

Changing Face of Greenville: An Assessment of Housing Price in Greenville, SC

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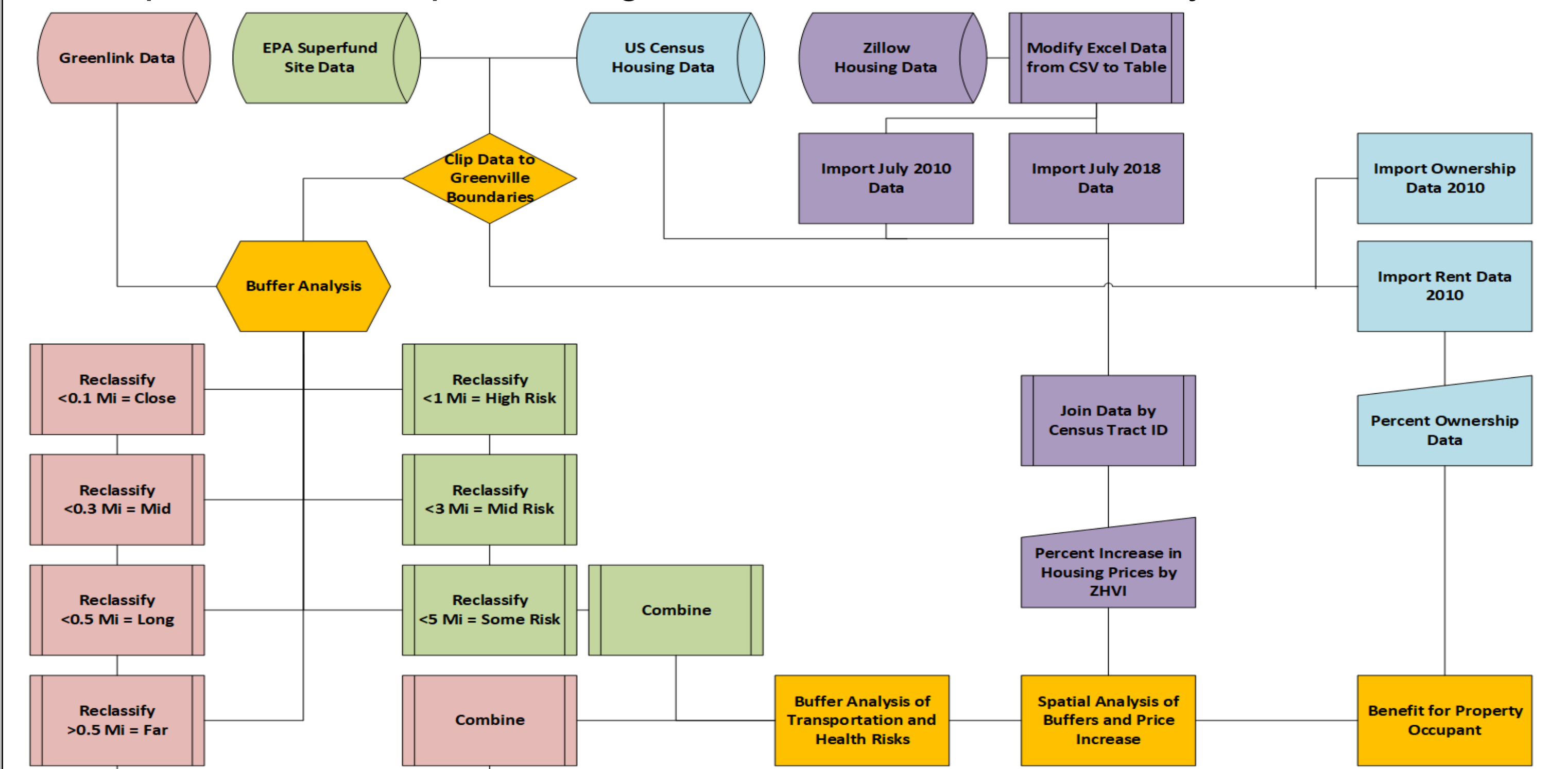
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Abstract

