Assessing Houston’s Vulnerability for Childhood Obesity

Houston, Texas has been labeled the fattest city in the United States four years within the past decade. If they’re not number one, they’re in the top ten. But what about Houston makes it vulnerable to the obesity epidemic? And what areas are most vulnerable? This poster and project are devoted to exhibit how GIS can be used to explore this issue with a focus on childhood obesity, as this is when eating habits are forming and preventative measures could be most effective.

Methodology
Using Spatial Analyst, the density of fast food restaurants, grocery stores, and convenience stores was calculated. The mean distance for green spaces was found for each block group using the Distance function in Spatial Analyst. The radius used for all four variables is not consistent because GIS wasn’t able to change the search radius for two of the four variables.

Limitations
This project is to show what can be done when mapping health issues and the built environment. It should not be considered a research project. The weighting isn’t representative of an actual equation, but as an assessment of how much each variable has been researched and established as having a relationship with childhood obesity. The more researched, the stronger the weighting. It should also be noted that these variables have a strong collinear relationship with one another, especially between the demographic and socioeconomic variables, and should not be considered independent of one another.

Future Research
A more accurate project would analyze level of fitness looking at schools or aggregated health data. The children could be geo-referenced by school or residence, and the area with higher rates could be examined and compared to those with lower rates to see if the built environment had an effect.