**Introduction/Business Problem**

An investor would like to open a Charter school in the city of Baltimore, Maryland since it is currently a favorable market, public schools are severely over-crowded and under-funded, and schools set up in similar cities have been quite successful. They would like us to populate a list of at least 5 potential locations. The new school must meet the following criteria:

1. Be within 1 mile of public transportation
2. Be at least 5 miles away from any prison/jail
3. Be close to successful business such as restaurants or retail locations
4. Be at least 5 miles away from any establishment classified as a “bar”
5. A location with a low crime rate.

The main objective is to identify 10 potential locations that meet the above criteria and provide the client with the Top 3. Baltimore City is a very diverse location with a plethora of “good attributes” but it also has quite a few issues such as concentrations of high crime, blocks of abandoned houses/businesses, and significant economic disparity.

Ideally a charter school would be located in a neighborhood where its residents could afford to send their children there but there should to still be access for lower income families hence the need for proximity to public transportation. No school should be a block away from a prison it sends the wrong message and could be a potential danger. Business’s labeled as “Bars” should be a good distance away because areas with a significant “night life” could be a potential security issue as well as a cleanliness issue. Finding a location with a lower crime rate is always ideal for the safety of students commuting to and from school. Areas that have a lot of successful business’ tend to be more populated, diverse, and ideal communities so this is a good marker for a school location. It also helps generate an interest for potential staff who might work at the school.

**Data**

The Foursquare location data will be used to identify areas of successful business, based on frequency of visits and reviews, as well as locations of any “Bar” that might be too close for a school location.

Crime statistics data from <https://data.baltimorecity.gov/Public-Safety/BPD-Part-1-Victim-Based-Crime-Data/wsfq-mvij> will be used to determine ideal locations with lower crime rates, the geo location of any prisons, jails or correctional facilities will be taken into account and a 5 mile radius surrounding them will be considered off limits. A choropleth map will be used to highlight neigbborhoods with lower crime data. A JSON file from Maryland Transportation authority from the following URL <https://data.baltimorecity.gov/api/views/hzrz-cfzs/rows.json?accessType=DOWNLOAD> will be used to determine public transportation location, it also has the location of any major buildings in Baltimore City including prisons/jails. The Foursquare information on business will be super imposed on this map.

Figure 1: Map of Baltimore City with Notable Landmarks and Public Transportation

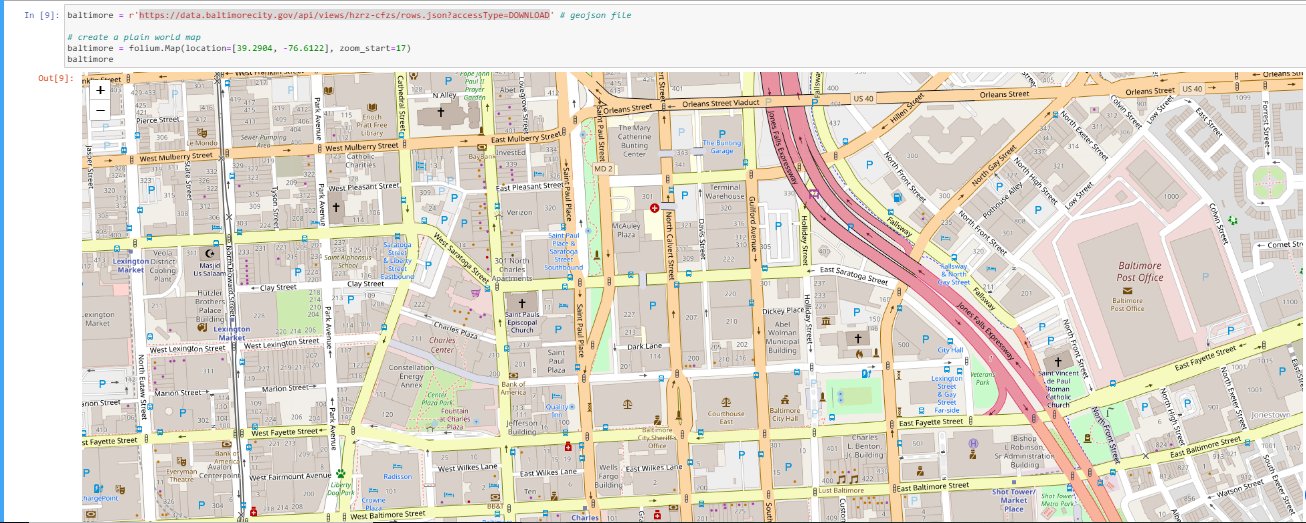


Table 1: Pandas Dataframe of Baltimore City Crime Data by Neighborhood

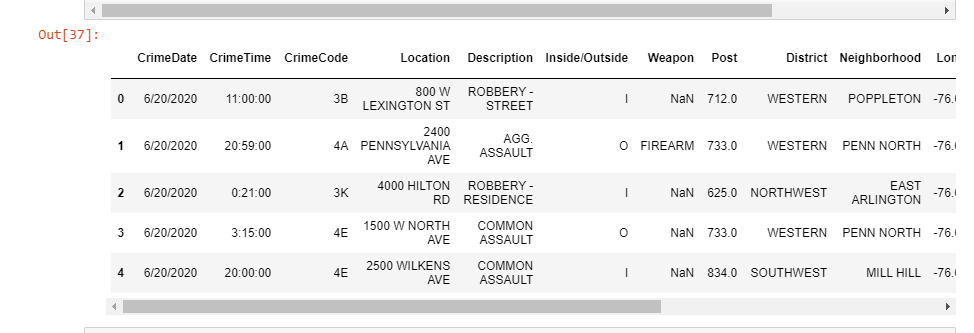


Table 2: Venue Dataframe Generated using Foursquare API



Jupyter Notebook for Data Compiling and analysis

<https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/05d505bb-03da-40fa-a7d4-9c0c66d9da7d/view?access_token=a5a4aa7af1672ca1c8e5895f00d42cf2ca1b53e6e799db2ad7f8fc0f90ab99f0>