

Analysis between vehicle ownership and traffic within South Carolina

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Abstract

This project's goal was to give shape to the current issue of the accessibility within the transportation system for South Carolina and propose a solution utilizing the already successful trolley system. The trolley system referenced is not on an electric track. Instead, it is a bus which has reduced stigma due to its appearance. My main comparison to show accessibility was the average traffic counts and vehicle ownerships per block group level for the entire state. This comparison showed any disparities between the low or high traffic areas compared to the vehicle ownership. The most significant way to track disparity were the areas which had high traffic count and low vehicle ownership. Additionally, I mapped the area of the existing trolley system for Greenville alongside the other two other trolley systems found within a local news article. The trolley lines were plotted for analysis of the claim that the Augusta line would not be as beneficial to accessibility as it already possessed a stable vehicle ownership compared to the West Village area.

Background/Literary analysis

The ability to access transportation within South Carolina remains an issue to be addressed (RLS & Associates Inc. 2012). Those limitations of individuals has already proven to be a risk factor to already vulnerable impoverished population (Schuurman 2009). The scale for the government to provide and fund cars for those without one is cumbersome and unsustainable. However, Greenlink Trolley system, is turning out to be successful and popular option for Greenville (Greenville Online 2017). Unlike traditional railed trolley systems, the Greenville Trolley system is actually a small fleet of refurbished buses without the stigma attached. In the same article, The Greenlink Trolley system is given guidance by local stakeholders who vouch for their neighborhoods to be connected. Local stakeholders are critical perspective for problem solving within development between middle sized city of Greenville and its surrounding area (Feliu 2012).

