

# A Sociophysonomic Model of Gentrification

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Predicting Neighborhood Level Demographic  
Change in Birmingham, AL Using Social,  
Physical, and Economic Indicators



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## *Abstract*

The many criteria that can increase the likelihood of a neighborhood to gentrify have been well researched and documented. Much of the relevant academic literature has focused on socioeconomic factors as the primary cause of gentrification, with a smaller but growing body of work that has stressed instead the historical role of the built environment in contemporary patterns of neighborhood level demographic change. This study focuses not on the importance of individual causal mechanisms, but rather on the compounding predictive ability that numerous gentrification susceptibility factors can have when layered atop a single neighborhood. The study proposes a hybrid model of gentrification under which such demographic shifts are primarily caused by the interplay between racist housing policies and disruptive redevelopment practices within the built environment. Most socioecological models of gentrification have been tested only in the larger urban areas of the United States. This study's adaptation of the model will be applied to Birmingham, Alabama in order to test its internal validity and its applicability to mid-size American cities.

## *Introduction*

Gentrification has become one of the most politically charged topics of debate in the world of urban affairs. Theories differ concerning the unique causes, effects, and mechanisms of gentrification, complicating any attempt to establish a conclusive definition of the phenomenon. Many in the field of planning have approached it as an uncontrollable force of the free market economy, which negates planners' collective role in supporting the social and physical systems that made some neighborhoods susceptible to gentrification in the first place. This approach also avoids our responsibility to meaningfully intervene in order to mitigate the displacement brought about by 20<sup>th</sup> century urban policy. Some researchers define gentrification as the physical displacement of historic, low-income, typically P.O.C., residents from a community as rising costs of living and lack of affordable housing options price them out of the neighborhood. Others view gentrification more simply as repeated episodes of redevelopment in historically under-invested communities, without necessarily requiring the displacement of low-income residents as a qualifying factor of gentrification. All sides agree, however, that gentrification involves a number of neighborhood level demographic changes, most



prevalently including increases in area median income, rental and homeownership costs, and the share of residents who are non-Hispanic white.

The threat of gentrification alone should not be considered a valid reason to withhold capital investments and catalytic redevelopment projects from historically disinvested communities. Planning officials and other relevant actors must anticipate where gentrification is going to occur so that proactive measures can be taken to allow improvements to a neighborhood without displacing vulnerable residents. Moving from the more traditional single determinant model toward a sociophysonomic model based on the intersections between individual factors will allow planners to better make these predictions and more effectively manage future waves of gentrification. This study hypothesizes a formula of sorts for gentrification that is based on disruptive redevelopment of the built environment as well as racist housing policies. That formula is then tested in a case study of Birmingham, Alabama to gauge its broader applicability to mid-size American cities.

## *Background*

### *Why Birmingham?*

The city of Birmingham, Alabama has a storied history as the urban center of industrial production in the American south. Founded in 1871, it quickly grew to become the largest city in the state. Its rapid expansion earned it the moniker “The Magic City” and led to an increasingly large and demographically diverse population seeking novel economic opportunity in the New South. The disparities between white and black residents greatly influenced the social and physical fabric of the city in ways that have guided Birmingham’s patterns of urban development persisting well into the 21<sup>st</sup> century. The conflicts that arose from such racial disparities in Birmingham are well documented and widely known for being a critical flashpoint in the broader US Civil Rights movement of the mid 20<sup>th</sup> century. Much of the literature on Birmingham’s history has been written from a sociographic viewpoint that explores the political and social systems that governed the city, however, less has been written about the relationship between these social systems and the physical systems that comprise its built environment. The Birmingham District is a region of extremes in both wealth and poverty, with the built environment greatly influencing both the spatial and racial distribution of those extremes.

Following the decline of the steel industry and the onset of white flight, the city of Birmingham experienced a prolonged period of population loss as white residents with financial means emigrated from downtown into the surrounding suburbs. Starting in the 1970s, the city's population declined substantially while the surrounding suburbs enjoyed a complementary growth in their populations. The population of Birmingham stabilized beginning in the 2000s and in recent years the downtown district has begun to see an increase in population as young professionals and empty nesters (among others) move back into the city from the nearby suburbs. The disparities baked into the city's built environment, however, have left many of its urban neighborhoods particularly vulnerable to the displacement pressures of an ongoing and escalating wave of gentrification. Renewed investments and redevelopment projects have made downtown and its surrounding neighborhoods more attractive lifestyle centers for residents of greater socioeconomic means. Similar trends of urban dynamism to those seen in Birmingham are common to most other major urban centers in the US. Thus, a deep dive into the history of those systems in Birmingham serves to illustrate the challenges and opportunities faced by other mid-size cities across America. Birmingham's unfortunate but well documented history of strong racialized housing policies and patterns of disruptive redevelopment make it a prime choice as a case study for this report.

## History of Racist Housing Policy and Disruptive Redevelopment in Birmingham

Racist housing policies, in Birmingham and across the nation, have proven to be one of the single greatest impediments to the accumulation of intergenerational wealth in the black community. This in turn has kept many black residents trapped by economic circumstance in the same deteriorating neighborhoods that left them impoverished in the first place. In the absence of meaningful investment in the infrastructure and economy of these neighborhoods, racialized housing policies have caused residential racial segregation to persist far beyond its legal demise and left urban neighborhoods historically seen as black communities more prone to gentrify. The most impactful racialized housing policies in Birmingham were implemented between the first and second world wars. In 1926, the city adopted a racial zoning ordinance that explicitly segregated white and black neighborhoods. This required black and white residents to live separately from one another and was one of the earliest major policies enforcing the spatial separation of racial groups and by extension creating steep geographic wealth gradients between neighborhoods. Birmingham's racial zoning ordinance was in

place until 1951 despite racial zoning laws being declared unconstitutional by the US Supreme Court in 1917. Shortly after the racial zoning code was adopted, the Home Owners' Loan Corporation began issuing mortgage security maps for the Birmingham area in the early 1930s. These maps redlined majority black communities throughout the city, labeling these areas "hazardous" and too risky to issue loans to their residents. Redlining lasted unimpeded until the Fair Housing Act of 1968 was passed to combat the practice. Whereas Birmingham's racial zoning code enforced the initial separation of white and black citizens, creating communities of general wealth (white) and poverty (black), it was the racist practice of redlining that perpetuated the poverty of black neighborhoods by withholding loans and investment opportunities and allowing the physical condition of black neighborhoods to deteriorate and further depress property values.

The few decades following the end of the Second World War proved to be some of Birmingham's most consequential and transformative years in the transformation of its built environment through practices of disruptive redevelopment. Disruptive redevelopment is the creation of new infrastructure or urban form following the elimination or wholesale transformation of an area's pre-existing built environment. This most often occurs in urban neighborhoods where new infrastructure projects such as highways disrupt the existing fabric of majority minority neighborhoods. High utility infrastructure is gained during the process, but at the expense of still valuable urban form and community cohesion. Due to the high demand for raw materials such as iron and steel to manufacture equipment during the first half of the 1940s for World War II, the city enjoyed the benefits of a strong regional economy and a steadily growing population. The economy began to cool by the late 1940s as the US wound down its wartime production, leading to increasingly blighted conditions around the city center. The US Congress sought to address the "plague of urban blight" through its passage of the Housing Act of 1949, which provided federal funding for slum clearance projects that eventually came to be known as urban renewal. By the early 1950s, Birmingham officials had identified three impoverished black areas in Southside, Ensley and Avondale as urban renewal areas. Urban renewal in Birmingham and elsewhere became an exercise in disruptive redevelopment wherein several contiguous blocks of more traditional urban fabric in mostly black neighborhoods would be razed and reconstructed for new often institutional uses such as stadiums, public housing, industry, etc. Altering the built environment of these neighborhoods through urban renewal displaced many long-term residents as Birmingham executed most of its urban renewal projects in the early 1960s. Urban renewal areas today are often the site of amenities such as sports arenas, institutions of higher education, convention centers, etc.

that can serve as magnets for emerging “lifestyle centers” in and near gentrification susceptible communities.

