Assignment 8 – Questions - https://geog3540.github.io/dkun/smallmultiples/index.html

Analysis

The small multiples map shows a simultaneous comparison of 4 different Census Tract maps of the St. Louis County, MO area. Each map displays a different attribute of the same area. Map 1 - Poverty Rate; Map 2 - SNAP Recipient; Map 3 - Supermarket Access >1 mile; and Map 4 - Vehicle Access >1 mile from a supermarket. The color selection is a diverging color scheme of purple, white, and orange. The purple color represents the higher percentages, the white color is the neutral (0) orange, and the orange is the lower percentage in each map.

The north area of the map is somewhat consistent in the 4 maps with the highest percentage of poverty, SNAP recipients, supermarket access >1 mile and not having access to a vehicle. Maps 3 and 4 differ slightly and do not have high percentages throughout the northern part of the county. There are some variations in those areas closer to the central part of the county and it appears housing units/families have better access to supermarkets and a vehicle.

In the western part of the county, the area is more newly developed than the rest of the region, with higher incomes, and suburban-type living. This area has the lowest % of poverty and SNAP recipients. The supermarkets are not close, most likely because the area is more suburban, and some parts are rural. This area also has the lowest % of vehicle access, meaning they have access to vehicles. There are a few outliers in certain pockets of the county.

The central part of the map is consistent across all four maps, the percentages are low for the most part for each attribute. The likely reason some areas do not have access to a vehicle is because of the transportation system in the area. St. Louis City and County have a bus system and a light rail system that travels from the city to the periphery of the central part of the county. The southern part of the county has variations of each attribute in all four maps. It will indicate that the southern area is a mix of incomes.

Classification Methods

Quantile: Quantile maps are useful for map comparison when comparing multiple maps. (Thematic Cartography and Geovisualization). It divides the same number of features in each class. What we see in each class on one map will be the same as the other maps. The analysis above is based on quantile classification.

Equal Interval: The maps are not comparable, because the width of each class/interval will be different for each attribute. When the equal interval classification is selected for the 4 maps, the 1st, 2nd, and 4th maps almost look identical. These 3 maps would indicate that both poverty and SNAP recipients % are low throughout the county. It does not provide a good representation of the levels of poverty in the northern region as indicated using the quantile classification. The 3rd map, Supermarket access > 1 mile shows variation throughout the map, when more likely the far regions of the county (north, west, and south) parts have high a % of housing units >1 mile from a supermarket because those areas are more spread out.

Natural Breaks: The maps are not comparable, because they create a custom break/classification for each attribute. This makes it difficult to compare the same thing across the four maps. When the Jenks Natural Breaks classification is selected, it looks very similar to the equal interval classification. There is a bit more variation in maps 1, 2, and 4 near the northern part of the county, but overall the maps look homogeneous throughout the county and does not provide a good representation of those families below the poverty level or are SNAP recipients. Map 3, like what we saw with the Equal Interval classification, has variations throughout the county.