

Wake County Migrations

WHICH
NEIGHBORHOODS ARE
BEST FOR FAMILIES
WITH CHILDREN WHO
ARE MIGRATING TO
WAKE COUNTY?



Identifying good neighborhoods based on the venues and adding additional weight with Schools information to help families migrating to Wake County to choose better.



In general, Public Schools play a major role in determining the real estate value of a location.



Identifying good neighborhoods based on different aspects of those neighborhoods helps people choose better based on their preferences.



When migrating to a completely new place with a family, it is very helpful to identify the different neighborhoods and their characteristics.



Investors, City planners and Real estate brokers will be very interested in this data.

Data acquisition and cleaning

Data for this project consists of Zoning data and Public schools' information from the county's [Wake County Open Data Portal](#).

2018 Population data for the neighborhoods was gathered by web scraping a [news website](#).

Location data for the neighborhoods was acquired by using “geolocator.geocode” from the python geopy library

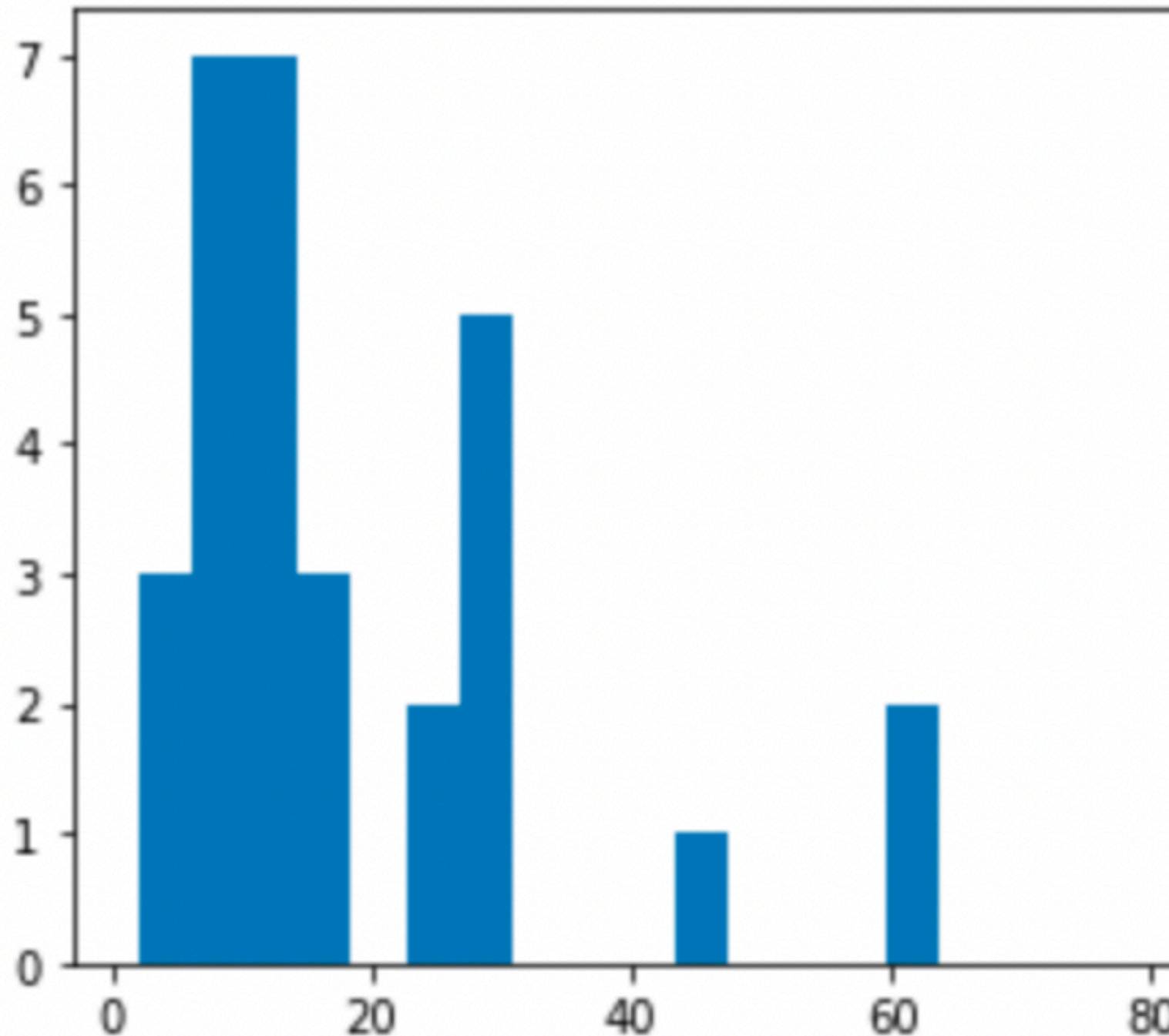
Venue data for the neighborhoods from Foursquare api calls.