Another prevalent form of disruptive redevelopment closely linked with urban renewal in Birmingham was the creation of the interstate highway system starting in the late 1950s. Urban renewal was often used as a tool for interstate and highway construction that led to black neighborhoods being split into pieces and isolated from critical areas such as the central business district. As car based transit began to proliferate following World War II, the city’s once expansive system of electric streetcars that offered convenient service to most city neighborhoods was removed in 1953 and replaced entirely with bus lines, reducing the connectivity of many black neighborhoods to downtown and increasing the demand for automobile oriented infrastructure throughout the region. After the passage of the Interstate Highway and Defense Act in 1956, Birmingham began the construction of its first interstate, I-20, connecting Birmingham with Atlanta, GA to the East and Jackson, MS to the Southwest. From the beginning, local interstates were weaponized to reinforce and maintain racial boundaries.

The city’s first interstate, I-20, was sited in 1957 along routes identical with many of the racial boundaries delineated under the city’s 1926 zoning law that was abolished just six years prior to the interstate’s construction. The Birmingham corridor of I-20 abuts or bisects five distinct neighborhoods that were zoned for black residents until 1951. The Northern boundary of the black Fairfield neighborhood and the Southern boundary of the black Ensley neighborhood, both West of downtown, are formed by I-20. As the interstate development approached the Central Business District moving East, the highway bisected the Smithfield neighborhood. Immediately West of downtown Birmingham, the Smithfield neighborhood was a residential enclave to many of the city’s black professionals from the late 19<sup>th</sup> century into the late 1950s. Smithfield was one of only a few black neighborhoods in Birmingham that achieved success in supporting a viable black middle class, however, I-20 was routed through the middle of the neighborhood, forcing many longtime residents from their homes and disrupting the social fabric of the preexisting community. Continuing Eastward, I-20 cuts through the central business district (it is the only freeway to do so), deviates from its natural path to avoid a white neighborhood, instead swinging North to bisect the historically black neighborhoods of East Birmingham and South Woodlawn, leading to disruptions similar to those caused in the Smithfield neighborhood.

Construction on the Birmingham corridor of I-65 was completed in 1958, one year after the construction of I-20. I-65 connects Birmingham with Nashville, TN to the North and with Montgomery, AL to the South. Moving from South to North, I-65 was constructed along the Eastern boundaries of the Thomasville and Smithfield neighborhoods, cutting off these prominent black communities from the city center. Continuing North, I-65 furthermore bisected the black neighborhoods of Evergreen and North Birmingham. In 1960, construction was completed on the local segment of I-59, which overlaps with I-20 through most of the Birmingham area but splits off from I-20 just East of the city, connecting Birmingham to Chattanooga in the Northeast. Just after splitting off from I-20, the I-59 corridor bisects the historically black East Lake neighborhood.

In addition to the negative impact of highway construction on Birmingham's black neighborhoods, the expansion of roadway networks throughout the metropolitan area imposed another significant impact on the city's built environment – suburban sprawl. Hazardous air quality near downtown combined with white flight in Birmingham to fuel the trend of suburbanization that was facilitated by the recent construction and expansion of local highways. The exodus of the white middle class dislodged much of the city's more affluent population from "inner-city" neighborhoods and transplanted them in suburbs to the South of Red Mountain along the Highway 31 / I-65 and Highway 280 corridors. These affluent and mostly white communities came to be known as Birmingham's "Over the Mountain" neighborhoods. These neighborhoods have some of the best public schools in Alabama and have largely maintained their racial homogeneity and economic prosperity throughout the years. The disruptive redevelopment of urban renewal and highway construction didn't just fracture and impoverish black urban neighborhoods, it also serviced and enriched white suburban neighborhoods. These large scale alterations to the built environment have significantly contributed to the subsidization of the suburban white middle class at the expense of urban black communities and exacerbated geographic disparities in localized quality and cost of living. In a sense victims of their own success, many desirable suburban communities have become prohibitively expensive. Serviced, accessible land in historically disinvested black urban neighborhoods then becomes a prime target for reinvestment and for those fleeing the rising costs of the suburbs. Racist housing policies and disruptive redevelopment have primed certain black urban neighborhoods to be more vulnerable to gentrification while simultaneously contributing to the buildup of a massive reservoir of gentrification potential in the suburbs. All it takes is a spark for that reservoir to start spilling over into the neighborhoods most at risk of gentrification.

## *Methodology*

This study first develops a “sociophysonomic” model of gentrification that is then tested for viability in a case study of Birmingham, Alabama. The methodology for the testing of the model is as follows:

The basic framework of this study’s sociophysonomic model holds that gentrification is produced at the intersection of certain social, physical, and economic systems. In order to test this model, the social, physical, and economic systems in question were operationalized into variables that could be measured. This study proposes that Birmingham’s current and future gentrification is not merely a byproduct of contemporary free market economics, but rather the outgrowth of racist housing policy and disruptive redevelopment from the city’s past catalyzed by broad reinvestment. Racist housing policy is the social variable and is operationalized as racial residential zoning and redlining. Disruptive redevelopment is the physical variable and is operationalized as urban renewal areas and neighborhoods. Broad reinvestment is the economic catalyst variable and is operationalized as the number of proposed and recently completed multimillion-dollar developments in a neighborhood.

To test the prognostic ability of the model, its operationalized variables were mapped to predict which areas in Birmingham were most likely to gentrify based on historic sociophysonomic determinants. Working under the study’s claim that geographically layered sociophysonomic systems compound the ability and likelihood of a neighborhood to gentrify, the model predicts that the neighborhoods where racial zoning, redlining, urban renewal areas, highway construction, and broad reinvestment overlap have the highest likelihood of gentrifying. Therefore, the areas in Birmingham where all of these factors historically overlap are predicted to be the sites of contemporary gentrification.

In order to test the model’s predictions against the reality in Birmingham, a multi-prong analysis of which neighborhoods actually gentrified from 2010 to 2019 is employed. Census tracts are used to substitute for neighborhood level analysis, and only tracts within the city limits of Birmingham are considered in order to maintain the study’s focus on gentrification in urban neighborhoods. Gentrification as a variable is operationalized as increasing median household income, the percentage of white residents in minority neighborhoods increasing, and increasing median gross rent. Each of these variables is gradated to show neighborhood level demographic change as heavily decreasing, moderately decreasing, relatively stable, moderately increasing, or heavily increasing. Neighborhoods



increasing in at least two of the three factors with at least one of those increases being heavy qualify as having actually gentrified during the 2010s. The predicted gentrification sites are then compared to the actual gentrification sites to determine the accuracy of the study's sociophysonomic gentrification model.

## *The Sociophysonomic Model of Gentrification*

This study defines gentrification as a series of demographic changes primed by the intersection of historic social and physical systems and catalyzed by contemporary economics. For the purposes of this report, this can be considered more specifically as the intersection of racist housing policy and disruptive redevelopment catalyzed by broad reinvestment at that intersection. Substituting racial zoning and redlining for racist housing policy and urban renewal and highway construction for disruptive redevelopment, a conceptual formula emerges:

$$\begin{array}{c} \text{Racial Zoning} \\ + \text{Redlining} \\ + \text{Urban Renewal Area} \\ \hline + \text{Harm from Highway Construction} \\ \hline \text{Gentrification Capable/ Susceptible Neighborhood (GCSN)} \end{array}$$

Broad reinvestment and new developments in one of these GCSN's by public and private actors sends out a market signal that catalyzes the reaction and begins new waves of gentrification.

Each of the five determinants assessed here (racial zoning, redlining, urban renewal, highway construction, and economic reinvestment) represent the most influential aspects of the three greater systems at play in the sociophysonomic model (social, physical, and economic). They are not exhaustive examples of the three systems but were rather distilled from the three systems for simplicity and clarity.

The social systems producing gentrification include people-oriented policies such as racial zoning and redlining as well as white avoidance, affordable housing policy, development regulations, etc. The physical systems producing gentrification include the characteristics of both the built and natural environments in a neighborhood, for example: urban renewal and highway construction in addition to neighborhood design, distance from downtown, improved air and water quality, etc. The economic systems producing gentrification include contemporary reinvestment as well as historical disinvestment, the racial wealth gap, housing subsidies, etc. A neighborhood's proximity to factors from any of these individual systems alone can be predictive, but it is truly where all three systems overlap that the likelihood of gentrification is highest. This overlap principle is the foundation on which the prognostic utility of the sociophysonomic model is based.

