development (D. Gadeke 2015)

B. 18 Sign outside of McKinley Park, the Homeownership portion of the Legends Park Development. (D. Gadeke 2015)

B.19 Home inside of the McKinley Park Site (D. Gadeke 2015)

B.20 Newly Built Home for Sale in McKinley Park (D. Gadeke 2015)

B.21 Corner of S Lauderdale St and Ratliff Ln with Foote Homes in the background (C. Wommack 2015)

B.22 Looking down St. Paul Ave in Cleaborn Point (D. Gadeke 2015)

A.23 Ongoing Construction at Cleaborn Point (C. Wommack 2015)

B.24 Lauderdale St. with Cleaborn Pointe on the left and Foote Homes on the Right (C. Wommack 2015)

B.25 Foot Homes (D. Gadeke 2015)