Business Problem and Background

I represent a national donut shop, D’s Nuts, and we are expanding into the state of Minnesota. Our focus is on finding locations in the city of Minneapolis that will maximize profitability for the company. The biggest problem identified by our new CEO is our donut competition has been established for some time in the Minneapolis area. However, based on our proprietary Donut Density Ratio (DDR) we know there is room for at least one location for our brand, if not more. We will need to analyze the 83 neighborhoods of Minneapolis proper, and make the decision based on optimal distance from location of competitor donut shops, coffee shops (like all donut shops, we sell coffee; however ours is a premium artisanal hand-ground gluten free extra-fancy not-tested-on-animals coffee made with love and pure sunshine). We also take into consideration distance from grocery stores that have a dedicated bakery on the premises. Finally, we want to place the location of our stores in higher density areas that will ensure plenty of traffic, as well as other activities for our customers to do after they have their minds blown by our donuts.

The Data

I will be using the Foursquare API to identify all donut shops in the city of Minneapolis. These will be indicated with red dots on the map. I will map all coffee shops and mark them with orange dots. All grocery stores with full bakeries will be denoted in yellow. Next, I will determine which neighborhoods are the optimal/maximal distance from the three types of businesses listed above (each type will be weighted as follows: donut shop: 1, coffee shop: .66, grocery w/bakery: .5). The weighted scores will be multiplied by the distance, and areas with the lowest total score will indicate which neighborhoods to consider. Once I have that list of neighborhoods, I will analyze those specific neighborhoods, dividing out all residential and industrial space, leaving only commercial space. If needed I will utilize city of Minneapolis open source data to help with this determination. Then I will use the Foursquare API to find businesses that might complement a donut shop (list still being determined, but will be included in the final report), and attempt to place the neighborhood in an area where the mean customer scores are highest, indicating a more satisfying experience/location. The final work product will be a map of Minneapolis, linked to the Foursquare API denoting all competitors, and I will use all the data discussed above to place the coveted blue dot where D’s Nuts will open its newest location(s). All the findings will be returned in a formatted report with visuals, and I will also write the computer program used for analysis in a Jupyter Notebook and share it on my Github page with my colleagues.