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## *Testing the Sociophysonomic Model of Gentrification*

### Birmingham Prognostic

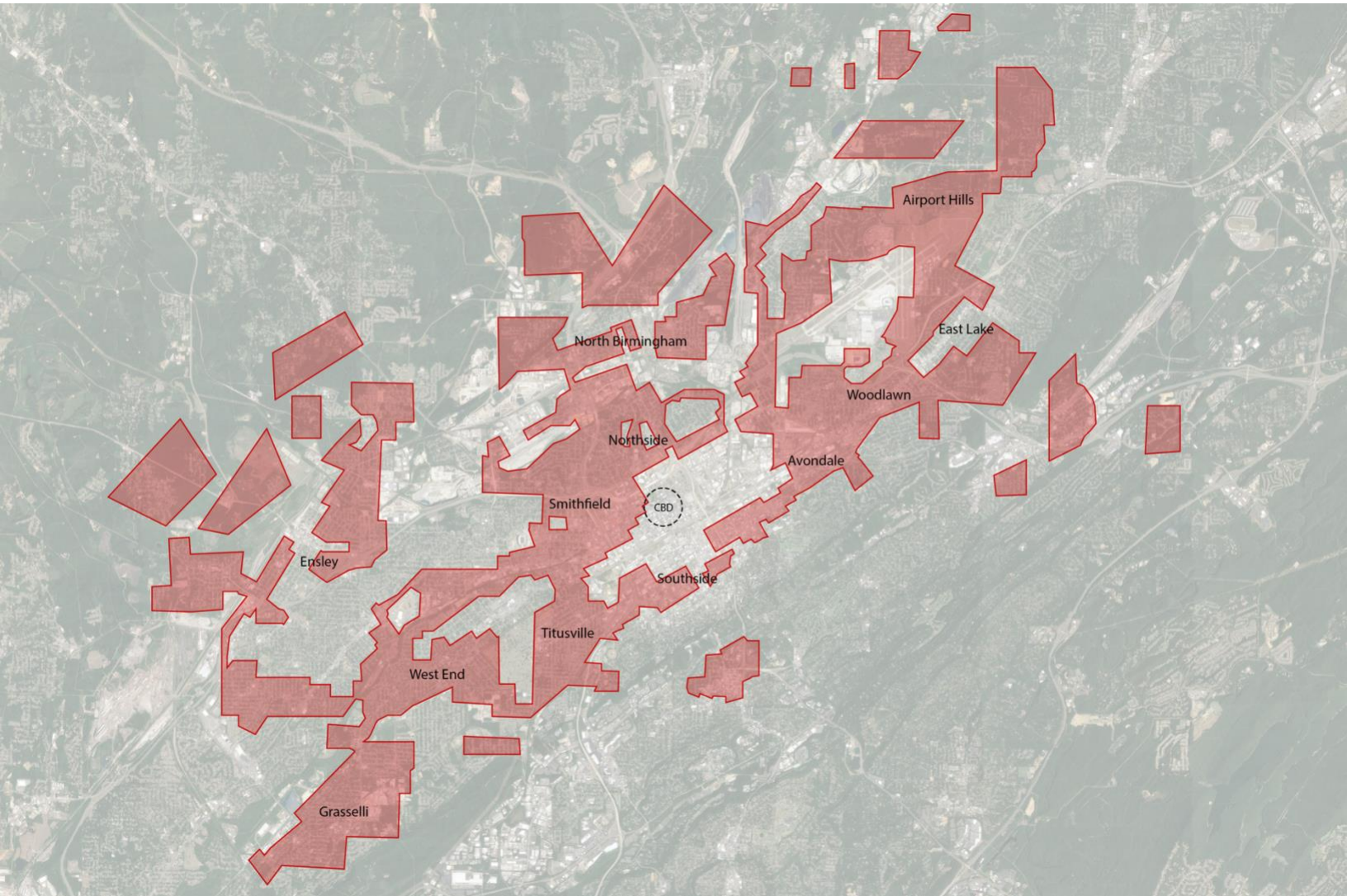
**Figure 1:** Areas of Birmingham Zoned for Black Residents under the 1926 Zoning Code



Source: Connerly (2002). Satellite imagery from Google Maps. Compiled and annotated by Matthew Tindal.

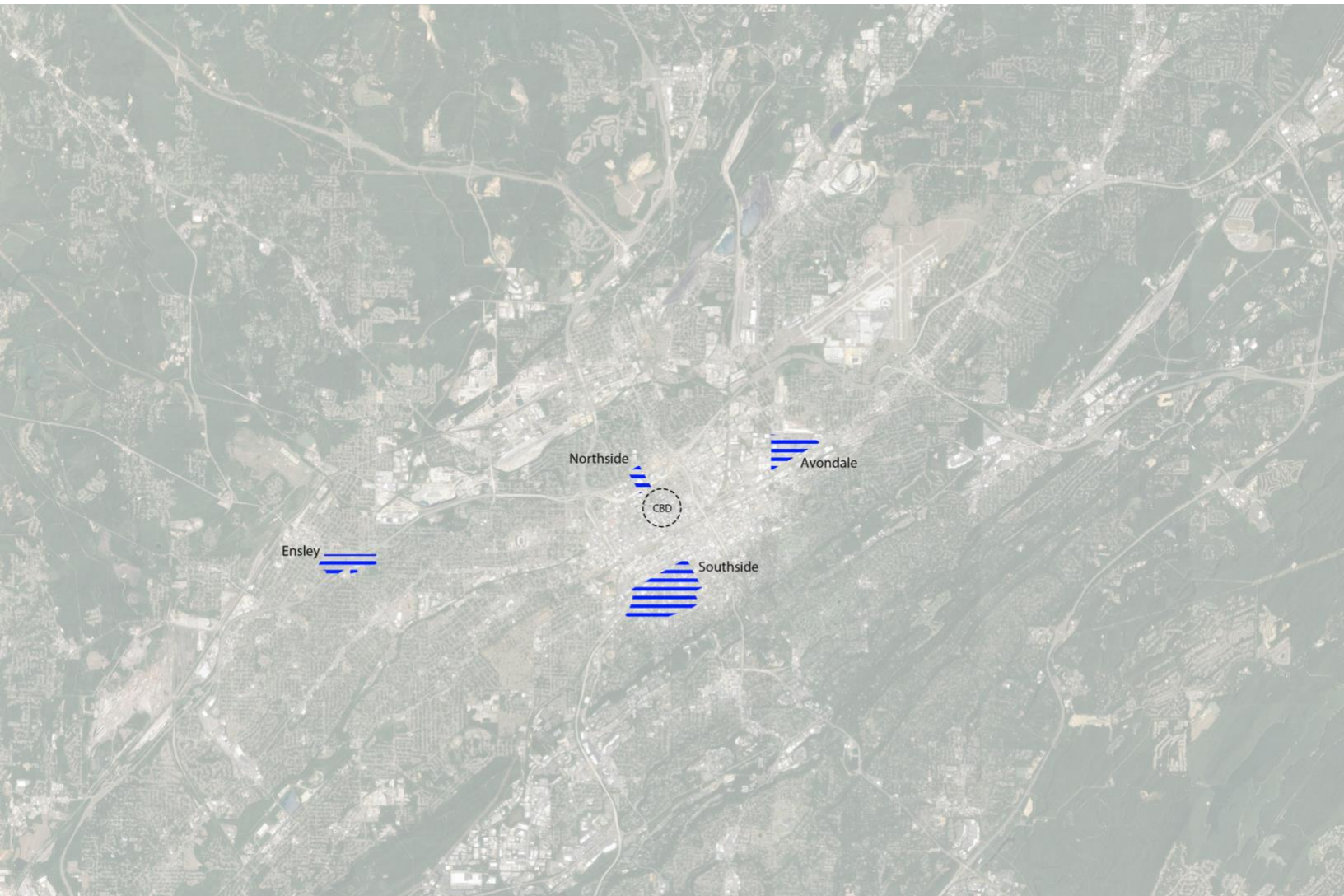


**Figure 2:** Areas of Birmingham Redlined under the 1938 HOLC Residential Security Map



Source: *Mapping Inequality*, Richmond University. Satellite imagery from Google Maps. Compiled and annotated by Matthew Tindal.

