# IBM Capstone Project

Comparison of 2 St Louis Apartment Complexes
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**INTRODUCTION:** a comparison of two different apartment complexes in St Louis.

**PROBLEM:** Which complex to invest in based on location to desirable venues.

#1) Food

#2) Entertainment

# DATA USED:

**Data sources**  Foursquare

**Data cleaning** Two apartment complexes were chosen which are located in different areas of the city.

The table's columns were cleaned to better allow for sorting and ability to be understood. For example, the prefix of "location" was removed from the column "location.lat" and "location.lng".

# METHODOLOGY

Using Foursquare, I searched the entire St Louis area and found the two apartments that I would be analyzing.

I noticed that Cityview Apartment Complex was closer to the St Louis Marker. This indicates that it is closer to the **heart of the city and downtown**.

Grandview Tower Apartments however were **much farther from downtown but close to St Louis University**
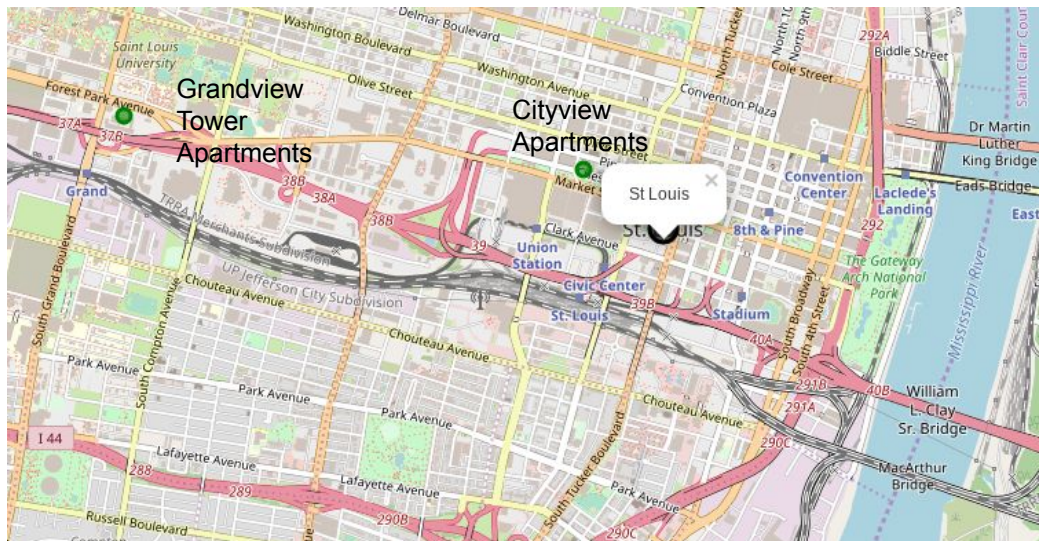
# Cityview Apartments

- Created a dataframe with my resulting data and examined it for ways to sort.
- "Hotel", "train station" and "post office" did not seem relevant- eliminated those and reset the index.
- Others needed to be grouped into smaller bins in order to be comparable- there were many different venues that could be labeled as "food" such as "Whisky Bar" and "Coffee Shop".
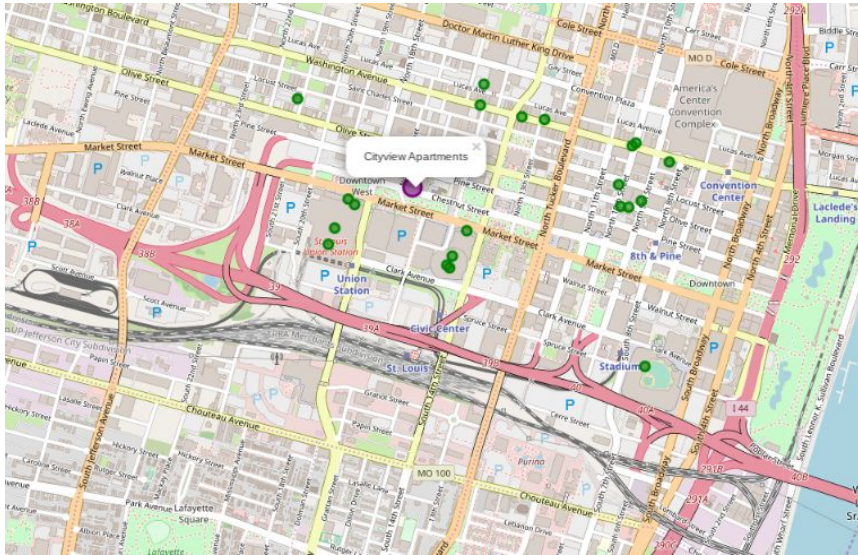
# Cityview Apartments- cont-