Methods

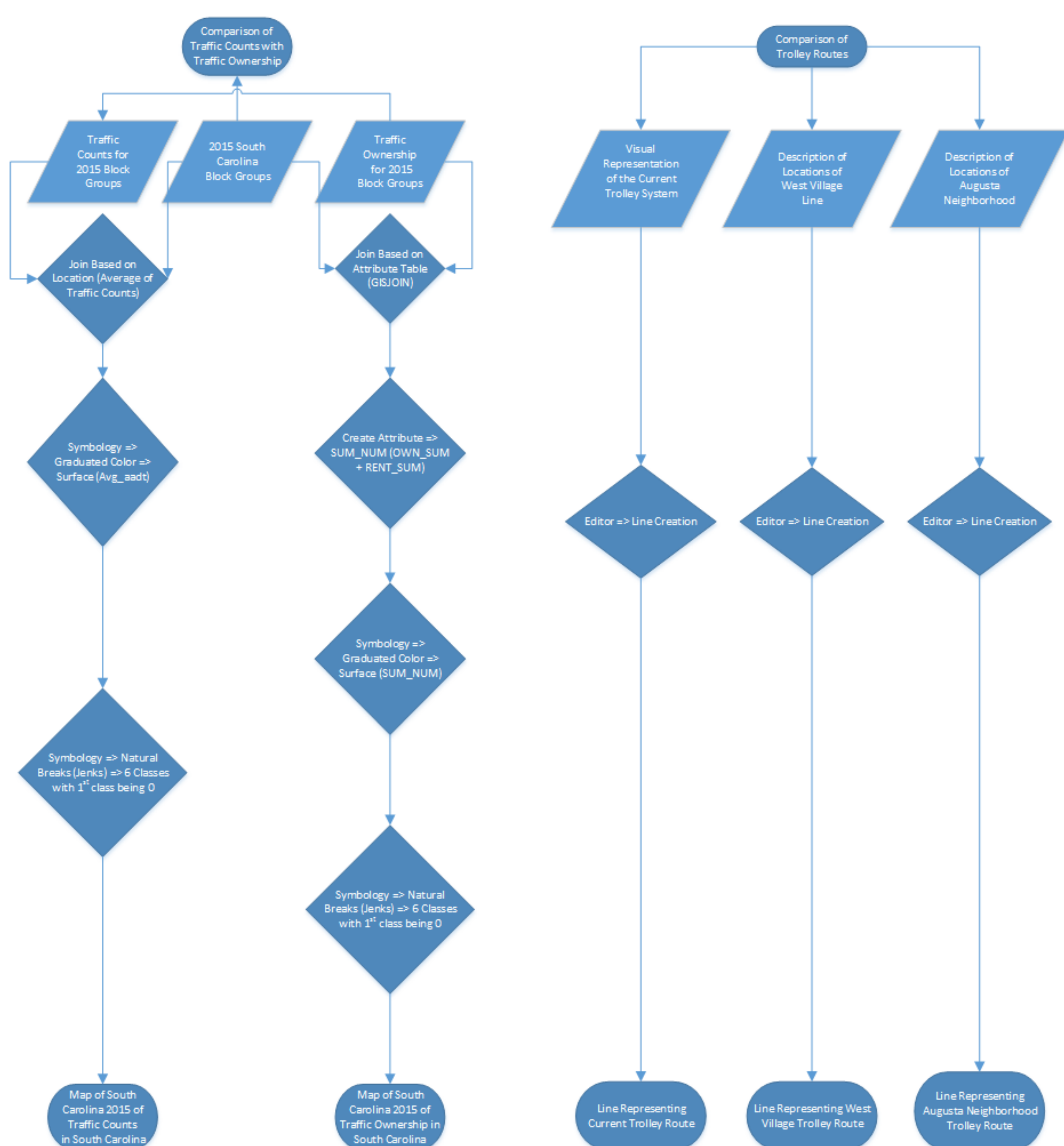


Figure 1 –Detailed methods regarding traffic count, vehicle ownership, and trolley route maps

Average traffic counts per SC block group in 2015

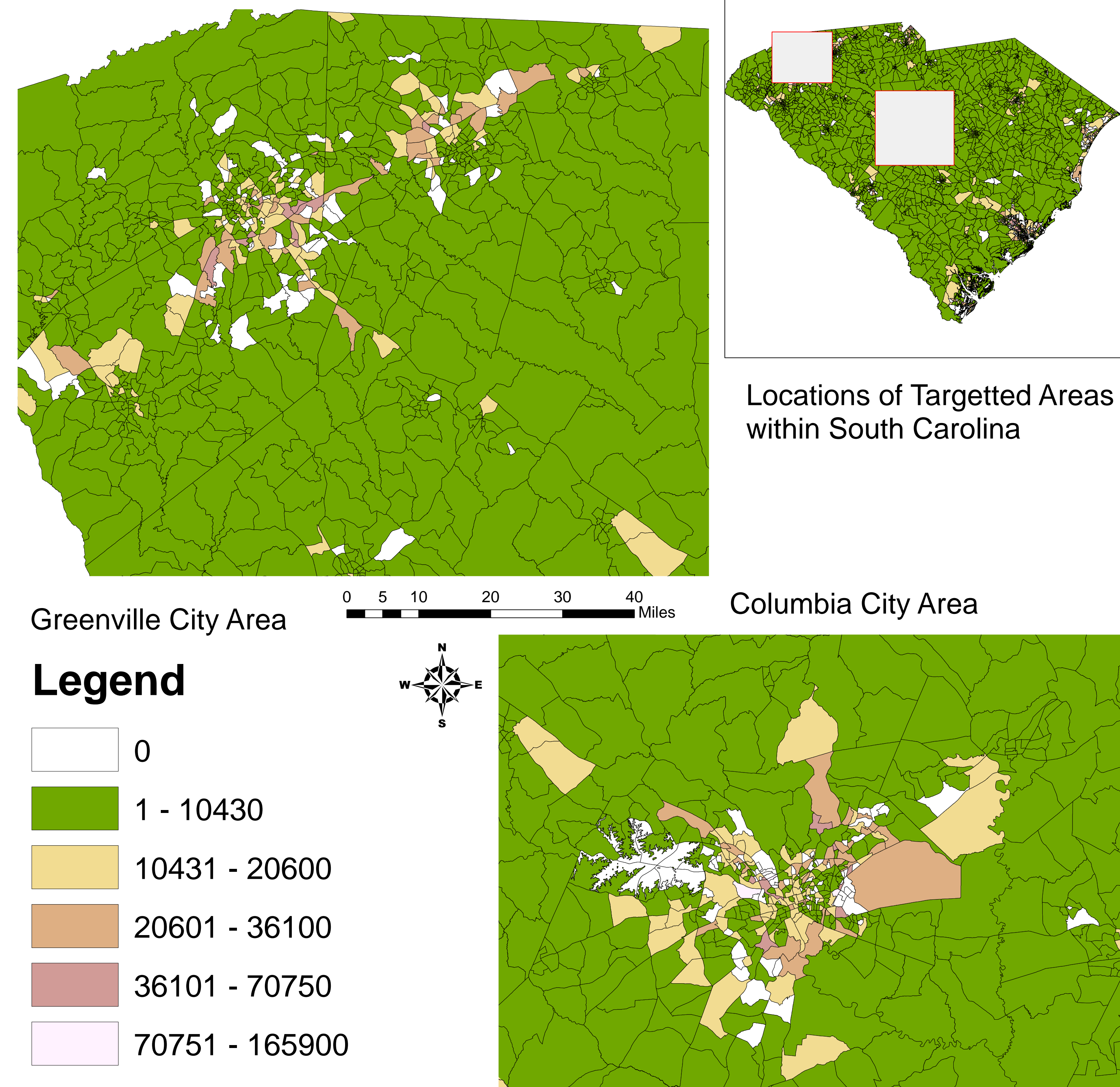


Figure 2 – Average traffic counts per block group with focus on the Greenville and Columbia areas

