Assessing Affordable Housing in Greenville, SC based on the STAR Community Rating Standards

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Abstract

The intent of the following study is to examine the state of affordable housing in the city of Greenville, SC. According to the STAR Community Rating, a community has a sufficient amount of affordable housing options if residents earning the Area Median Income (AMI) would spend less than 45% of their income on housing and transportation costs in at least 80% of Census block groups. Data was retrieved from the American Community Survey and the Housing and Transportation Index to determine how many Census block groups intersecting the boundaries of the City of Greenville met the criteria set by STAR. The results showed that Greenville did not satisfy the requirement for at least 80% of its block groups, even when different measures of income were used. To put the results in a relevant context, block group data for entire counties was explored and compared to metropolitan areas comparable to Greenville. Results show that Greenville's level of affordable housing was comparable to Greenville's peer group of cities, but lagging behind the metros that Greenville aspires to compare itself with.

Methodology

The data used for this project came from two sources. Block group boundary data was provided by The National Historical Geographic Information System at the University of Minnesota and housing and transportation data was provided by The Housing and Transportation Affordability Index at the Center for Neighborhood Technology. The two data sets were joined together within ArcMap. In the analysis of Greenville, block groups in Greenville County were extracted then, subsequently, block groups intersecting the boundary of the City of Greenville were extracted. From here, block groups could be identified as either having housing and transportation (H&T) costs less than or equal to 45% of income (for various measures of income) or H&T costs greater than 45% of income. In the comparison analysis, Census data was collected for the following states: South Carolina, North Carolina, Tennessee, and Texas. For comparison of metropolitan areas, area of extent was expanded to a city's associated counties – counties included within a city's Metropolitan Statistical Area (MSA). MSA is a measure developed by the US Census Bureau to delineate urban areas with close economic ties. Once the associated counties were extracted for each metropolitan area, block groups could again be identified according to their STAR rating qualification.
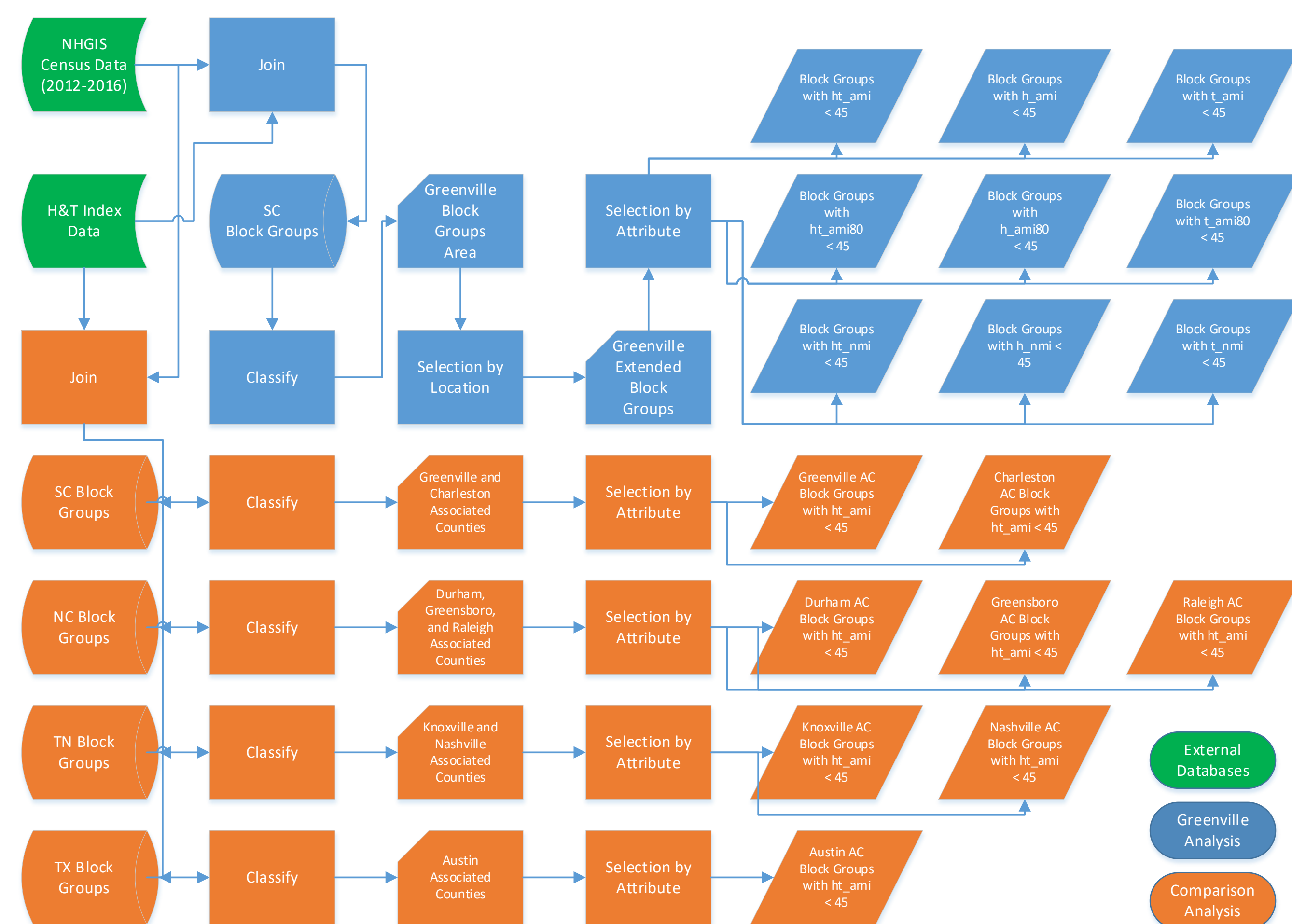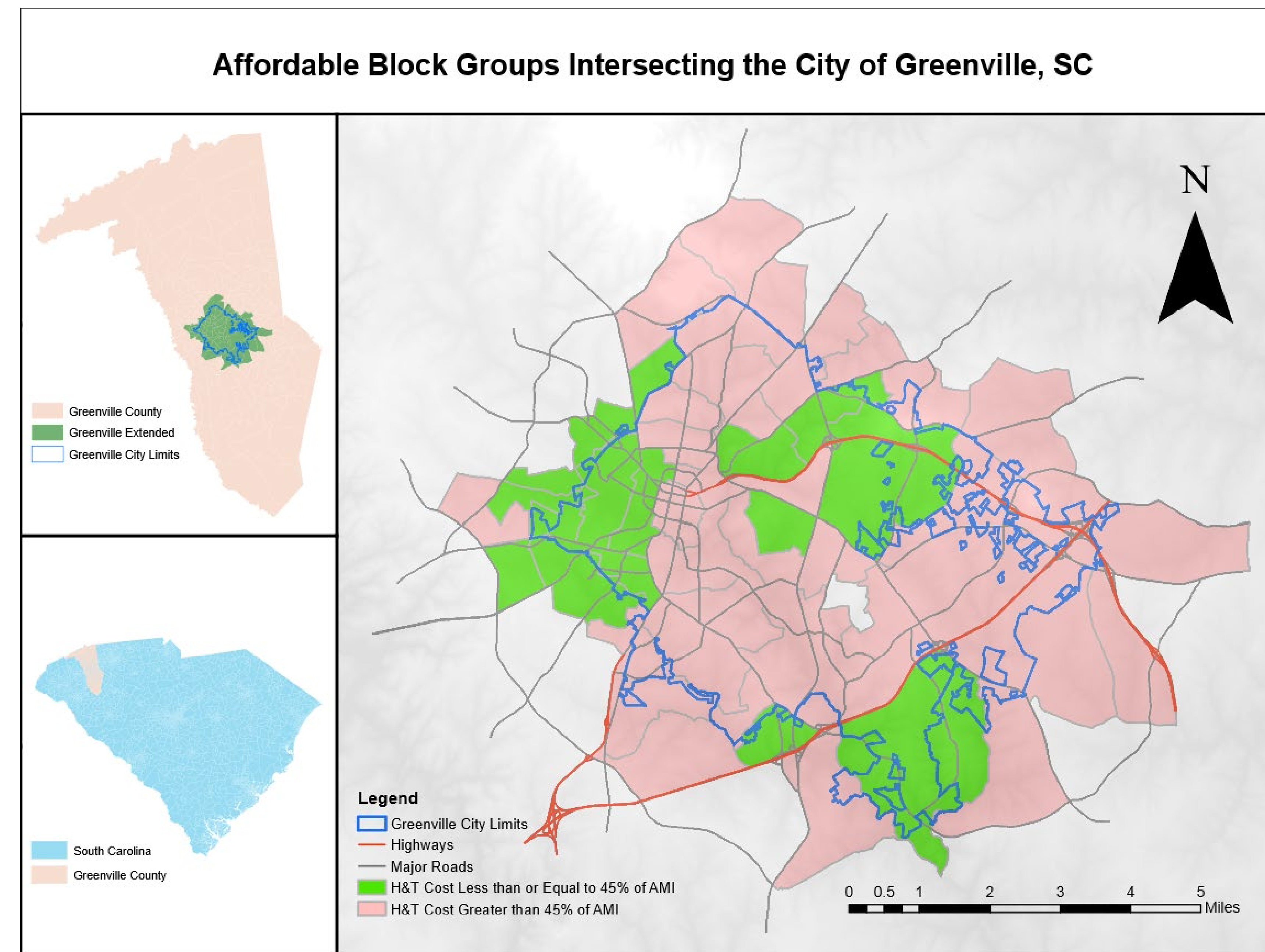
Results & Discussion