Urban renewal is occurring in many towns across America and is resulting in a shift in the perception of living within or near the downtown areas. Many mayors in smaller cities across the United States are looking to capitalize on this shift as ways to attract businesses and to increase tax revenue for the city. One popular method to achieve this has been the development of brownfields- typically old, abandoned spaces or areas with lower economic values that take up physical land but generate no tax revenue for the city. Cities reap the benefits from these projects, as typically more affluent residents populate the area with this redevelopment, increasing the tax base. However, as this development occurs, the cost of living rises in the area, forcing out any residents at a lower income level. Experts studying gentrification and its causes rely on anecdotal evidence as well as data figures to support conclusions for city leaders. Because there are limited methods to evaluate gentrification causationally, scholars studying gentrification typically use correlational studies with several factors and then connect those factors to housing prices. This study demonstrates the inequitable effects of gentrification regarding resident's health, public transportation, and affordable housing. These factors are based on Greenville-centric data. Health is addressed through proximity to Greenville's EPA superfund site, the US Finishing/Cone Mills Site. The EPA defines a superfund site as environmental degradation that needs assistance from the federal government to protect the health of citizens surrounding the area. Public transportation is addressed through proximity to the city's Greenlink Bus System. While Greenlink is expanding, currently, it only runs in downtown Greenville County. Access to affordable housing is addressed through US Census data on ownership rates by the home occupant. A lower ownership percentage allows more access to affordable housing by not requiring a property ownership to live in a certain area. In looking at these three factors, this study pinpoints specific tract groups Greenville County should monitor for unjust effects of gentrification, and to ensure that social justice is being met for all income groups. It shows that downtown Greenville, the public transit hub, is experiencing the greatest housing price increases, and that this same area is at risk for health effects from the US Finishing/Cone Mills Site. In addition, historically, this area has also been home to affordable housing- rentership is higher here than all of Greenville County, and with increasing housing prices, these renters could be evicted. As redevelopment continues, Greenville County must accommodate these displaced persons in both resources and housing.

Methods

All GIS modeling operations were done using ArcMap (v10.6). Buffer analysis in EPA and Greenlink data was used to define socially just boundaries and zones in relation to those data points. Housing price increase was based on the Zillow Home Value Index (ZHVI), a standardized index created by Zillow to normalize discrepancies in market valuations across time scales. The ZHVI was joined with Census Tract data to analyze the change in housing prices over the evaluated time period and to pinpoint which tracts were most at risk of experiencing gentrification. Home ownership by occupant data was imported from US Housing Census data to model ownership rates throughout Greenville County. Home ownership data was multiplied by price increase data to create a benefit for property occupant data point, which evaluated the extent to which the property occupant would benefit from increased housing prices. Benefit for Property Owner models the investment opportunity and historic returns from increase in house price for those purchasing a house in Greenville County.