- Several of the category descriptors could fall under an "entertainment" category- ex: sports attractions and parks.
- Different from music/arts which I determined after looking at the second apartment complex; it has several places which could be classified as music or art venues.
- Because I knew I would be comparing the two, I wanted to make sure to keep the grouped categories as similar as possible.

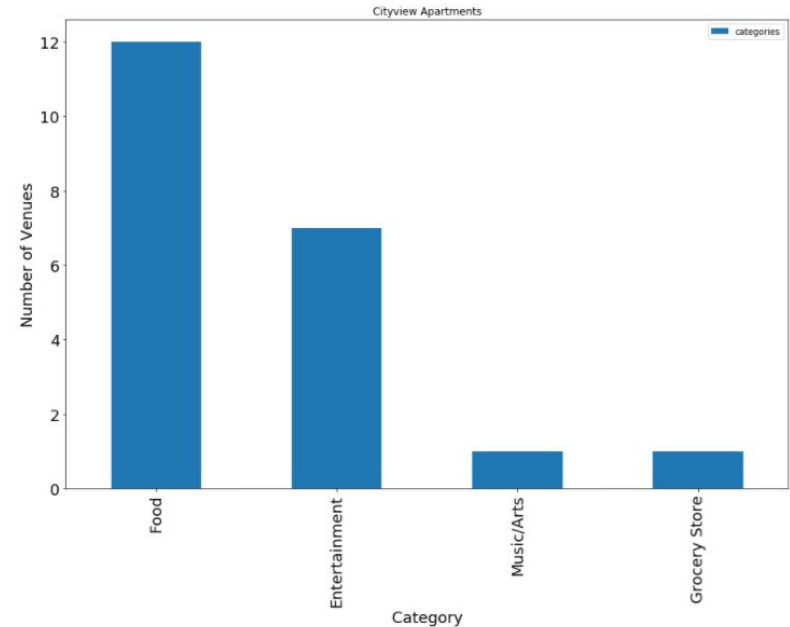Dataframe for Cityveiw Apartment results.

|  | categories |
|---|---|
| Food | 13 |
| Entertainment | 6 |
| Music/Arts | 1 |
| Grocery Store | 1 |

# Cityview Apartments- cont-

Map using Folium to show the locations of all the venues to the apartment complex.

Bar graph of how many in each category

# RESULTS- Cityview Apartments

It is clear that Cityview Apartments have many options for food which is desirable to the client, but not much else.  It does have quite a few general entertainment items however.

# Grandview Tower Apartments (gvt)

- "categories" column had a wide variety of terms.
- One hotel which was eliminated but not as many other outlier venues.
- Grouped the food venues into a category of just "food".
- Close to St Louis University so many of its closest venues were part of the college.
  - Decided to sort these into their own category of "college".  I did a search for all entries which contained the string "college", made a new database with those entries, deleted them off the original database and then concatenated the college database with the original.
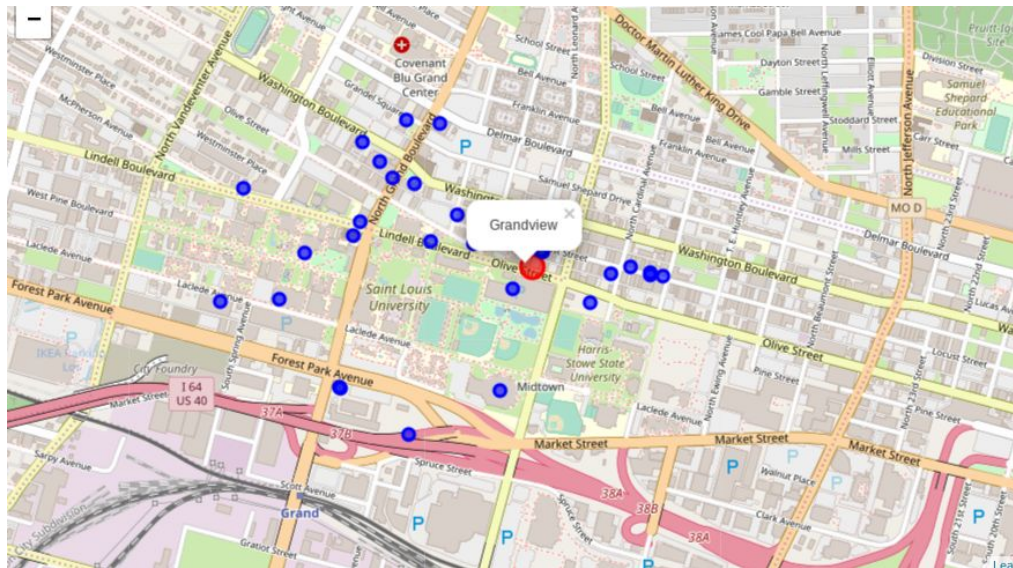
# Grandview Tower Apartments- cont