Sum of vehicles owned per SC block group in 2015

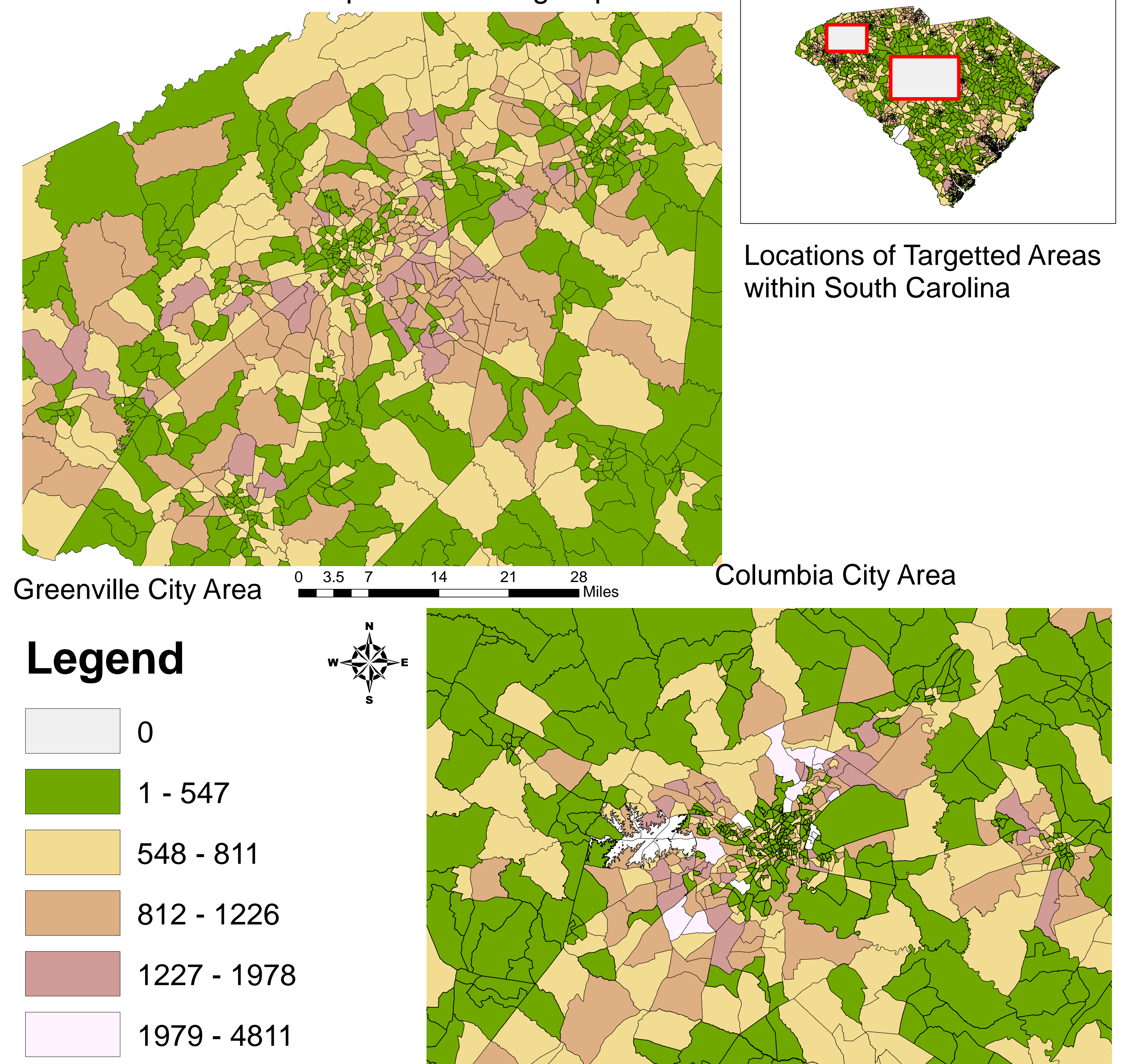


Figure 3 – The sum of vehicle per block group with focus on the Greenville and Columbia areas