Results and Discussions

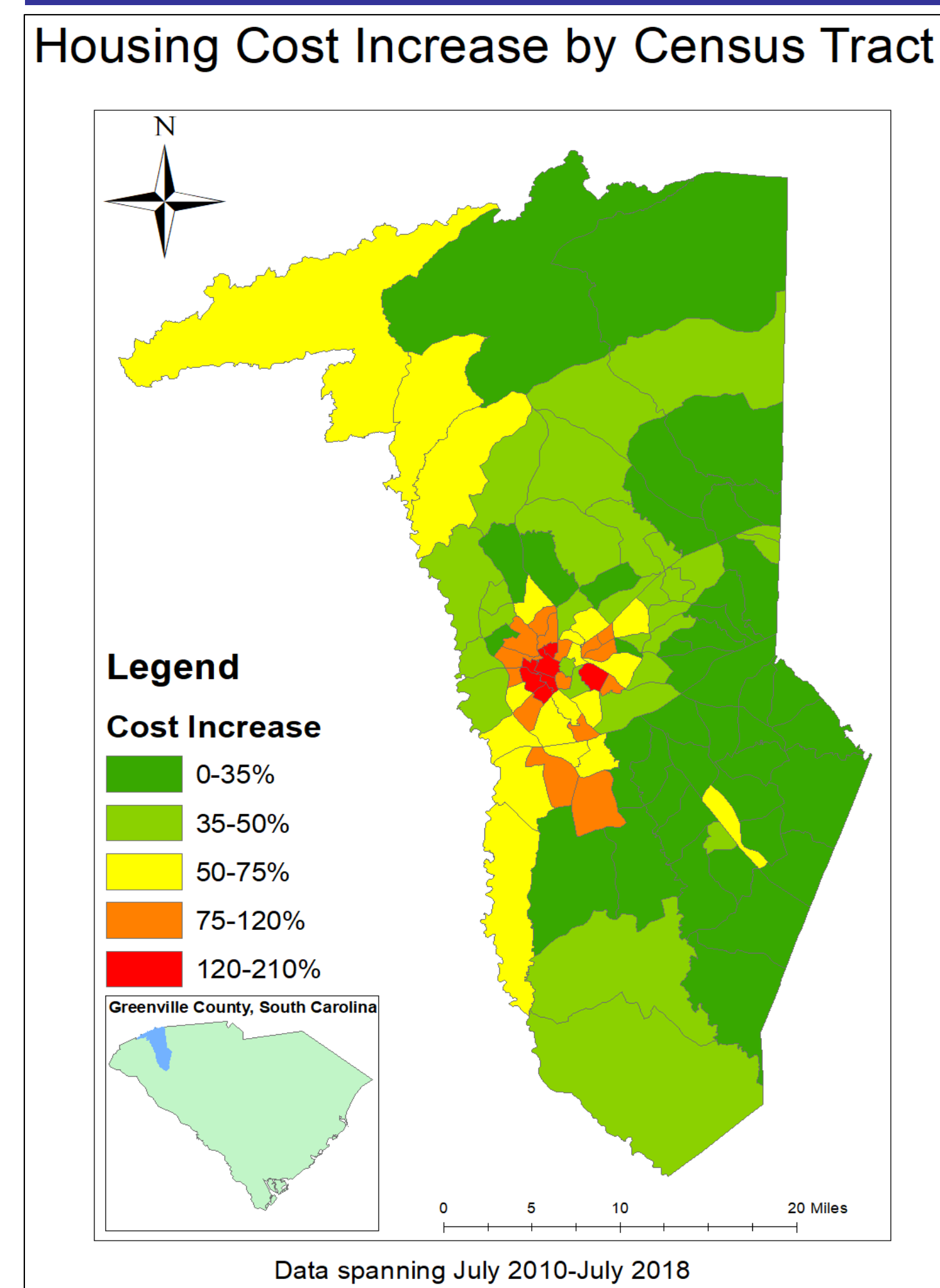


Figure 1: Map of Increase of ZHVI by Census Tract across Greenville County from July 2010-July-2018. The spatial pattern demonstrates that downtown Greenville has increased disproportionately in housing prices compared to the greater Greenville area.