Transform data to pivot the venue data and create mean of occurrence for each venue type. Then pick the top 10 venues based on the mean.

The final table has 7 features and 772 samples.

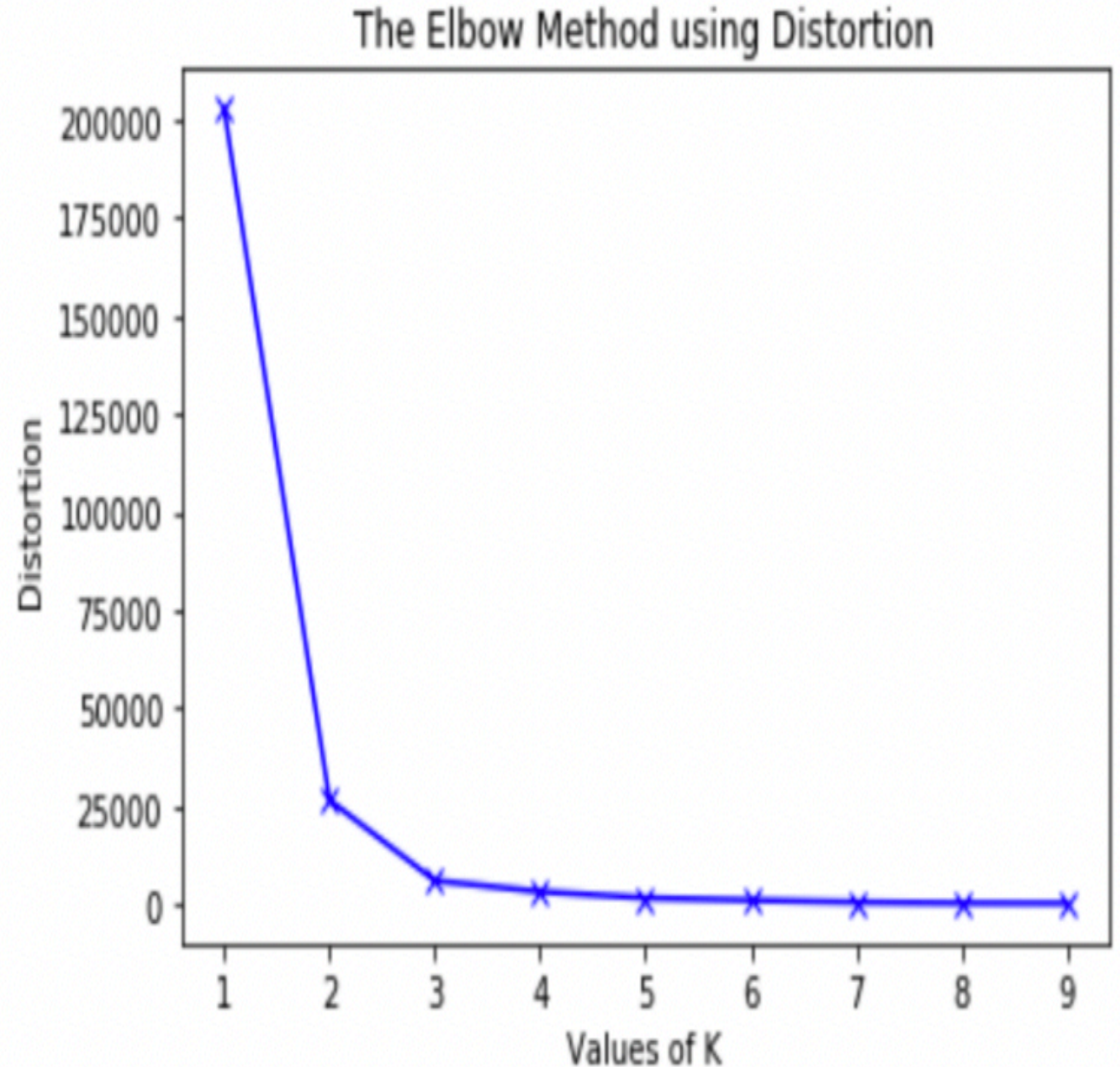
Dealing with sparse data

We can get rid of the neighborhoods that have sparse data, i.e. neighborhoods with less than 4 