Identifying potential locations in Gainesville, FL for a new bakery

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Introduction

Gainesville, FL is Florida's 15th largest city with 134,945 people within the city and 295,266 in the overall area, and it has grown 8% between 2010 and 2020. As it continues to grow, I know there will be opportunities for new restaurants, including new bakeries.

To identify the best potential areas for our new bakery, I will analyze the different parts of the city to determine what areas would have the least competition for the bakery. However, Gainesville's challenge is that the population is spread out into several dense areas and many less dense regions.

As such, I want to identify areas that have low competition for a bakery but also have enough people in the area to support a new establishment.

Data

Based on our problem, I will look at:

1. All the restaurants in the area
2. All the bakeries in the area
3. The types of businesses in the area
4. Median house values in the area

I divided Gainesville up into equal areas to define our neighborhoods.

Venue Data

For each potential location, I used the FourSquare API to generate the lists of businesses within the area, any bakeries in the area, and all restaurants in the area.

Median House Values

For each potential location, I determined the median home value in the area. To do this, I used data from Zillow Research. I first got the home values by city to get the overall median value for the city.

Next, I got the home values per neighborhood from Zillow Research to use within the locations.

Methodology

To get started, I needed to create the potential locations that would be considered in the analysis. To do this, I retrieve the latitude and longitude for the corners of Gainesville. I then defined rows and columns which were used to calculate the distance needed between each potential location. Finally, I used the distance to cycle over all of Gainesville to generate centers for each potential location.

This gave me 176 potential locations within Gainesville.
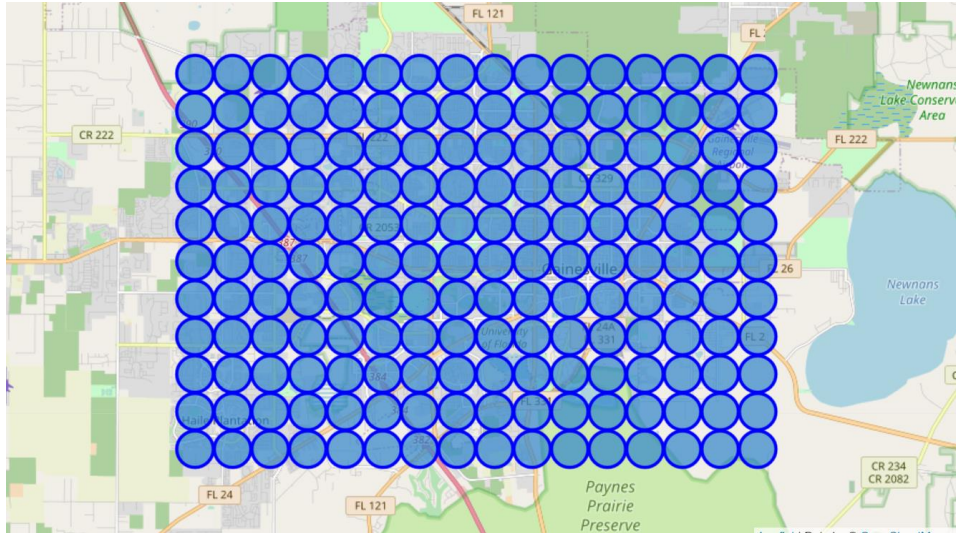
Next, I loaded in the neighborhood data from Zillow Research. I then cycled over the neighborhoods and used Google Maps to determine the latitude and longitude of the neighborhoods. With the coordinates, I then cycled over the potential locations and determined the neighborhoods each location would fall in. If no neighborhood was nearby, I used the city-wide median home value instead.

Then, I retrieved all data from FourSquare for the businesses within each potential location as well as the restaurants in the area. I removed any potential location that did not have any businesses in the area, as that would indicate the area wasn't dense enough to support a new bakery.

Once the data was gathered, I used the local business data to cluster the potential locations using K-means clustering.
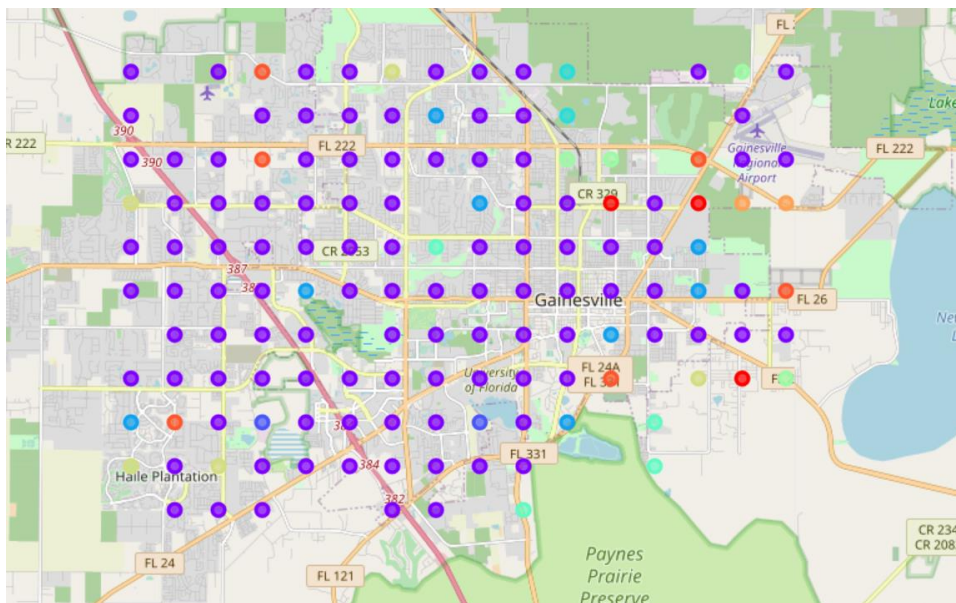
From here, I located the cluster with the most bakeries in it to determine the type of area that would support bakeries.