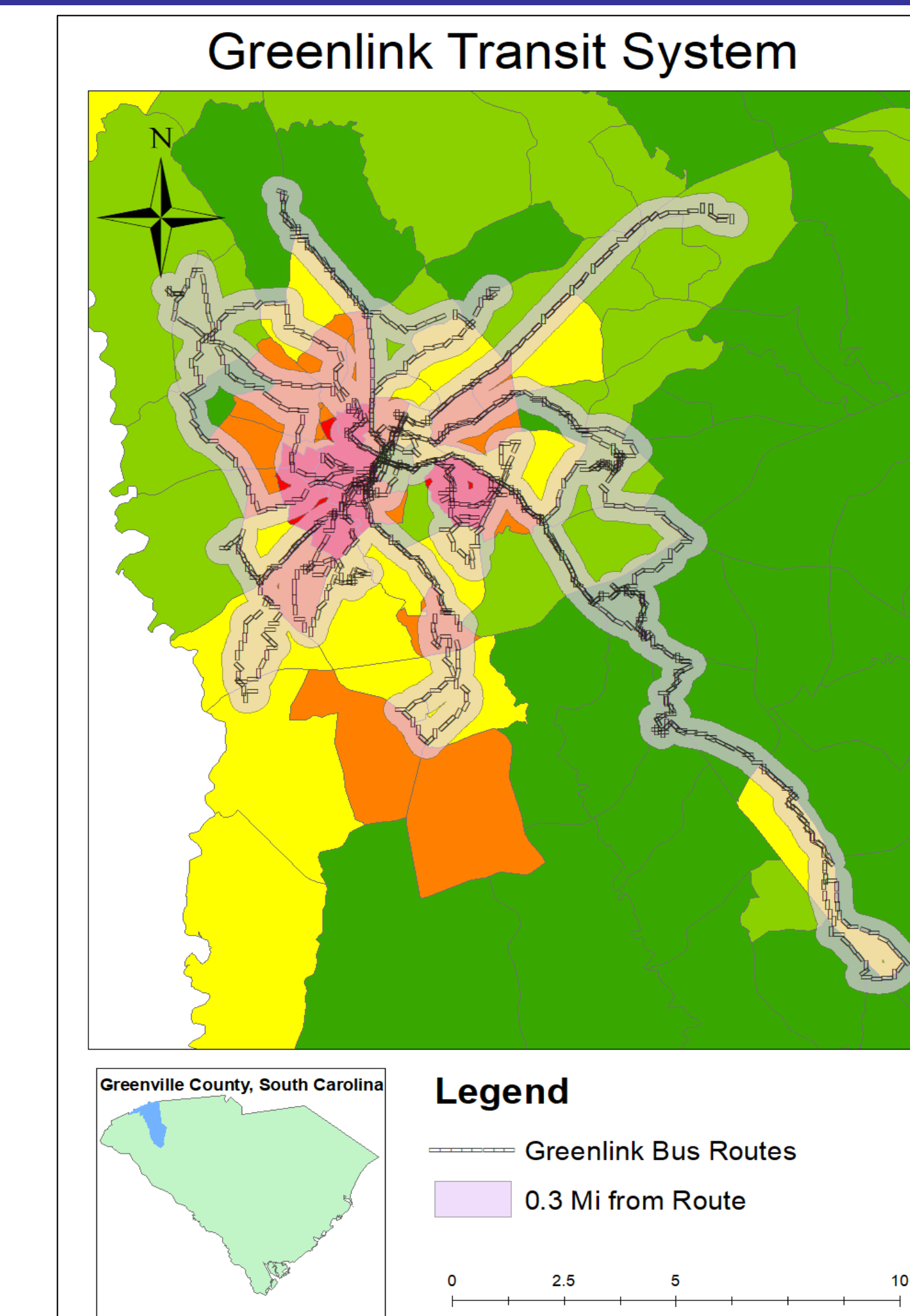
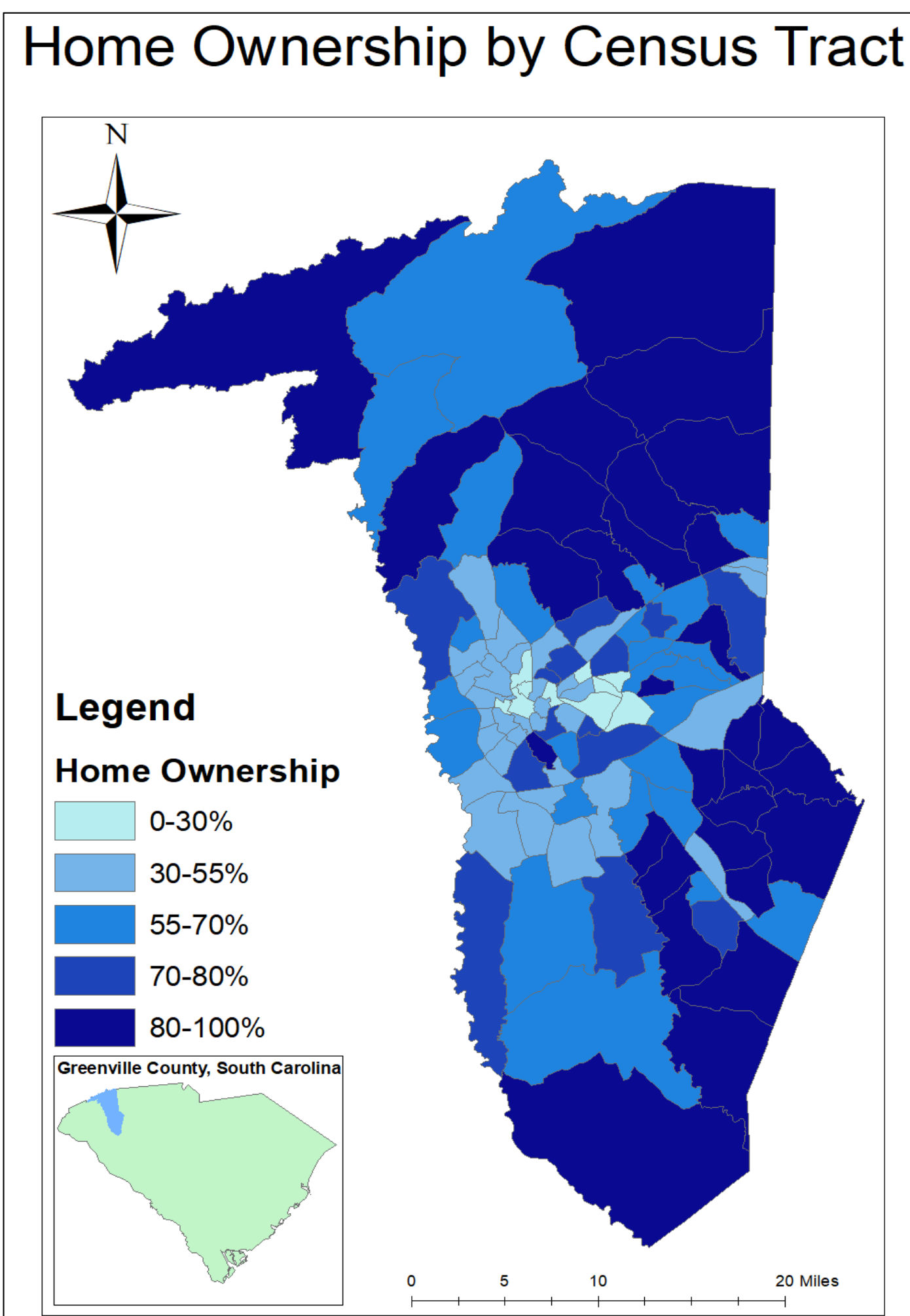