venues. Luckily, we only have one neighborhood with sparse data that was excluded.



K-Means clustering- partitioning observations

I USED THE K-MEANS
ELBOW METHOD TO
DETERMINE 3 AS THE
OPTIMAL NUMBER OF
CLUSTERS



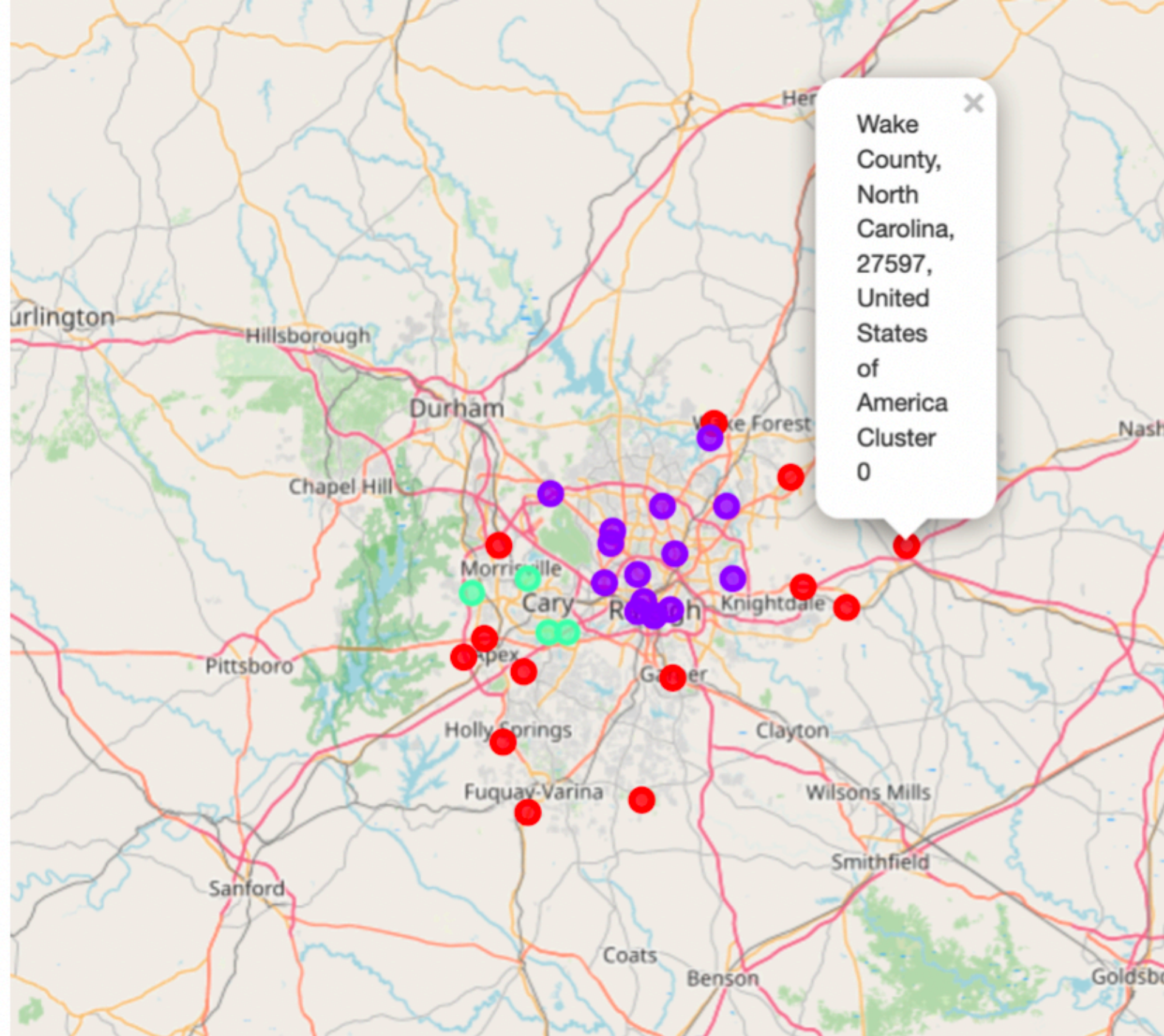
More population density and real estate is expected to be located at the center of the county.