**Figure 3:** Urban Renewal Areas in Birmingham



Source: Connerly (2013). Satellite imagery from Google Maps.

Compiled and annotated by Matthew Tindal.



**Figure 4:** Interstates and Major Highways in Birmingham

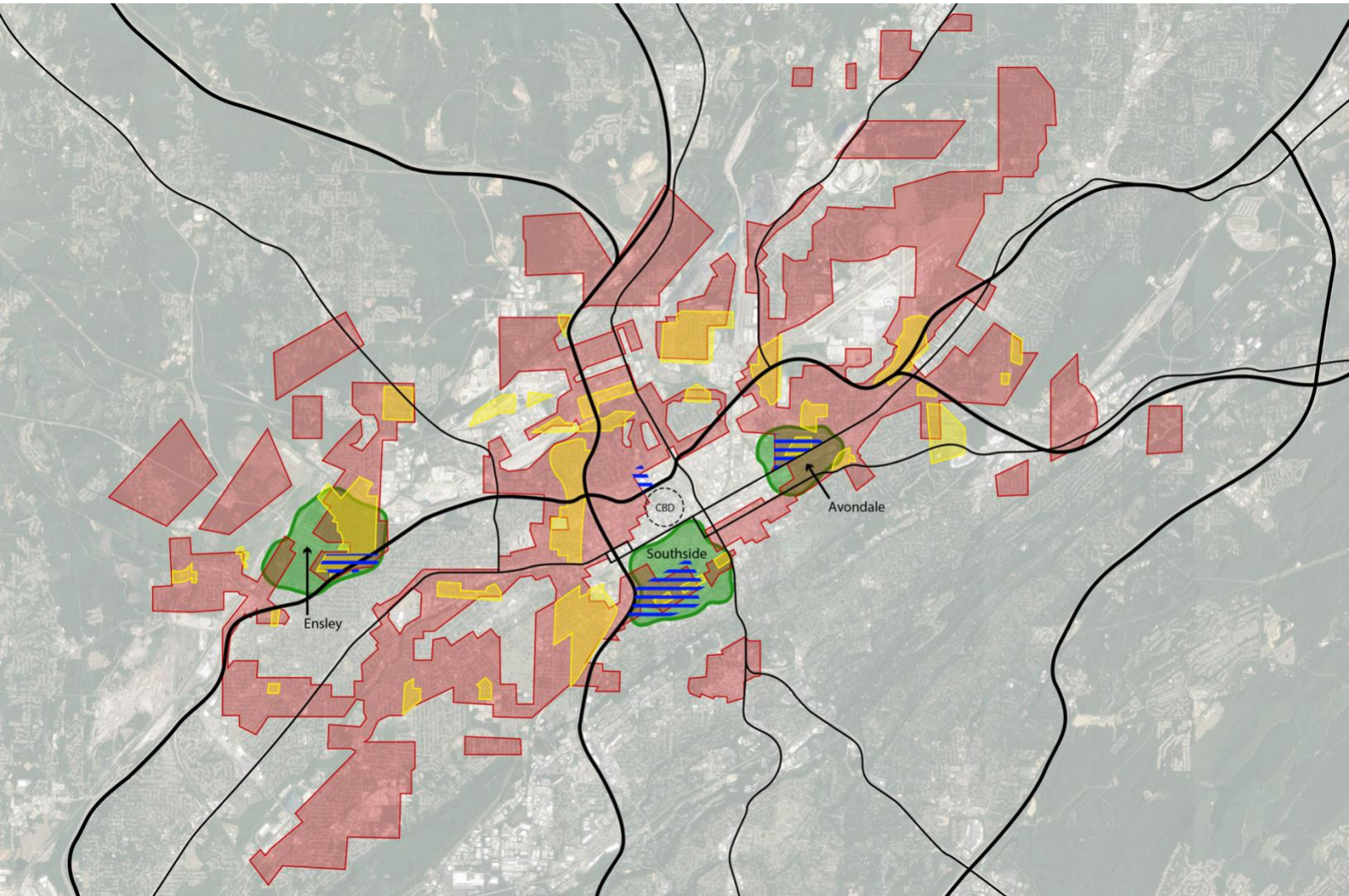
\* interstate freeways represented with a thicker line, major highways with a thinner line



Source: Google Maps. Compiled and annotated by Matthew Tindal.



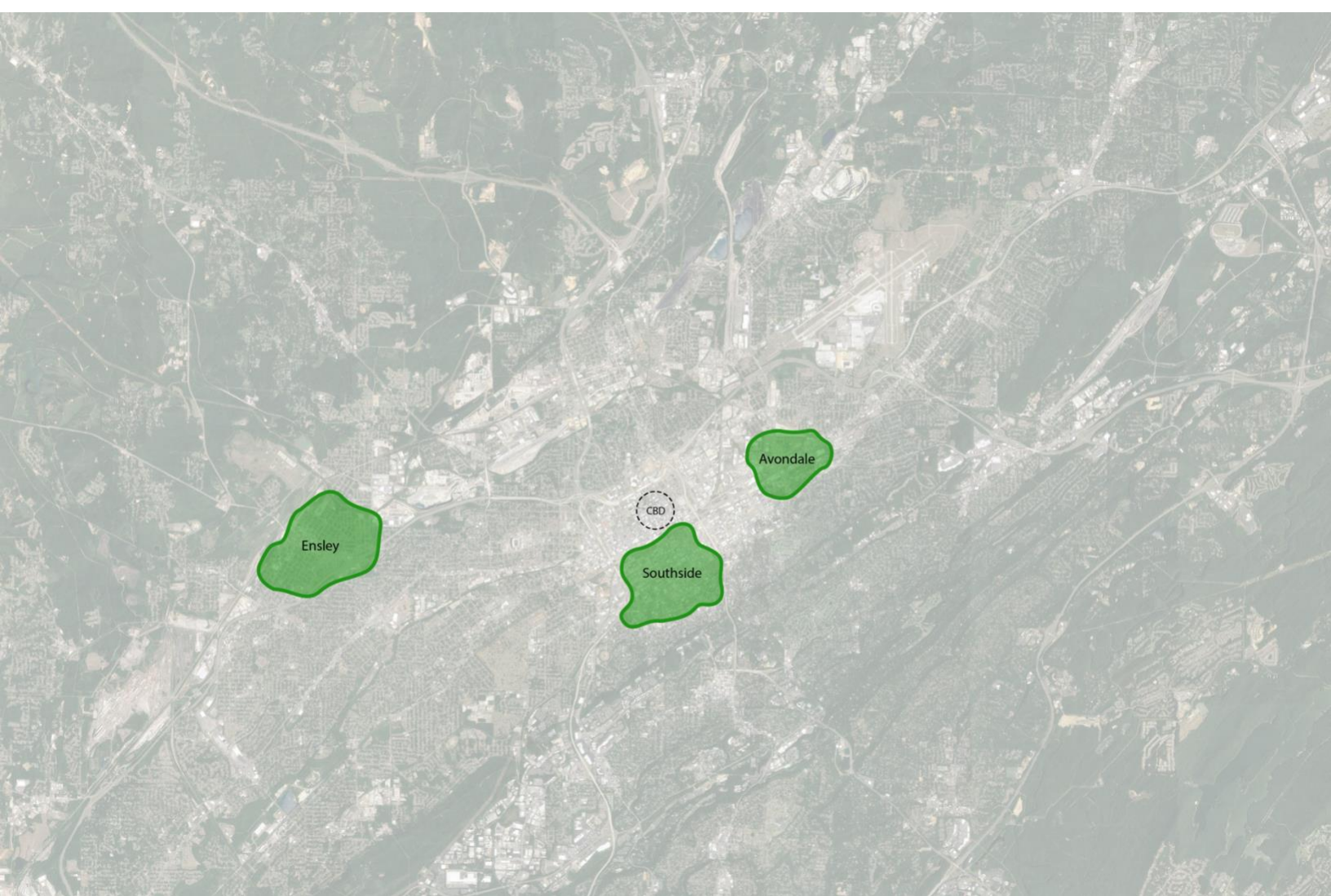
**Figure 5:** Spatial intersections of racist housing policy and disruptive redevelopment in Birmingham



Sources: Connerly (2002). *Mapping Inequality*, Richmond University. Connerly (2013).

