

# The Spatial Distribution of Antique Car Dealerships in the Southern United States

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## Introduction

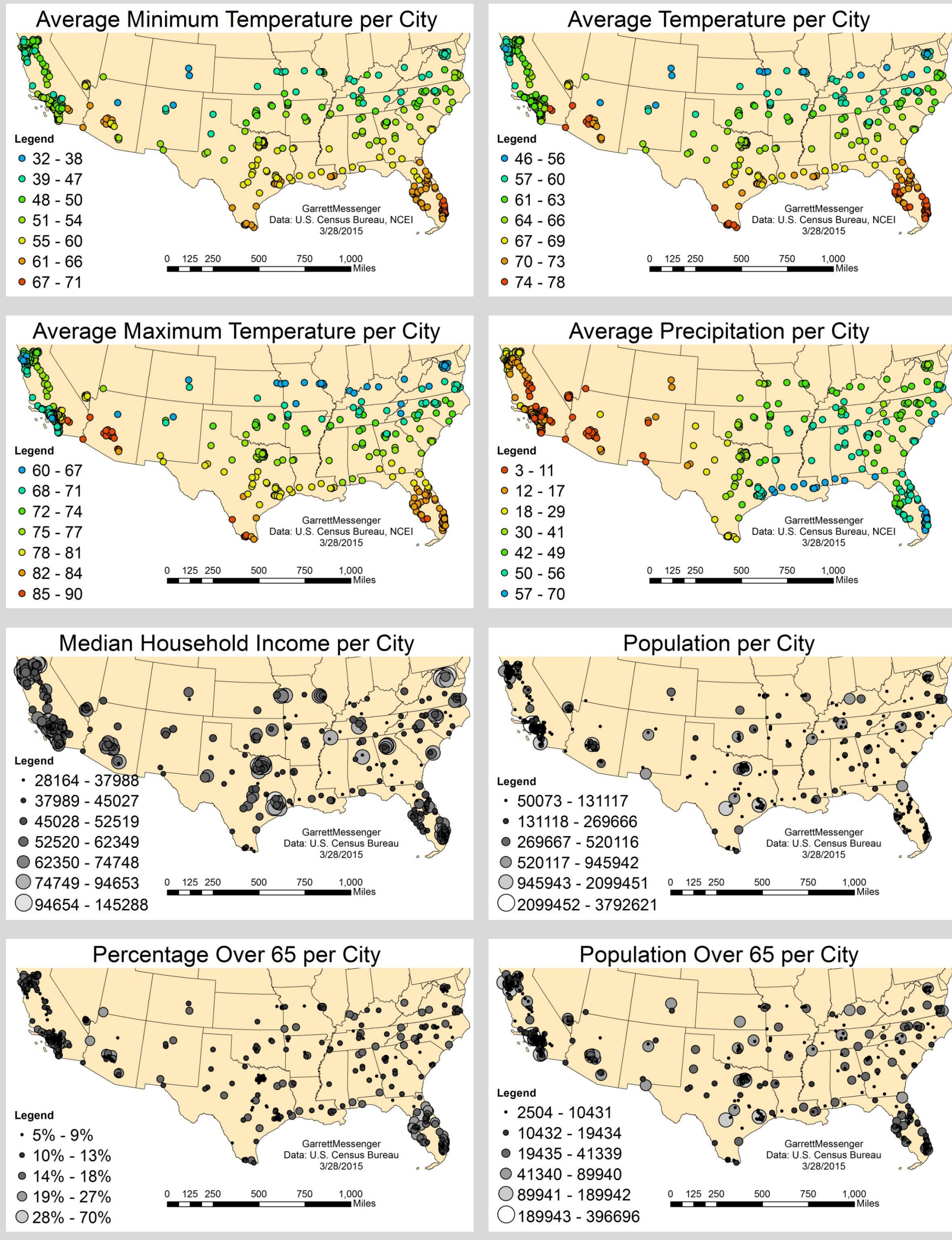
This project examines the environmental and socioeconomic variables for why antique car dealerships are located in specific cities of the United States. The project looks at these variables to see if antique car dealerships are located in cities with high median income, high populations of people 65 years and older, high average temperatures, and low annual precipitation. Literature over the topic of antique car dealership location exists through use of attributes in studies dealing with the variables used in the project. Studies on these variables include atmospheric corrosion on materials such as steel (Shashoua and Matthiesen 2010; Tidblad et al. 2012). Other studies examined marketing strategies and buying habits of consumers based on age and income level (Fan and Burton 2005; Garrett and Toumanoff 2010; Meiners and Seeberger 2010). The study area for the project is defined using Metropolitan Statistical Areas (MSA), which is a city with a population greater than 50,000 people. The MSAs used for this project are limited to cities below the 39<sup>th</sup> parallel of the contiguous U.S.

## Methods

Data were obtained from the U.S. Census Bureau, American Community Survey (ACS), National Centers for Environmental Information (NCEI), and Yellow Pages. The data from the Census is 2010 Census place data with population statistics in a shapefile format for use in ArcGIS. The shapefile data were sorted to remove cities with less than 50,000 population and ones above the 39<sup>th</sup> parallel. This set up the study area including 456 MSAs. A spreadsheet was created from the Census dataset where new columns were added to fill in the variables of income, climate, percent 65 and older, and the number of antique car dealerships. The ACS data included the median household income for 2014. Climate data was gathered from NCEI’s 1981-2010 Climate Normals. The Yellow Pages website provided the business listings with links to antique car dealerships for each city. A dealership counted towards a city’s total when a link was available on Yellow Pages and if 66 percent of the dealership’s inventory are model years 1979 and older. Data were entered into ArcGIS and Excel for map creation and correlation analysis.

## Results

The results do not show strong correlations between the number of antique car dealerships and the other variables. The same result can be seen on the maps. The project found large concentrations of these dealerships within the states of California, Florida, and Texas.



Category	Correlation
Median Income	-7.72%
Average Precipitation	-3.12%
Average Maximum Temperature	3.36%
Percent Over 65	3.60%
Average Temperature	5.47%
Average Minimum Temperature	6.56%
Over 65 Population	37.79%
Population	37.91%



## Conclusion

The variables in the study do not show trends of why an antique car dealership is located in a specific city. A possible reason for the study not finding a trend in the location of these dealerships includes the large number of cities not possessing an antique car dealership. Another reason can be a different attribute of a city affecting whether a city possesses one or more antique car dealerships. This study did accomplish creating a map depicting relative locations of antique car dealerships in the southern U.S. Future studies could analyze other demographic groups such as a different age group like 50-64 years old. Future studies can also examine other climate variables including humidity and pollutants in the cities.

## References

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