Legend

Cluster 0:Red

Cluster 1: Violet

Cluster 2:Green



Cluster 0: Suburban life.

Great for families with kids of any age and low budget

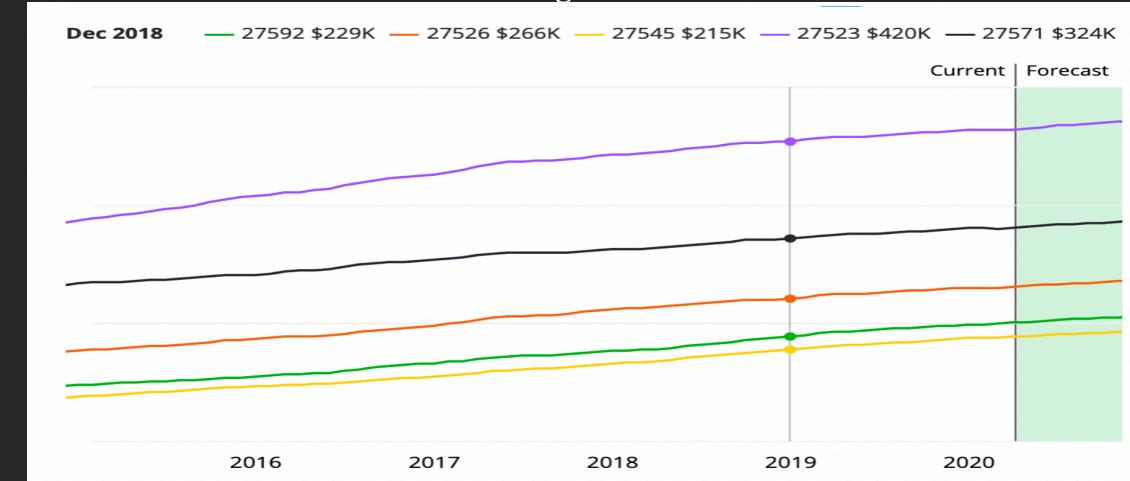
Schools Availability: High

Real Estate Price range Estimate: Low. **Food and**

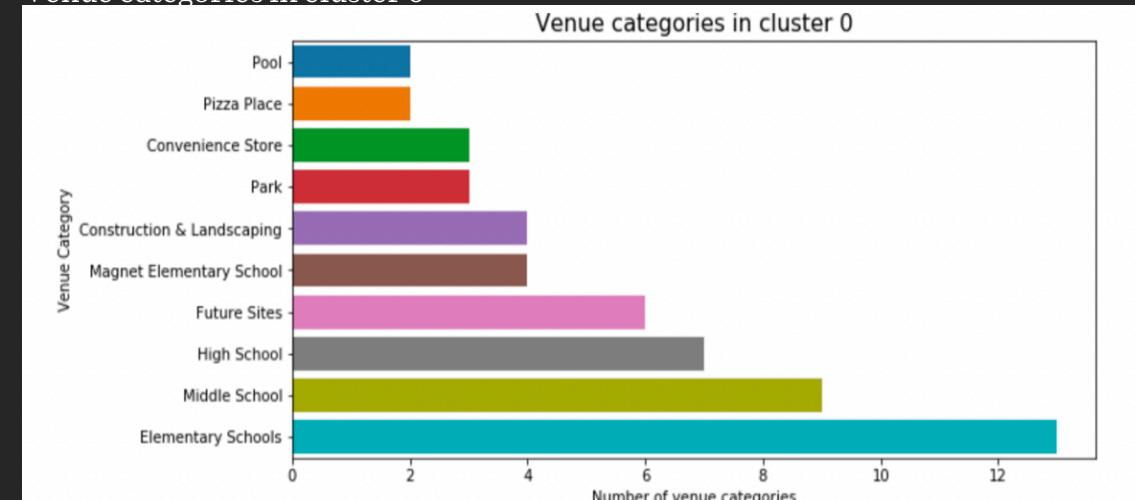
Entertainment index: Medium

Investment Return potential: High

Real estate trend from Zillow for neighborhoods in cluster 0



Venue categories in cluster 0



In Cluster 0, there are good number of schools in these areas. There aren't many restaurants in this area. There are Future sites, zoned for future use by the county. This tells that these areas are yet to reach their full potential.