Google Maps. Compiled and annotated by Matthew Tindal.

**Figure 6:** Predicted Gentrification Capable/ Susceptible Neighborhoods:  
Ensley, Southside, and Avondale

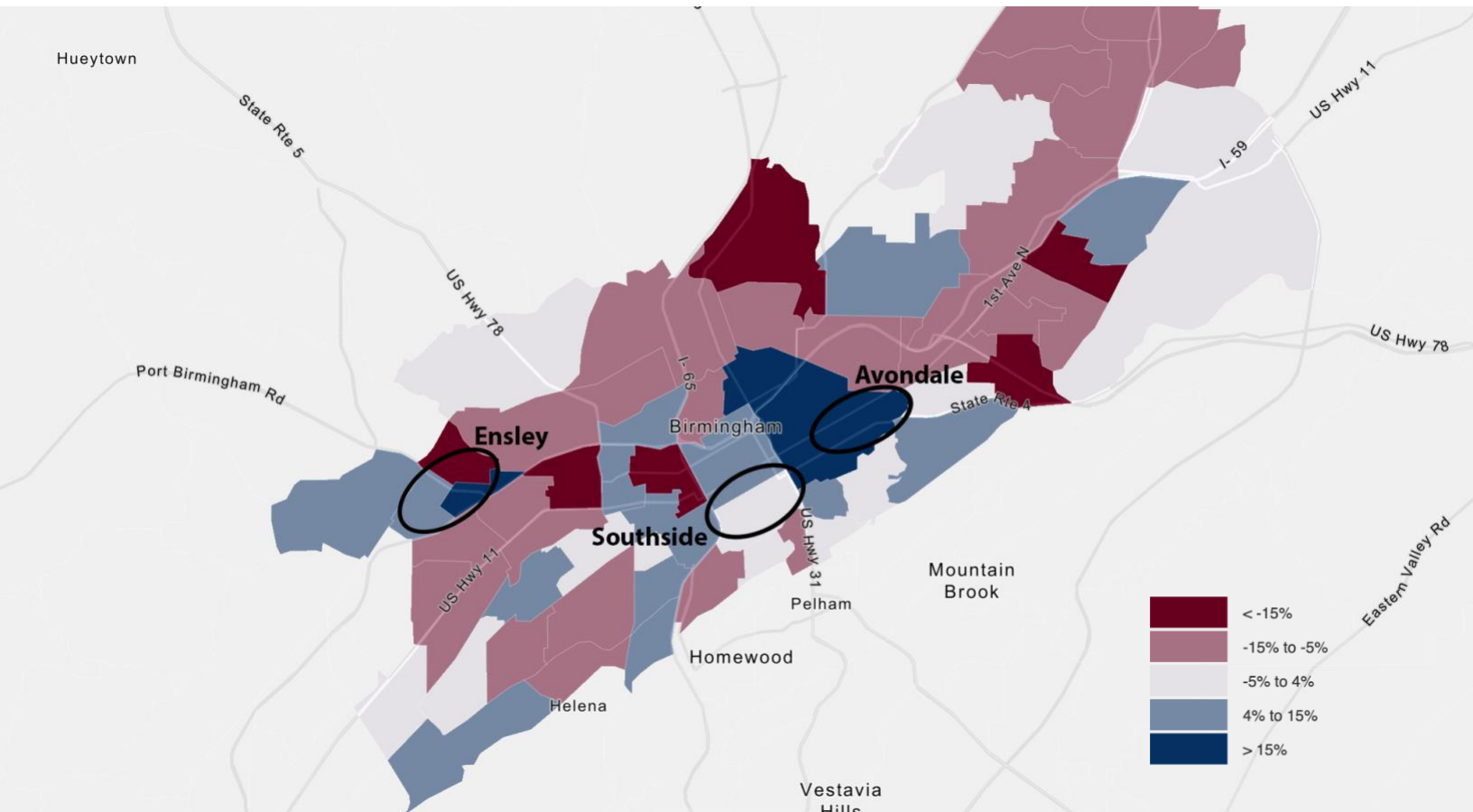


Source: Satellite imagery from Google Maps. Compiled and annotated by Matthew Tindal.



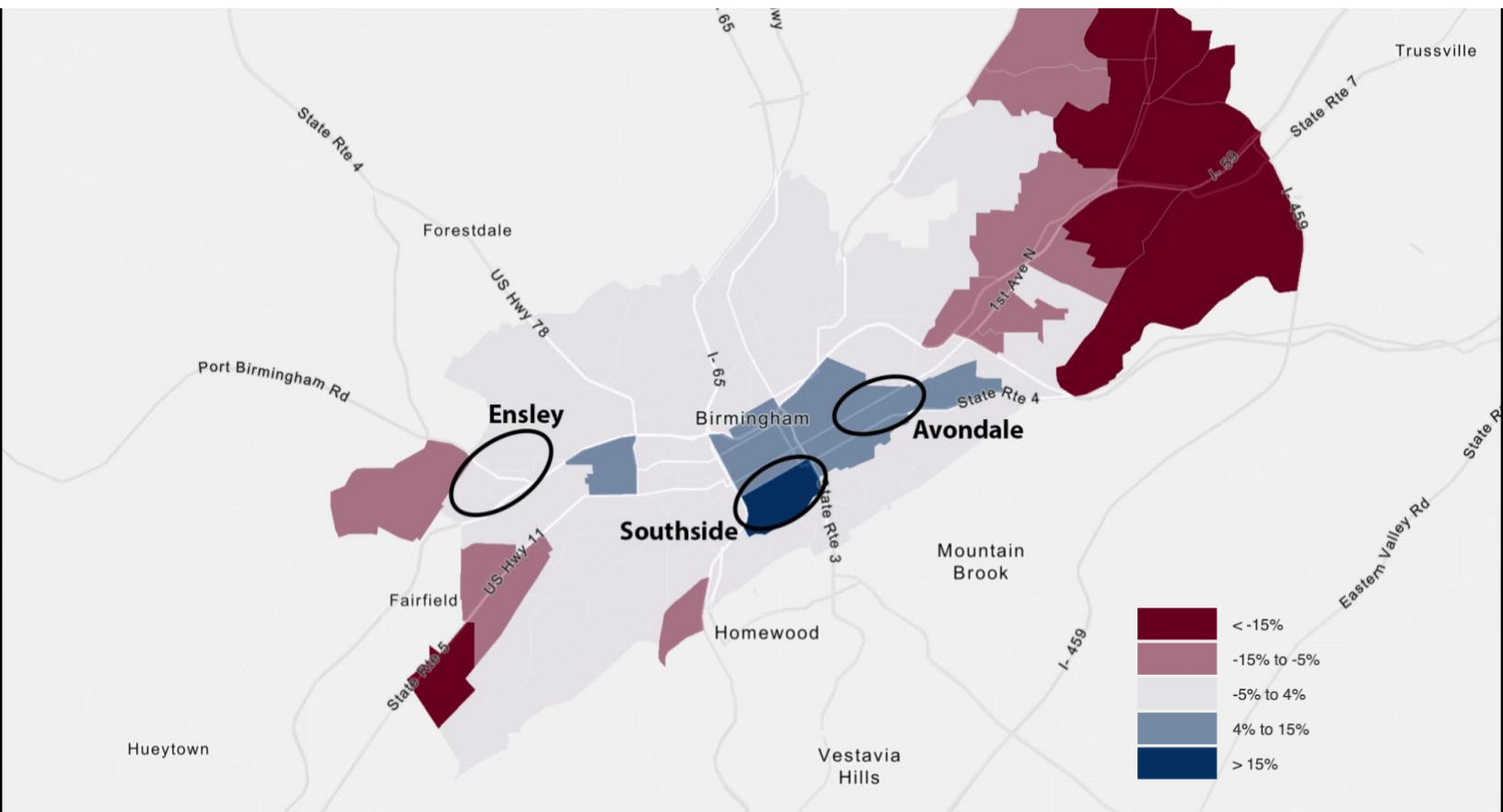
## Birmingham Diagnostic

**Figure 7:** Actual gentrification based on increase in median household income, 2010-2019



Source: Social Explorer. ACS 2010 & 2019 (5-year estimates). US Census Bureau. Annotated by Matthew Tindal.