Figure 2: Map of Greenlink Transit System in Greenville County. The spatial pattern demonstrates that public transportation is only available in downtown Greenville, also the area that is facing the most rapid housing cost increases, and that residents outside of that area must rely on other forms of transportation.

Figure 3: Map of Home Ownership Rates across Greenville County. The spatial pattern demonstrates that downtown Greenville has the least amount of home ownership by percentage, meaning more accessible housing for rent. Rent options are a necessity in affordable housing options.

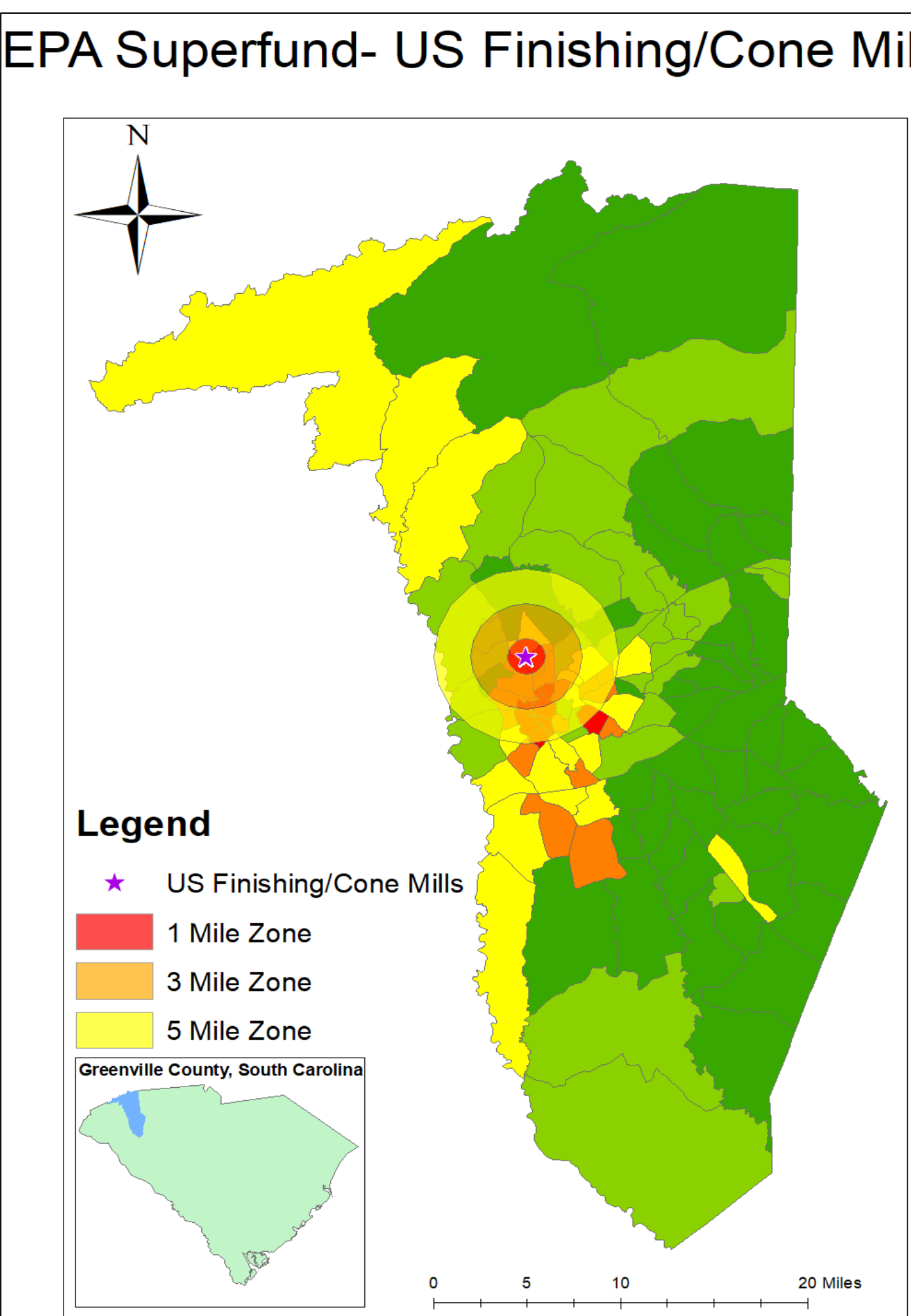
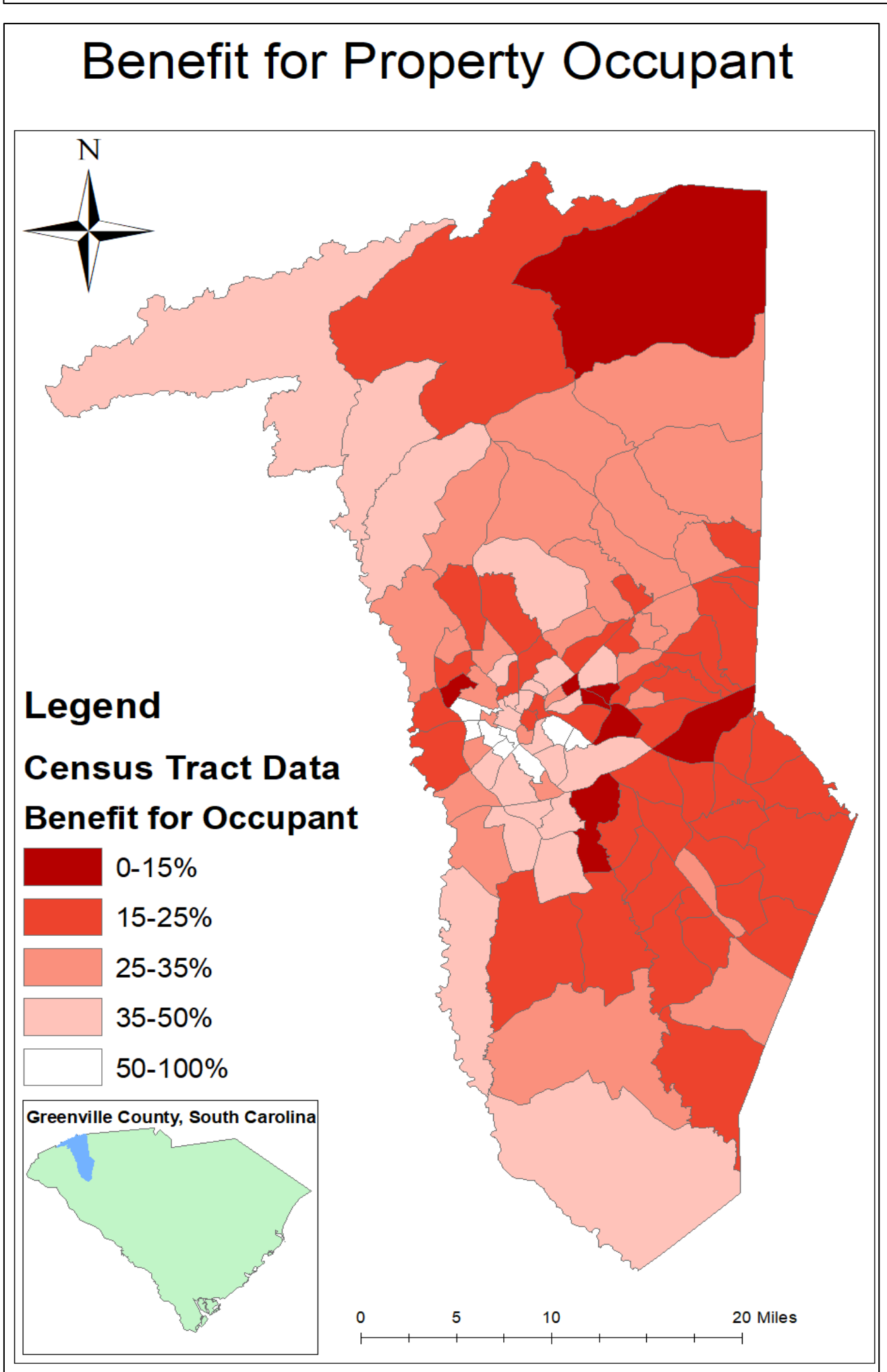


