

# Nashville, TN *the* Music City?

## Introduction/Business Problem

Question: What city can really claim to be the Music City?

Audience: Tourist Publications, Social Media, General Reputation

Nashville, Tennessee has the claim of fame of being Music City USA. In the past few years Nashville has seen rapid expansion in many other industries. Many people compare Nashville, TN to Austin, TX. Both cities are upcoming large southern metropolis, who also both claim their large music scenes. I want to use the data science methodology to try to prove its claim to fame on the world stage. If Nashville is able to say it is the definitive Music City of the United States, it will increase its reputation on the map even further bringing more tourist, more business, and more people to the city I call home.

## Data Sources

I will leverage the Foursquare location data to find the number of music venues in each zipcode of the city, and then compare the amount of music venues, diversity of music played there, and overall ranking of the venues to the world's other city well known city for music, a classic Nashville rival: Austin, Texas.

Foursquare Location Data:

Venue Type- Live Music- Will give me the respective totals of places to go see live music for each. Venue Rating- I will take the average rating of each location and compare the two cities music venues average rating.

It gives further depth into the quality of the music venues. Venue Location- Will allow me to group the neighborhoods to where the music venues locations are. The distance between each music venue could give insights into the distribution of the designed environment.

Nashville, TN: Zip Code Information Neighborhood Information.

Austin, TX; Zip Code Information Neighborhood Information

## Methodology

I decided to import easy CSV data from a few websites using Beautiful Soup to create the csv's. That is what gave me the zip code and neighborhood information for Austin and Nashville.

Geocoder allowed me to get more precise and put the latitude and longitude of each zip-code for Austin and Nashville. I then used Folium to make sure that I had put the zip-codes in the right latitude and longitude.

I then used the Foursquare API to get a specific data frame of all of the venues around the latitude and longitude of Austin and Nashville for places that were categorized as "Music Venues." I decided to keep that search very clear, so that I would not have to sort through a lot more data, and to only include places Foursquare would consider an actual music venue. I cleaned up the API results for both cities and merged those results to the zip code and neighborhood data-frame.

Once I had both cities mapped out with where the music venues were and what neighborhoods they were in I used K nearest neighbor to identify any classifications of data sets within my data. For Austin and Nashville I grouped by each Neighborhood and then Zip code- once I had them grouped I put the one-hot variables next to each venue to assign a clustering value.

## Results

The Foursquare API search for music venues returned 24 music venues for Nashville, and 13 for Austin.

The KNN showed the distribution of the music venues throughout the neighborhoods of each city was relatively the same, both cities only had one neighborhood that stood out from the rest for its number of music venues.

## Conclusion

Overall the diversity of music venues in each neighborhood for Austin and Nashville are the same. They both had one neighborhood that ended up having more places one can go to see live music than the others.

The total number of music venues Nashville is 24, while Austin's is 13. The Venue Category of "Music Venue," may not capture everywhere live music is played, but for the purpose of this exploration it will suffice to say that Nashville has more pure "Music Venues."

More analysis needs to be done against the overall experience at the music venues, types of music played there, and other overlooked values this experiment did not capture. I would say this could be used as an introductory look into the distribution of where music venues are distributed throughout each city, and there is a lot more data out there to be explored on the topic.

With my totally biased opinion- I have to say Nashville remains "Music City," USA.