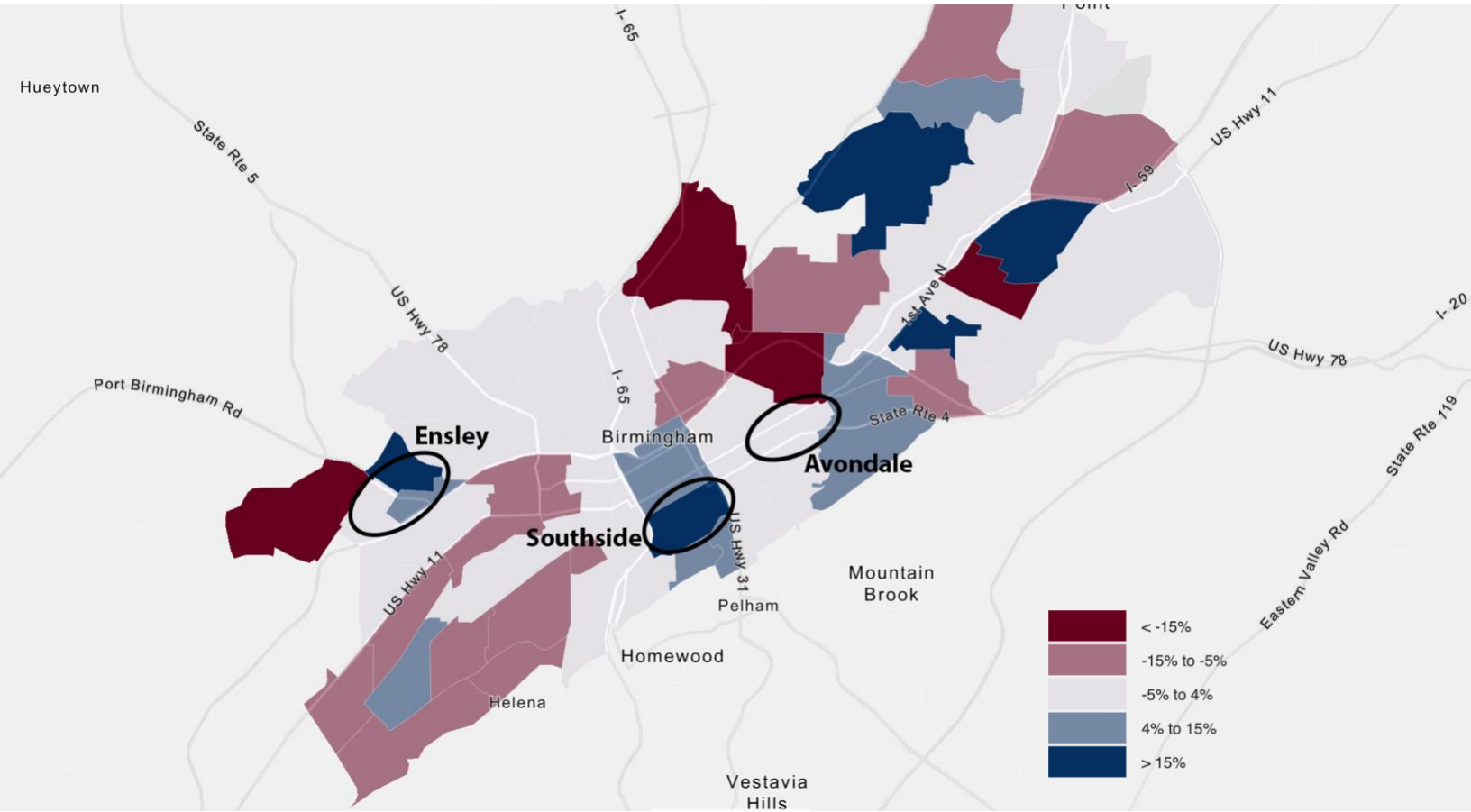
**Figure 8:** Actual gentrification based on increase in Caucasian share of population, 2010-2019



Source: Social Explorer. ACS 2010 & 2019 (5-year estimates). US Census Bureau. Annotated by Matthew Tindal.



**Figure 9:** Actual gentrification based on increase in median gross rent, 2010-2019



Source: Social Explorer. ACS 2010 & 2019 (5-year estimates). US Census Bureau. Annotated by Matthew Tindal.

# *Results*

## Prognostic

### 1. Racial Zoning

The following Birmingham communities were broadly impacted by the city's racial zoning ordinance: Ensley, Pratt, West End, Smithfield, Titusville, North Birmingham, Northside, Southside, Avondale, and Woodlawn.

### 2. Redlining

The following Birmingham communities were broadly impacted by the practice of redlining: Ensley, Grasselli, West End, Titusville, Smithfield, North Birmingham, Northside, Southside, Avondale, Woodlawn, East Lake, and Airport Hills.

### 3. Urban Renewal Areas

The following Birmingham communities were the site of an urban renewal project: Ensley, Northside, Southside, and Avondale.

### 4. Highway Construction

The following Birmingham communities were broadly harmed by interstate highway construction practices: Ensley, Smithfield, Titusville, Northside, Southside, Avondale, Woodlawn, and East Lake.

### 5. Overlap / Prediction of Gentrification Susceptible Neighborhoods

The following Birmingham communities were the only sites of direct overlap between all four of the charted determinants: Ensley, Southside, and Avondale. These three neighborhoods are the predicted areas of interest that will be compared to actual patterns of gentrification revealed in the diagnostic.

## Diagnostic

### 1. Change in Median Household Income

The following Birmingham communities gentrified from 2010-2019 based on a high demonstrated increase in median household income: Northside, Avondale, and Ensley.

### 2. Change in Caucasian Share of Population

Southside was the only Birmingham community that gentrified from 2010-2019 based on a high demonstrated increase in the share of its population that identifies as Caucasian.

### 3. Change in Median Gross Rent

The following Birmingham communities gentrified from 2010-2019 based on a high demonstrated increase in median gross rent: Ensley, Southside, East Lake, Roebuck, and Airport Hills.

### 4. Overlay/ Actually Gentrifying Neighborhoods

Based on the guidelines outlined in the methodology section, the neighborhoods that qualify as having actually gentrified from 2010-2019 are Ensley, Southside, and Avondale.

## Discussion

After conducting a test of this study's sociophysonomic model of gentrification in a case study of the phenomenon in Birmingham, Alabama, the predicted foci of gentrification aligned perfectly with the neighborhoods that actually gentrified on multiple metrics from 2010-2019. This supports the integrity of the study's sociophysonomic model that is based on the intersection of racist housing policies (social systems), disruptive redevelopment (physical systems), and a catalyst of broad reinvestment (economic systems) as a credible operative theory of gentrification.

Beyond testing the integrity of the study's model and its applicability to a mid-size American city, comparison and contrast of the predicted and actual sites of gentrification yielded compelling insights into why some gentrification susceptible neighborhoods gentrify and others do not. Foremost, one of the most important similarities between Ensley, Southside, and Avondale seems to be the presence of a well-developed commercial district that can act as an engine of sorts to power continued growth. A combination of public and private investment in the revitalization of historic commercial districts and public parks can be a highly effective approach in initiating a turnaround in long under-invested communities. That is the strategy that was used in the revitalization of Birmingham's Southside and Avondale communities. In 2011 the city of Birmingham renovated Avondale Park at a cost of \$2.9 million. This substantial investment in a long stagnant community signaled to developers that they should also invest in the community. According to David Fleming, the CEO of a local economic development nonprofit, "Around the same time that the park was being renovated, a group of investors began buying up the historic commercial buildings along 41st Street (Avondale's main street)... They were already thinking Avondale was where they wanted to make an investment and one of the things that gave them confidence was seeing what the city was doing. The city putting the money into the park was a big deal for us and a sign for me."<sup>1</sup> A similar strategy was utilized in the Southside community. A massive public/ private investment in the creation of \$23 million Railroad Park and a \$64 million minor league baseball stadium and a \$3.5 million linear park/ bike-ped path helped spark new investments in Southside's Five Points South historic commercial district. These broad reinvestments also led to the planning of the future Parkside District, a massive new mixed-use

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<sup>1</sup> Benedetti (2018). *Avondale: The Rebirth of a Historic Birmingham Neighborhood*.  
<https://livability.com/al/birmingham/where-to-live-now/avondale-the-rebirth-of-a-historic-birmingham-neighborhood>

entertainment/ lifestyle district centered on Railroad Park featuring hundreds of millions of dollars in planned developments and adaptive reuse projects. A common thread in the revitalization of the Southside and Avondale commercial districts is the importance of dining and entertainment venues. A thriving restaurant scene has been critical to maintaining the foot traffic that is essential for a vibrant neighborhood. Additionally, both Southside and Avondale have local breweries that along with restaurants have been immensely popular and foundational to the ever-important night life scene in each neighborhood.