Figure 1: This Map shows all of the Census Block Groups that intersect the boundary of the City of Greenville. Blocks highlighted in green represent those that qualify for the STAR standard for affordability. Residents in these blocks earning the area median income would not spend more than 45% of their income on housing and transportation.

Analysis at the Extended City level (block groups intersecting the boundary of the city) showed that Greenville did not qualify for the STAR's measure of affordability at multiple income levels. The Map above shows the results for the City of Greenville using the criteria outlined by STAR. In only 36.62% of block groups intersecting the City of Greenville are residents earning the AMI going to pay less than (or equal to) 45% of their income on H&T costs. When using the AMI80 measure of income (residents earning 80% of AMI), only 5.63% of block groups qualified – the STAR rating states 60% of block groups must qualify at that level of income for a city to be affordable. When using the National Median Income (NMI) as the measure of income, the results improve - 56.34% of block groups qualified, however this is still below the 80% threshold. These results paint a negative picture of the state of affordable housing in the City of Greenville, however, two questions still needed to be addressed. First, what is the primary cause of Greenville's affordability woes – housing costs or transportation costs? Secondly, how do Greenville's peers compare – is it possible that the standard expected by the STAR rating is simply to ambitious?

Greenville Extended Findings
(Total Number of Block Groups = 71)

	Number of Affordable Block Groups	% of Affordable Block Groups	
Area Median Income (AMI)	26	36.6%	
AMI 80	4	5.6%	*Housing and Transportation*
National Median Income (NMI)	40	56.3%	>45% of Income
Area Median Income (AMI)	49	69.0%	
AMI 80	34	47.9%	*Housing*
National Median Income (NMI)	60	84.5%	>30% of Income
Area Median Income (AMI)	0	0.0%	
AMI 80	0	0.0%	*Transportation*
National Median Income (NMI)	0	0.0%	>15% of Income

Figure 2: This chart shows the findings from the analysis of affordability in the City of Greenville using different variables of income. Housing and transportation costs were also isolated to determine which effected affordability more.

To explore the first question, analysis in the Extended Greenville area was performed on housing costs and transportation costs exclusively. The US Department of Housing and Urban Development determined that families paying more than 30% of income on housing costs are burdened. Using this measure of affordable housing in the block groups intersecting Greenville, it was found that 69.01% of blocks qualified for families earning the AMI. The same process was done for the alternate measures of income, AMI80 and NMI, and 47.89% and 84.51% of block groups qualified, respectively. The results for transportation were less positive. If no more than 30% of household income is expected to be spent on housing, that leaves no more than 15% of income to be spent on transportation, according to STAR. However, when transportation costs were isolated, not a single block group within the Greenville Extended area qualified - at all measures of income. This suggests that high transportation costs in the City of Greenville are the cause of its low affordability.