My analysis is that, these zip codes are located away from busy areas like downtown, and the real estate price is typically at or below average when compared to the county average. As you can find in the chart gathered from Zillow about the average price of real estate for some of the zip codes in this cluster. You can see that the average price of this cluster is at or below the Wake County average real estate price as predicted.

Cluster 1:

Great for out going families , high achieving children and families with children who have special needs.

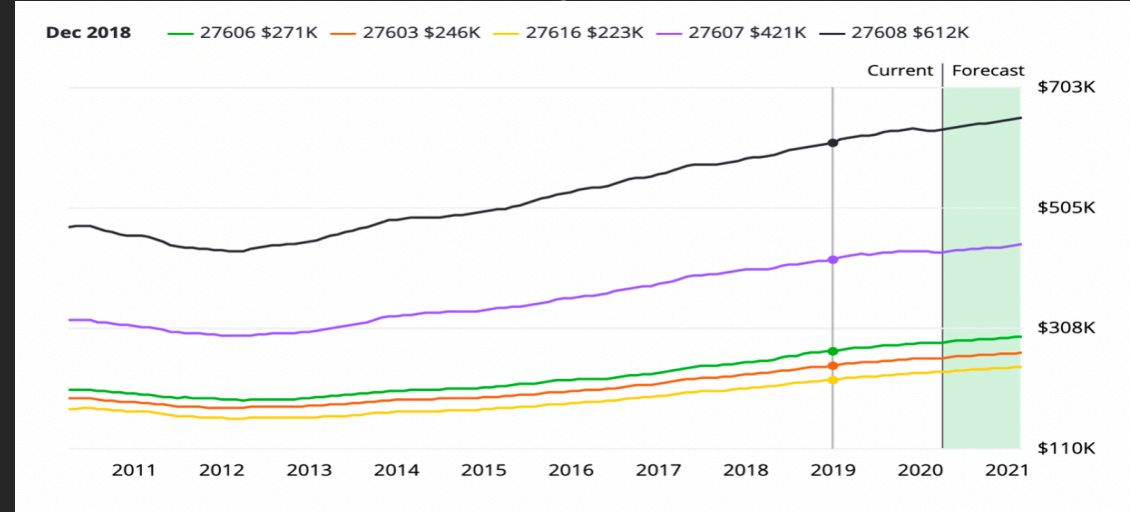
Schools Availability: High

Real Estate Price range Estimate: High.