Even though it qualified as a neighborhood in which gentrification actually occurred from 2010-2019 as part of the earlier diagnostic, further research shows that Ensley is still in the earliest stages of gentrification and has yet to undergo the type of dramatic revitalization seen in Southside and Avondale. This distinction allows for the contrasting of Ensley with Southside and Avondale to learn more about why some gentrification susceptible neighborhoods gentrify and others do not. One of the most basic factors at play possibly working against gentrification is that at 5 miles, it is considerably farther from Birmingham's central business district than are Southside at 0.5 miles and Avondale at 2 miles. Outward growth pressure may just be taking longer to span this greater distance. Another issue possibly preventing Ensley from fully revitalizing is that far more so than Southside or Avondale, it is perceived as unsafe and an exclusively black neighborhood. Racial stigma is more of a barrier to future growth in Ensley than it is in other neighborhoods that actually gentrified in the 2010s. Ensley has the largest commercial district in Birmingham outside of downtown, which positions it well for a decisive revitalization in the near future. Despite the substantial advantages of Ensley's built environment, it lacks two of the characteristics critical in the turnaround of both Southside and Avondale – a public park and most importantly broad reinvestment of capital funds that could catalyze the revitalization of expansive downtown Ensley. Fortunately, an \$11.4 million redevelopment of Ensley's Ramsay McCormack building just began in late 2020 and has the potential to serve as the initial market signal that sparks further development and revitalization in the neighborhood. Following the highly successful revitalization models in Southside and Avondale, planners should invest in the creation of a dedicated park or some other sort of public open space in Ensley as it currently has none. This park can be a way to organize and promote new investment opportunities in the neighborhood's commercial district to complement the ongoing Ramsay McCormack redevelopment and the recently approved \$55 million redevelopment of the Ensley High School property into new housing, a community center, and a fresh grocer. In order to foster a strong downtown Ensley commercial



district that can support sustained growth throughout the neighborhood, developers should recruit various dining establishments and potentially even an Ensley branded brewery to attract new visitors and eventually residents to the area.

## *Conclusion*

In the case of Ensley, this study shows that its sociophysonomic model's greatest utility is predicting gentrification before it overwhelms unprepared communities. It is often too late to stop widespread displacement after it begins. Ensley is fast approaching that tipping point after which development pressures will skyrocket and gentrification will accelerate. Without careful planning and the implementation of anti-displacement policies, this will lead to a seismic demographic shift in Ensley and other unprepared neighborhoods that displaces long-term low-income residents. Luckily, community-led planning is already underway to develop a comprehensive neighborhood plan for managing Ensley's future development in an inclusive manner that balances the interests of developers and residents. This and any other equity plan worth its salt should include measures not just for preserving and developing affordable housing opportunities, but also for entrepreneurial/ small business support and workforce development. The widespread prevalence of the determinants of gentrification analyzed in this study make its insights transferrable to other mid-size American cities with similar racist housing policies and patterns of disruptive redevelopment. This may allow planners to better anticipate the gentrification related challenges unique to their local communities and proactively engage to protect some of our society's most vulnerable people.

## Appendix

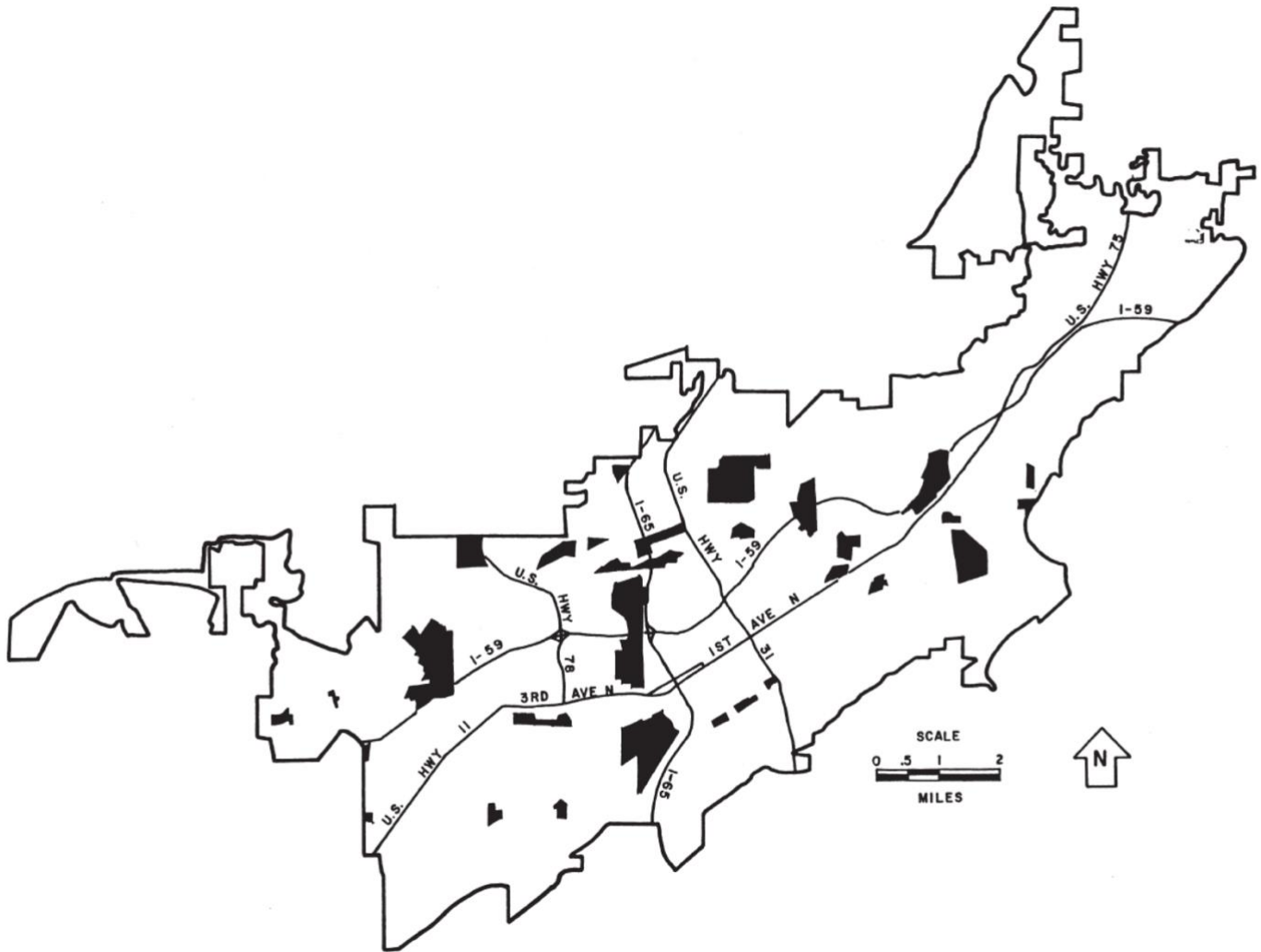
**Figure 10:** 1926 Zoning Map for the Birmingham District (cross hatches indicate areas zoned for African-Americans)



Source: Birmingham Public Library, Digital Collections.