To address the second question, analysis was performed on peer cities and their associated counties. There are two groups of peer cities: peer metros and aspirational metros. Peer metros are similar to Greenville economically – in areas like innovation, entrepreneurship, and competitiveness in the global market. Aspirational metros are more economically advanced than Greenville and posses more firms run on intellectual capital (i.e. Silicon Valley corporations). The graphs below summarize the analysis of these two groups. The results show the Greenville MSA in the middle of its peer group, with 16.0% of its block groups qualifying as affordable (using AMI as the measure of income). This is behind the number of affordable blocks in the Durham MSA (33.6%) and the Charleston MSA (24.4%), but ahead of the Greensboro MSA (15.7%) and the Knoxville MSA (13.6%). When compared to it's aspirational metros, Greenville is significantly behind. The first closest MSA has nearly twice the number of qualifying groups – Nashville with 31.2%. The Austin MSA had 40.1% of its blocks qualify while the Raleigh MSA had 49.5%.

Overall, results clearly indicate that the City of Greenville is lacking in affordable housing. High transportation costs need to be analyzed further to determine how best to lower them. Additionally, low-cost housing needs to be provided both within the City of Greenville and the Greenville MSA to protect itself against extensive gentrification and an increasingly tight labor market.
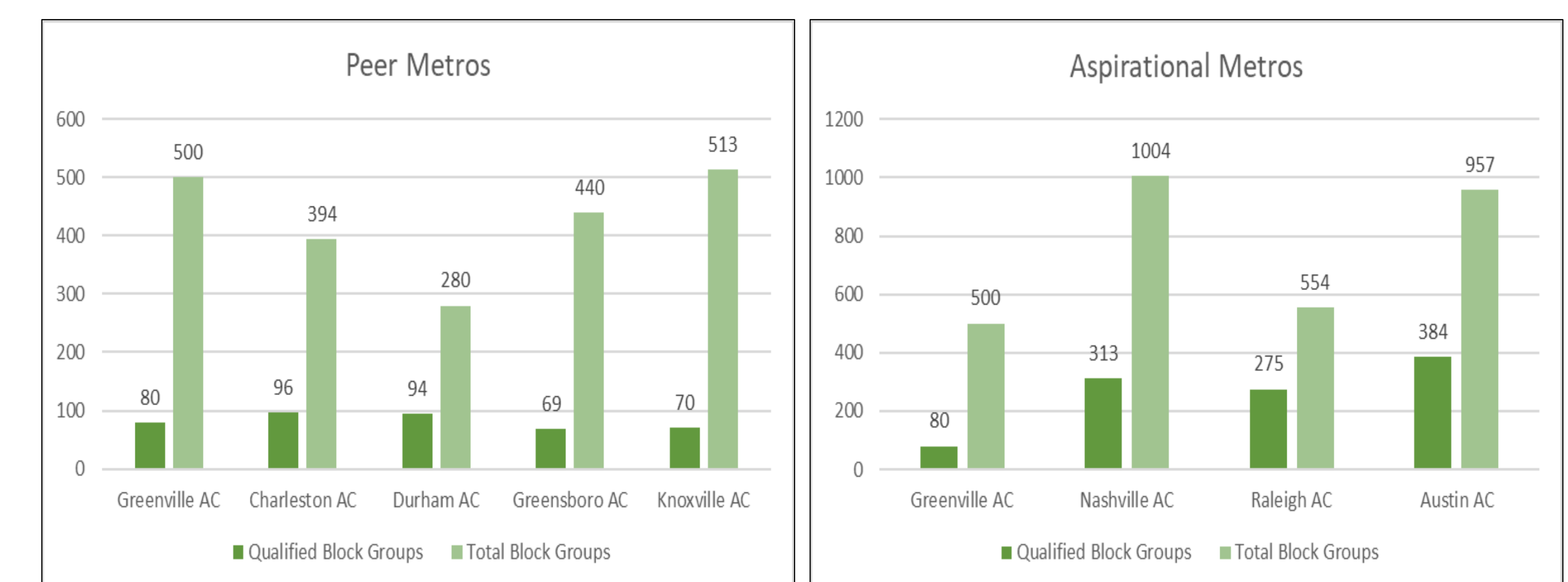

Figure 3: These graphs summarize the affordability comparison analysis between the Greenville Metro Statistical Area (MSA) and its peer and aspirational metro groups. Numbers given are the total block groups where residents earning the area median income would not spend more than 45% of their income on housing and transportation and the total block groups within the MSA.

Acknowledgements