Using the ideal cluster for a bakery, I then identified ideal locations that do not have a bakery that do have at least one restaurant. Since Gainesville is spread out, I used having at least one restaurant to indicate that the area would support food businesses.

This gave me about 50 potential locations, which is too many to have to investigate. After a bit of exploratory analysis and research on neighborhood factors that help support bakeries, I found that a good solution to explore would be narrowing down based on median home values in the area.

With the potential locations found that did not have a bakery but had at least one restaurant, I then narrowed down the results by locating just the locations that had median home values above the Gainesville median home values. Since bakeries tend to be frequented from consumers with disposable income, this was a good indicator that the area would be better suited for a new bakery.

Results

From the 176 potential locations considered, I was able to narrow down the list to 16 locations using the methodology discussed.
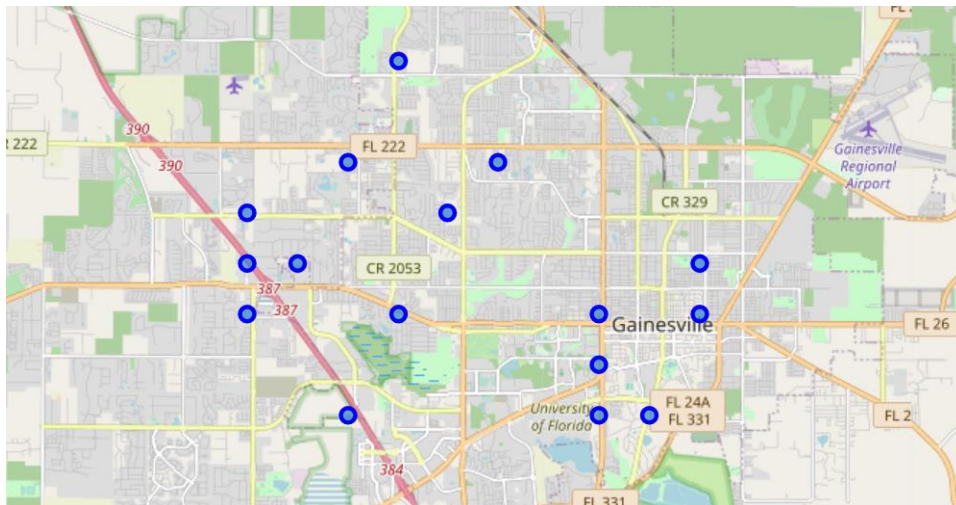
Using Google Maps reverse geocoding, I turned these 16 locations into a list of potential addresses to areas that can be explored more thoroughly:

- 5651 NW 43rd St, Gainesville, FL 32653, USA
- 3506 NW 53rd Terrace, Gainesville, FL 32606, USA
- 3525 NW 28th Terrace, Gainesville, FL 32605, USA
- 2393 NW 77th Blvd, Gainesville, FL 32606, USA
- 2416 NW 35th Terrace, Gainesville, FL 32605, USA
- 1240 NW 76th Blvd, Gainesville, FL 32606, USA
- 1173 NW 64th Terrace, Gainesville, FL 32605, USA
- 1334 NE 8th St, Gainesville, FL 32601, USA
- 7540 W University Ave, Gainesville, FL 32607, USA
- 4343 W Newberry Rd, Gainesville, FL 32607, USA
- 325 NW 14th St, Gainesville, FL 32603, USA
- 804 NE 3rd Ave, Gainesville, FL 32601, USA

- 1322 Diamond Rd, Gainesville, FL 32601, USA
- 1179-1233 NW 76th Blvd Gainesville, FL 32606, USA
- 2000 SW 13th St, Gainesville, FL 32608, USA
- 1905 FL-329, Gainesville, FL 32601, USA

Discussion

Interestingly, many of the potential locations I found are located near the mall & hospital area or the University of Florida area. I was surprised that there were several ideal locations within walking distance of the university which contains thousands of students who do spend their disposable income on items similar to bakery quality.

The caveat to using home values is that certain areas, such as near the university campus, are rental properties at higher rates than normal which is something to consider.

So, based on these results, I recommend doing a more thorough analysis on the four locations on the northern side of Gainesville first.

Conclusion

While there are many ways one could start to look through Gainesville to find potential locations for a new bakery, I feel my approach to narrow the areas down to 16 good candidates will help save time and money by helping one start with a more focused set of areas to research.