Figure 4: Map of Danger Zone from US Finishing/Cone Mills Site. The danger buffer zone is again concentrated in the downtown area, which disproportionately affects a lower income population with health problems.

Figure 5: Map of Benefit for Property Occupant across Greenville County. The spatial pattern demonstrates that downtown Greenville is disproportionately profitable for the occupant due to increased housing prices.



These maps demonstrate trends that as housing prices increase, they're doing so disproportionately in the Downtown Greenville area. Any lower income residents in the area will be forced to relocate as costs of living rise, and several trends emerge for those that are relocated.

The first trend shows that the Downtown Greenville area has been disadvantaged since the birth of the US Finishing/Cone Mills site back in 1903. While several efforts have been made to restore the site's health, the presence of chemical from years of textile industry production has left the site- and the water surrounding it- unsuitable to sustain human life. As one of only 31 remaining EPA Superfund sites remaining in the United States, the health risks posed by this site disproportionately affect the health of residents in Downtown Greenville County (Figure 4). The EPA states that through its risk assessment, it issues warnings to residents in the area based on potential for harm. They recommend different precautions based on proximity to a superfund site, all occurring at the 1, 3, and 5-mile markers, which for Greenville County, all occur near the downtown area.

Second, housing prices are increasing disproportionately, and at an unsustainable rate for those who need access to affordable housing in the downtown Area, in comparison to the rate of increase for the rest of Greenville County. Housing prices in the span of only eight years have tripled in some areas of Downtown Greenville County (Figure 1), forcing residents who can't afford such a high cost of living to relocate elsewhere. This relocation away from the downtown resources can influence access to resources ranging from food banks to healthcare to jobs.

This relocation leads into the third factor, access to public transportation. Greenville County is actively expanding its public transit system. However, as in lower income brackets disperse from Downtown Greenville, the public transit system not only becomes more ineffective, but access for those in need drops significantly. Our current transit system barely reaches outside of the boundaries of Downtown Greenville, meaning that anyone outside the recommended 0.29-mile walking distance zone is disadvantaged regarding transportation.

Finally, the Downtown Greenville area is becoming an attractive investment for property owners (Figure 5). As housing prices increase, the benefit to owning property in the Downtown Greenville area becomes more profitable, leading to an increased demand in buying housing rather than renting it. According to Census data, homeowners typically live in higher valued homes. The increased demand to live downtown will lead to further increased housing prices and cost of living and will be met with supply from the previously rented pool of houses- renters are 3 times more likely to be displaced than homeowners. This supply shift cuts the supply of affordable housing downtown. This continuous cycle encourages the city to further develop the surrounding area, driving property values and the tax base, and positively reinforcing the magnitude of gentrification.

For those involved in city planning in Greenville and other similar cities, this data, accompanied by anecdotal evidence, suggests that Greenville is experiencing a gentrification epidemic, as residents are facing increasing costs of living in areas coming under redevelopment. Greater attention needs to be focused on affordable living in areas undergoing intense redevelopment, specifically our downtown area. Because development comes at the risk of losing access to valuable resources such as public transportation, the city must allocate certain areas of Downtown Greenville to price ceilings or as to ensure equity across all economic classes. Those unable to afford a higher cost of living are being forced out of the area away from resources that sustain their current lifestyle and to places that are not structured as conducive to support lower income families.

Acknowledgements

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