Current and Proposed Trolley Lines on Map of Vehicle Ownership

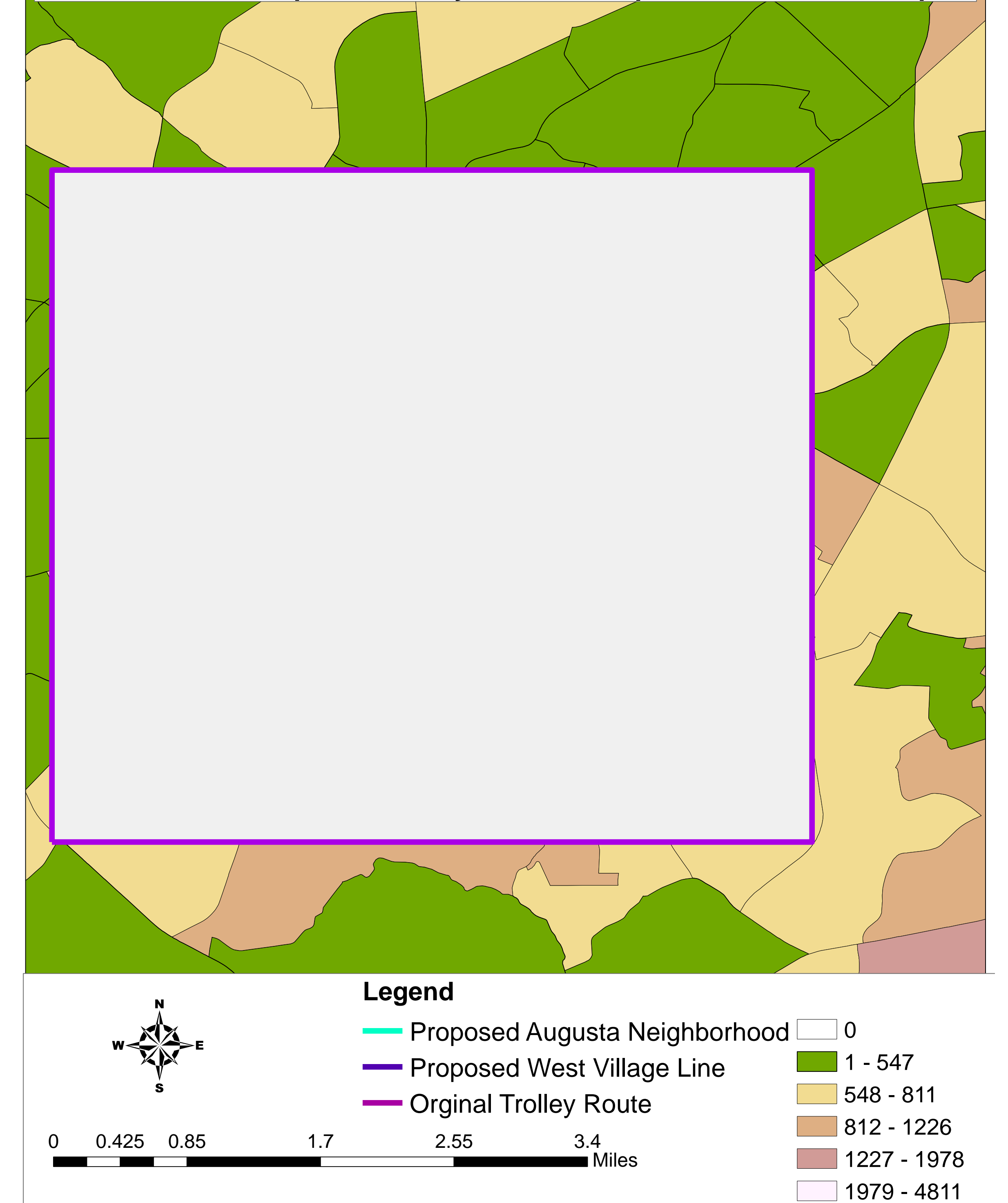


Figure 4 – Representation of current trolley route alongside the other two proposed lines.

Conclusion

The comparison between the vehicle ownerships and average traffic counts only had couple areas such as a block group east of the Columbia (the city closest to the center) and a block group east of Spartanburg. However, the disparities that were found did have over an average traffic count of 200,000 with under a total number of 300 total of individuals who owned cars. The trolley system mapping did prove that claims made that Augusta Road had a higher concentration of cars than West Village was true. Future research could continue to build the validity of the data could investigate how methodology on how individuals get to work as well as the total population living. The addition of those data sets would solidified a number of individuals who do not have access to transportation. Canvassing and community meetings to gather general my data could be useful for visioning a location of a trolley stop.

References and Data Sources

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- RLS & Associates Inc. (2012) *South Carolina Statewide Intercity and Regional Bus Network Plan*. South Carolina
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