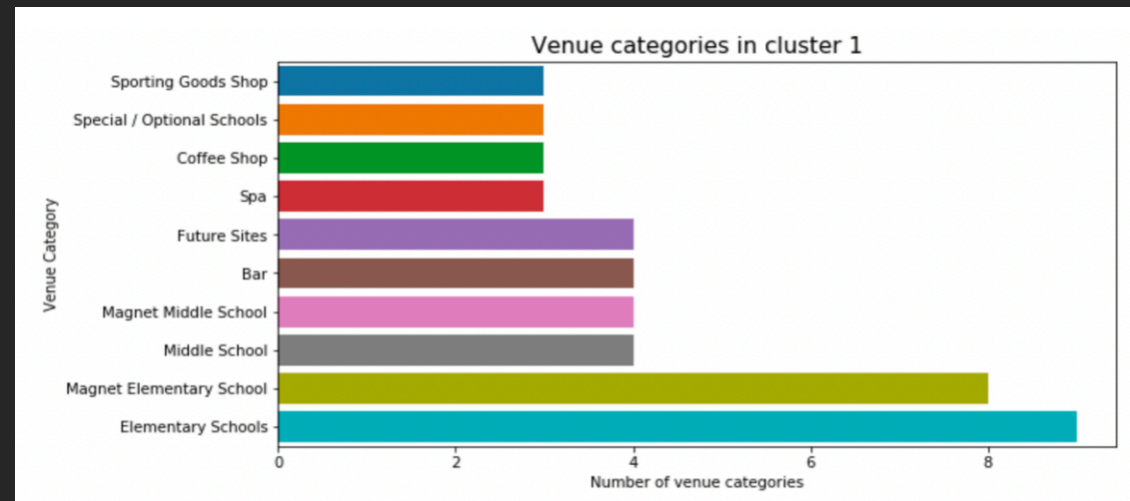
Food and Entertainment index: Medium.

Investment Return potential: High

Real estate trend from Zillow for neighborhoods in cluster 1



Venue categories in cluster 1



In cluster 1 there are very high number of schools in this area. There are good number of restaurants and entertainment places in this area. There are Future sites, zoned for future use by the county. This tells that the area is still yet to reach its full potential but is growing fast. My analysis is that, these zip codes are closer to busy areas like downtown, and the real estate price expected to be above average when compared to the county average.

As you can see in the Zillow chart, the average price is above the Wake County's average price for this cluster as predicted

Cluster 2:

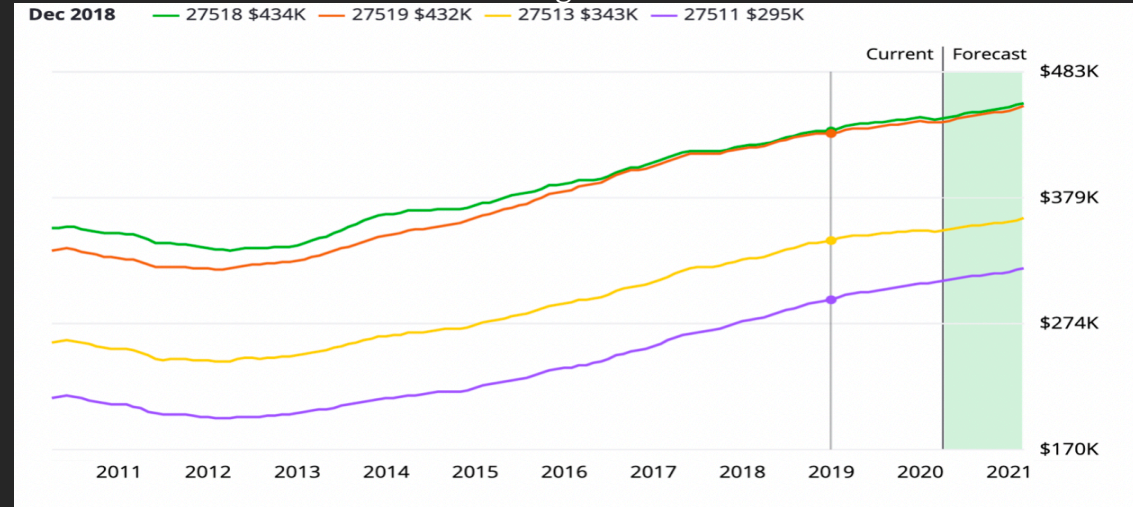
Downtown areas . For fun loving parents, for whom real estate cost is not a barrier.

Schools Availability: Medium

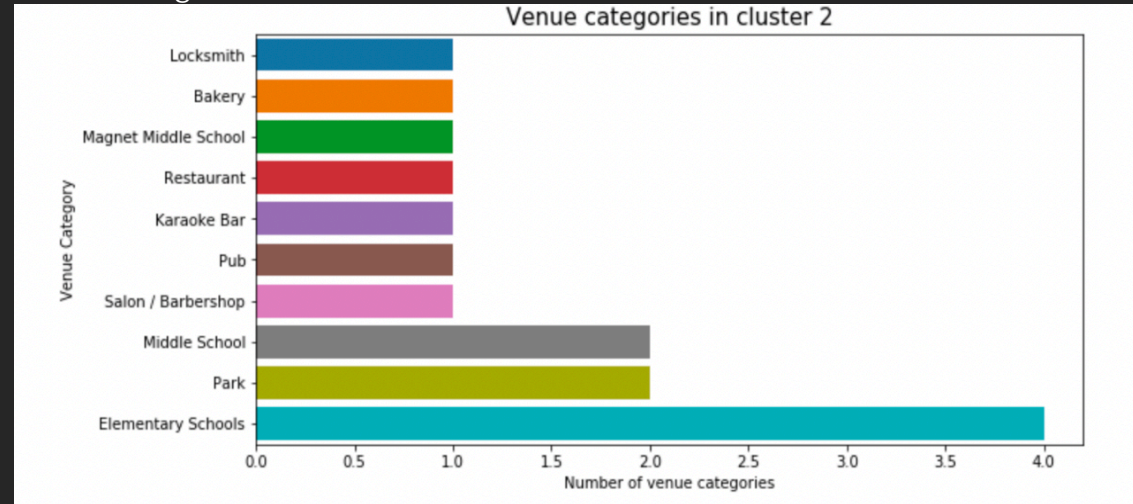
Real Estate Price range Estimate: High. **Food and Entertainment index:** High.

Investment Return potential: High.

Real estate trend from Zillow for neighborhoods in cluster 2



Venue categories in cluster 2



There are not many schools in this cluster compared to others. The number of restaurants and entertainment places in this area are high compared to others. There are no Future sites, zoned for future use by the county. This tells that the area is most likely well established and there is very little space for future development.

My analysis is that, these zip codes are in the downtown areas, and the real estate price expected to be high when compared to the county average.

As you can see in the Zillow chart, the average price is above the Wake County's average price for this cluster as predicted.

Conclusion

The purpose of this project was to help families with children migrating to Wake County to identify a good neighborhood to settle down . The analysis gives a good direction for the intended audience by giving a peep in to the different neighborhoods and how they are similar. This can be definitely improved on with additional data. Working with limited data was a challenge. Including more dimensions like Crime data, Real estate data , Hospitals, universities, School ratings, drug problems and hotspots would have made the analyses comprehensive.