

CHICK-FIL-A IN CENTRAL VIRGINIA

Coursera Capstone

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Business Problem

The objective of this Capstone project is to analyze and select the best location in central Virginia to open a new Chick-fil-A establishment. Using Data Science methodology including data analysis and data visualization, this project aims to provide a solution to answer the business question, “Where in central Virginia is the best location suited to a new Chick-fil-A venture.”

Data Required

Categories:

- List of population by zip code for Virginia
- Venue data, particularly data related to Chick-fil-A's in Virginia

Sources of data:

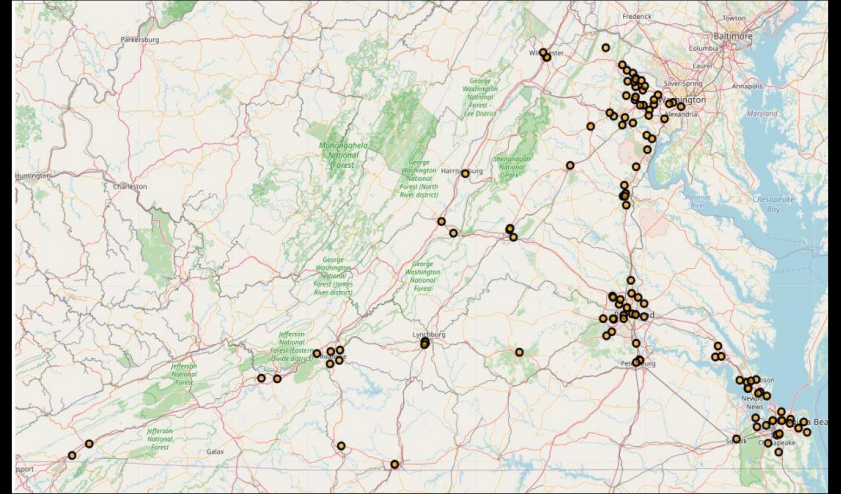
- Foursquare
- Virginia population estimates: <https://cbb.census.gov/>
- Virginia demographics by zip code: https://www.virginia-demographics.com/zip_codes_by_population

Methodology

- Collect the data from https://www.virginia-demographics.com/zip_codes_by_population. Clean and process data into a dataframe.
- Using Foursquare, locate all Chick-fil-A venues within Virginia. Clean and process into a data frame.
- Create data visualizations with Folium.
- Process data to determine number of Chick-fil-A's per capita by zip code.
- Apply machine-learning techniques and inferential statistical testing to determine best zip codes to build new franchise locations.

Results

- Only 41 out 133 of Virginia's counties have Chick-fil-A venues which includes 126 total locations.
- The majority of those counties only contain one Chick-fil-A venue.
- Number of Chick-fil-A venue locations did not relate to population per zip code though higher populated zip code areas were more likely to have at least one Chick-fil-A venue.



Discussion

- Based on our analysis, the areas southwest or southeast of Charlottesville or south of Palmyra are the three best locations within central Virginia for new Chick-fil-A venues.
- South of Charlottesville maintains the largest populated area in central Virginia without a current Chick-fil-A venue.
- Though outside of the geographical scope of this project, Alexandria County is the best area for a new Chick-fil-A location within Virginia state.

Conclusion

- Answer to business question: Where in central Virginia is the best location suited to a new Chick-fil-A venture.
- Zip Codes 22903, 22902, and 22963 are the top 3 best zip codes areas to build Chick-fil-As based on current locations versus population.
- The findings of this project may be used in real life to better understand the advantages and disadvantages of different zip code areas within Virginia in terms of opening a new Chick-fil-A venue location.