- There was a significant number of entertainment options that were specifically music or art related.  These were titled as "Theater", "Concert Hall", "Jazz Club", "Rock Club", and "Performing Arts Venue".  I grouped these together as music/art.

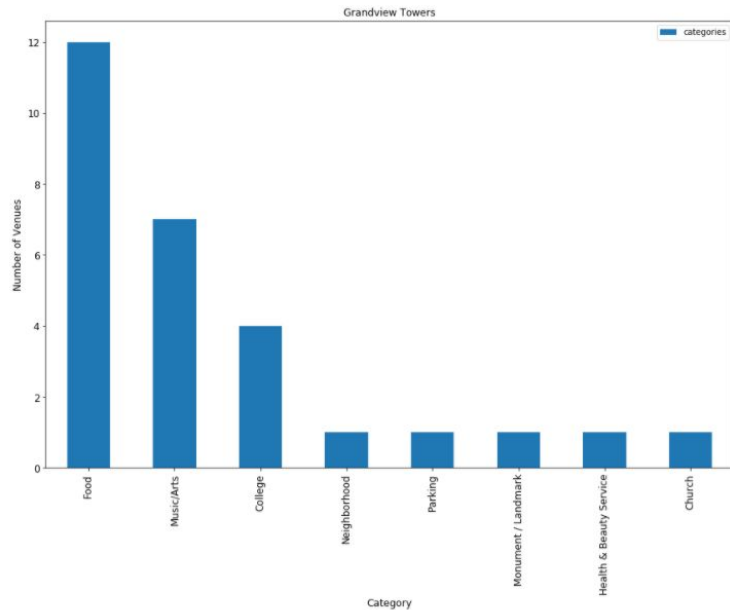Dataframe for Cityveiw Apartment results.

| | categories |
|---|---|
| Food | 12 |
| Music/Arts | 7 |
| College | 4 |
| Neighborhood | 1 |
| Parking | 1 |
| Monument / Landmark | 1 |
| Health & Beauty Service | 1 |
| Church | 1 |

# Grandview Tower Apartments- cont

Map using Folium to show the locations of all the venues to the apartment complex.

Bar graph of how many in each category

# RESULTS- Grandview Tower Apartment

- Grandview Tower Apartment had a very different range of venues to choose from as compared to Cityview.
- Because of its proximity to the university (a one block walk according to the [website](#)), there are many school related venues and there are also more artistic venues such as clubs and theaters.

# DISCUSSION

- The two apartment complexes were very different based on their close venues.
- They both had similar amounts of food venues (cv=13 and gvt=12)
- CV had more sports related entertainment and parks listed, but GVT had more arts/music/theater venues and is closer to a major college campus
- It is my recommendation that the client consider investing in the Grandview Tower Apartment complex. I feel that this complex has more to offer based on the desired traits originally stated by the client.

# CONCLUSION

- In conclusion, there are many factors that go into choosing an apartment location.  Limiting the factors to entertainment and food choices doesn't necessarily tell the whole story.  It is my recommendation that a further study be done with more input upfront about what is most desirable.  Perhaps assigning points values to the different venue categories and trying to calculate in a more detailed way.