

Comparison of Chapel Hill, Charlotte and Nashville

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Goals

- Find the similarity between Chapel Hill, NC, Charlotte, NC and Nashville, TN.
- Potentially useful to consider neighborhoods when making a move

Value

- Show if a city or neighborhood you are considering moving to is similar to one in which you lived previously
- Gives alternate options if you are unhappy with where you live now

Data Acquisition and Cleaning

- City name, zip code, state and county scraped from

http://www.ciclt.net/sn/clt/capitolimpact/gw_ziplist.aspx?ClientCode=capitolimpact

- Longitude and latitude found from geocode
- Venues taken from the Foursquare API
- Removed duplicate latitude, longitude pairs and created frequency of each venue for the remaining pairs

Initial Analysis

- 210 unique venue types across 36 zip codes
- Charlotte leads with 219 total venues
- Suburbs of the major cities range from 58 - 1 venue within the radius of location

Modeling/Results

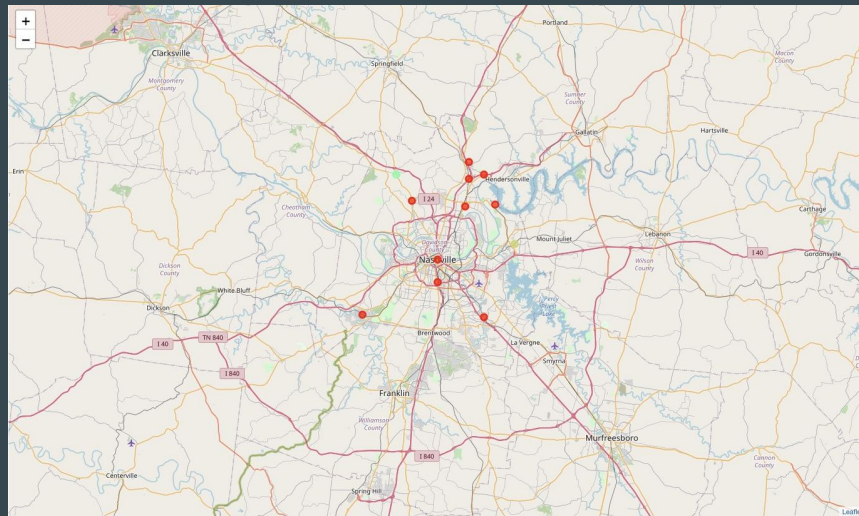
- KMeans clustering chosen for the unsupervised nature of this problem
- 7 centroids chosen to accentuate differences
- Key factors are the amount of food and dining options versus more ‘functional’ venues (doctor’s office, atm, automotive shops)

Modeling/Results - Davidson County (Nashville)