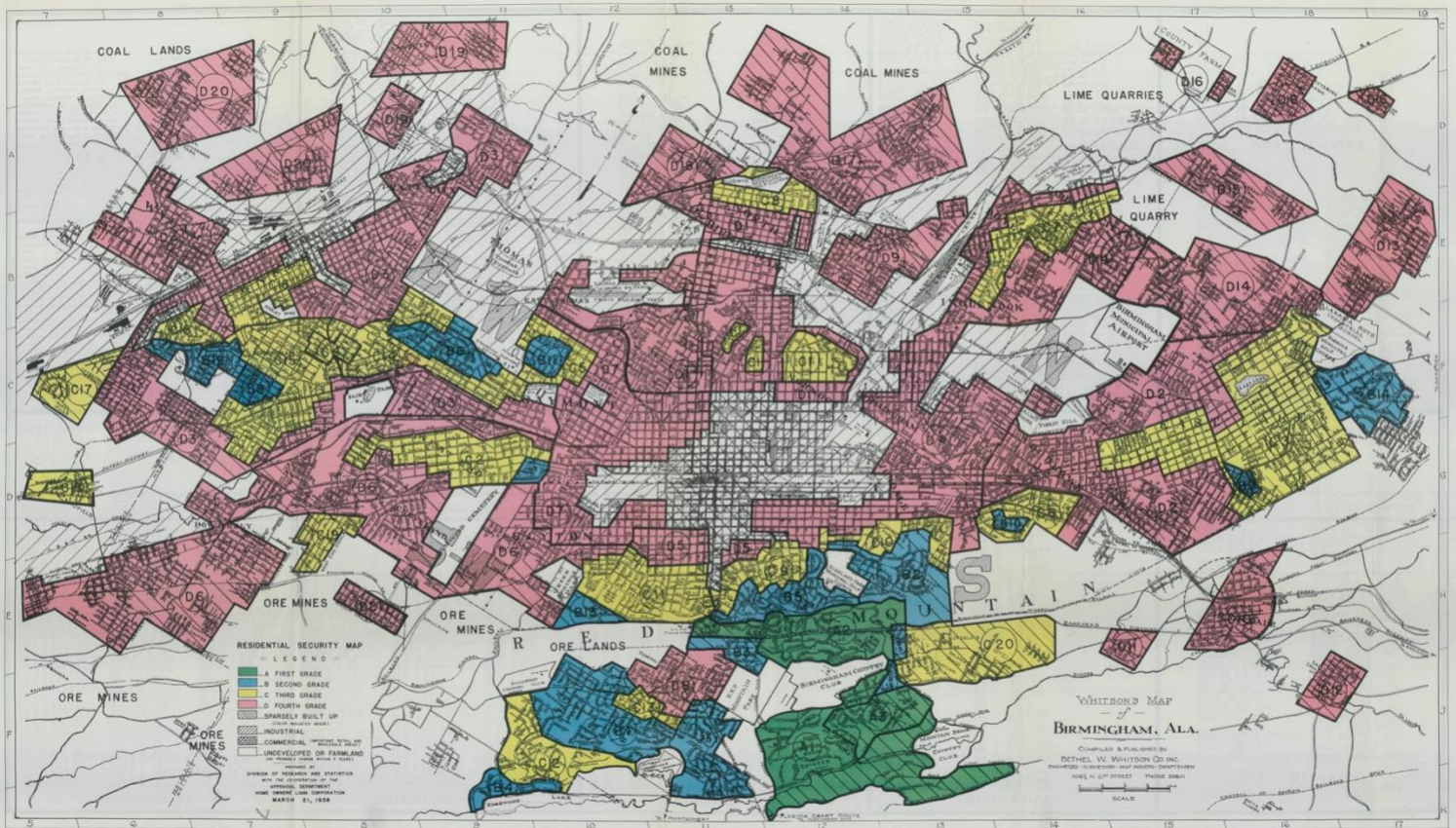
<https://cdm16044.contentdm.oclc.org/digital/collection/p4017coll7/id/1121/rec/1>

**Figure 11:** Areas Zoned for African-Americans under the 1926 Zoning Code



Source: Connerly (2002). *From Racial Zoning to Community Empowerment*.  
Journal of Planning Education and Research. 22:99-114.

**Figure 12:** Home Owners' Loan Corporation Residential Security Map of Birmingham, 1938

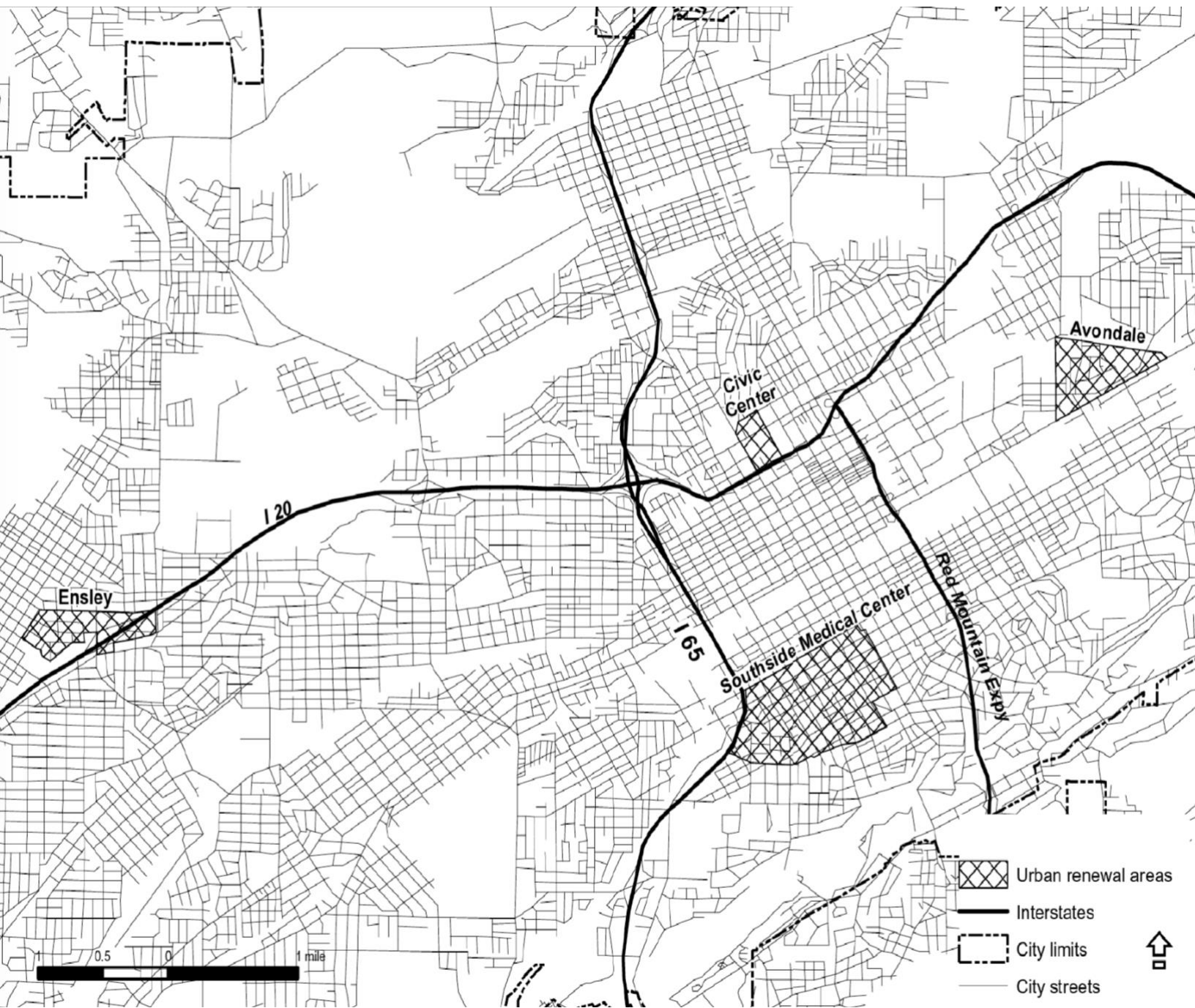


Source: *Mapping Inequality*, Richmond University.

<https://dsl.richmond.edu/panorama/redlining/#loc=11/33.531/-86.969&city=birmingham-al>



**Figure 13:** Urban Renewal Districts in Birmingham



Source: Connerly (2013). *"The Most Segregated City in America": City Planning and Civil Rights in Birmingham, 1920-1980*. University of Virginia Press.



**Figure 14:** Birmingham before and after major highway construction, 1947-2013



Source: Institute for Quality Communities. <http://iqc.ou.edu/2014/12/18/60yrssoutheast/>

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