All Davidson County zip codes are red

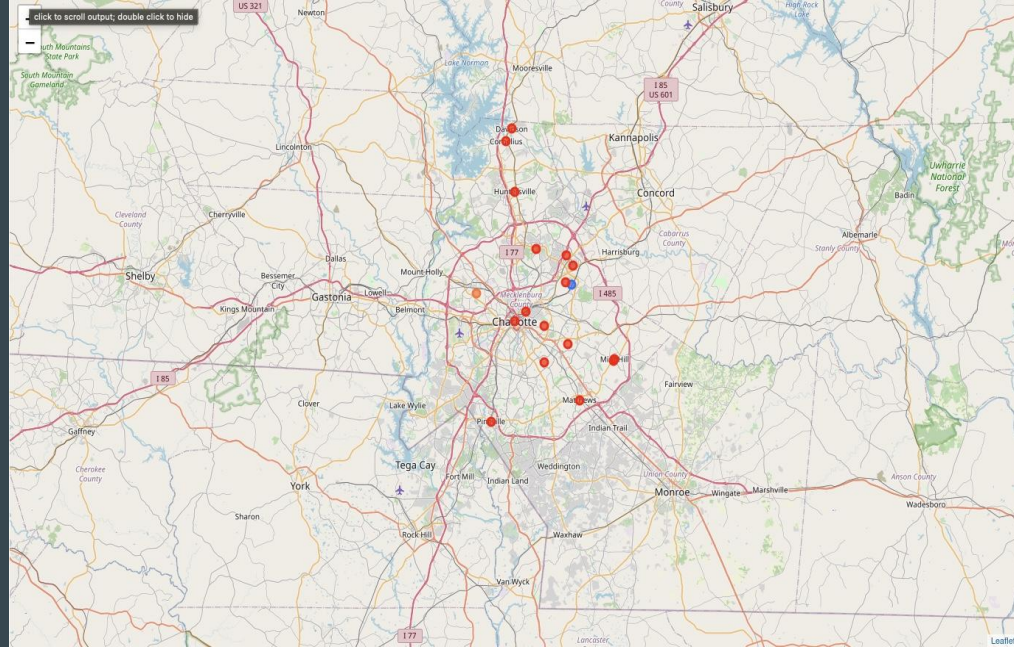
with the exception of one (Joelton) who

did not have a large food and tourism scene.



Modeling/Results - Mecklenburg County (Charlotte)

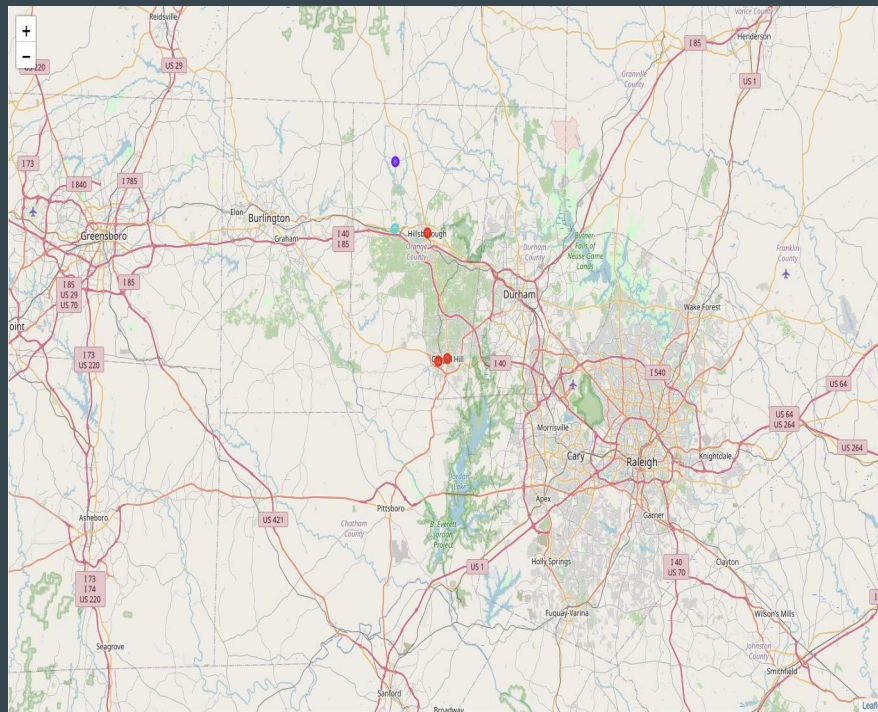
Mecklenburg County offers more of a difference between the neighborhoods. Several of the northern zip codes are mostly small rural towns without large food and business centers.



Modeling/Results - Orange County (Charlotte)

Orange County was the smallest of the counties that we chose, but it also offers the highest percentage of different groups.

Northern zip codes offer more of a rural lifestyle which offers more functional venues instead of restaurants.



Conclusion and Future Direction

- Charlotte, Chapel Hill and Nashville are all similar in the venues available
- Add weather, crime, housing pricing data and walkability score for more factors
- Remove small suburbs and focus on individual neighborhoods in the major cities
- Create a recommendation system based approach to showing similarity between cities/neighborhoods