



# LOCATIONS FOR BBQ IN AUSTIN TX

The Battle of Neighborhoods

# LOCATION IS CRITICAL SUCCESS

- Opening a restaurant is a high risk venture. Around 60% of new restaurants fail in their first year and 80% fail by their fifth anniversary.
- Choosing the right location for is critical to the ultimate success of the venture.
- The new owners need to find a list of locations for consideration for their new Barbecue (BBQ) restaurant.
  - Need locations that are not already overcrowded with restaurants.
  - Need locations with no existing Barbecue (BBQ) in the vicinity
  - Prefer locations near the city center
- Investment partners and lending institutions are also interested in this information as part of their risk analysis.

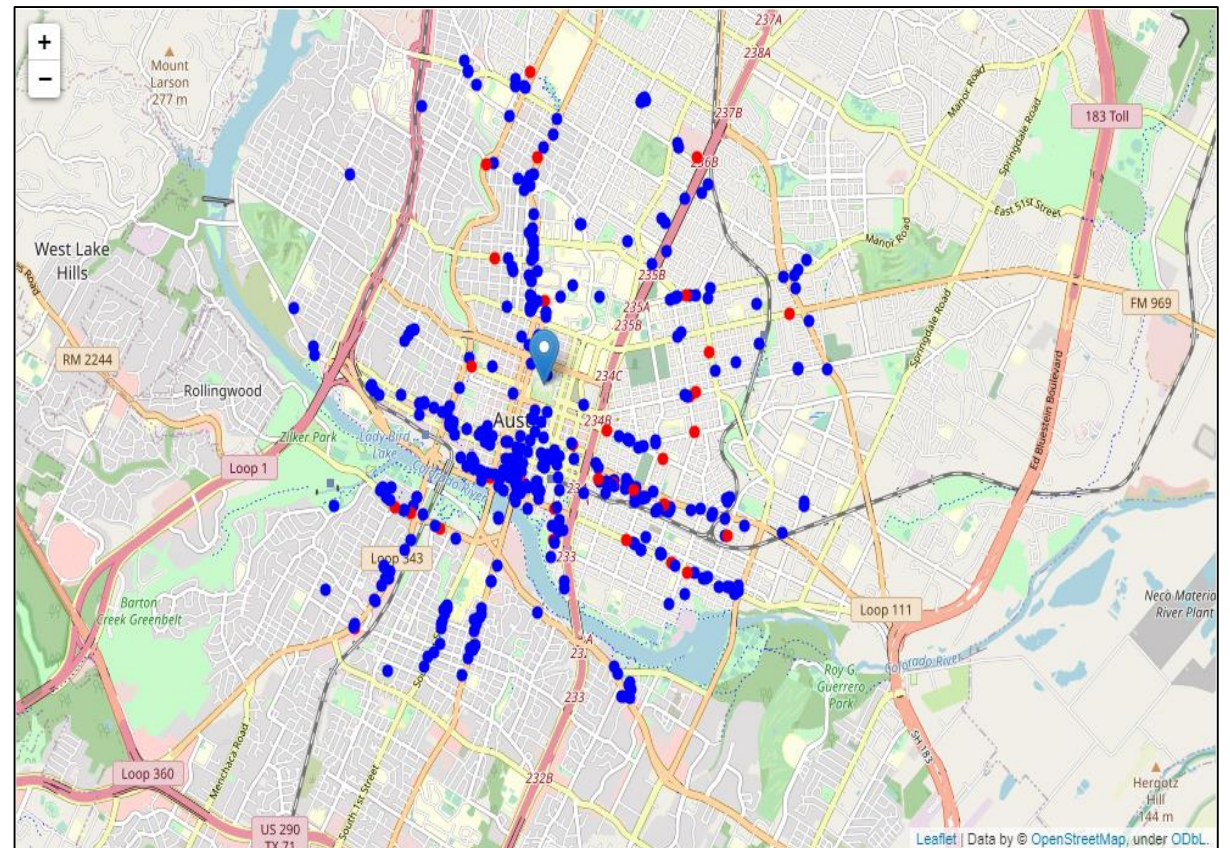
# DATA CONSIDERATIONS & SOURCES

- Based on the problem definition, the factors to consider are as follows:
  - Number of existing restaurants in the neighborhood (any type of restaurant)
  - Number of and distance to Barbecue (BBQ) restaurants in the neighborhood (if any).
  - Distance of neighborhood from city center
- Following data sources were needed to extract/generate the required information:
  - Coordinate of the Austin center was obtained using MapQuest API geocoding of well known Austin Texas location (Texas State Capitol).
  - Centers of candidate areas were generated algorithmically and approximate addresses of centers of those areas were obtained using MapQuest API reverse geocoding.
  - Number of restaurants, their type, and location in every neighborhood were obtained using the Foursquare API.

# THE TEXAS STATE CAPITOL NEIGHBORHOOD

- Total # of Restaurants: 425
- Average # of Restaurants in Neighborhood: 2.63
- Total # of BBQ Restaurants: 34
- Percentage of BBQ Restaurants: 8%

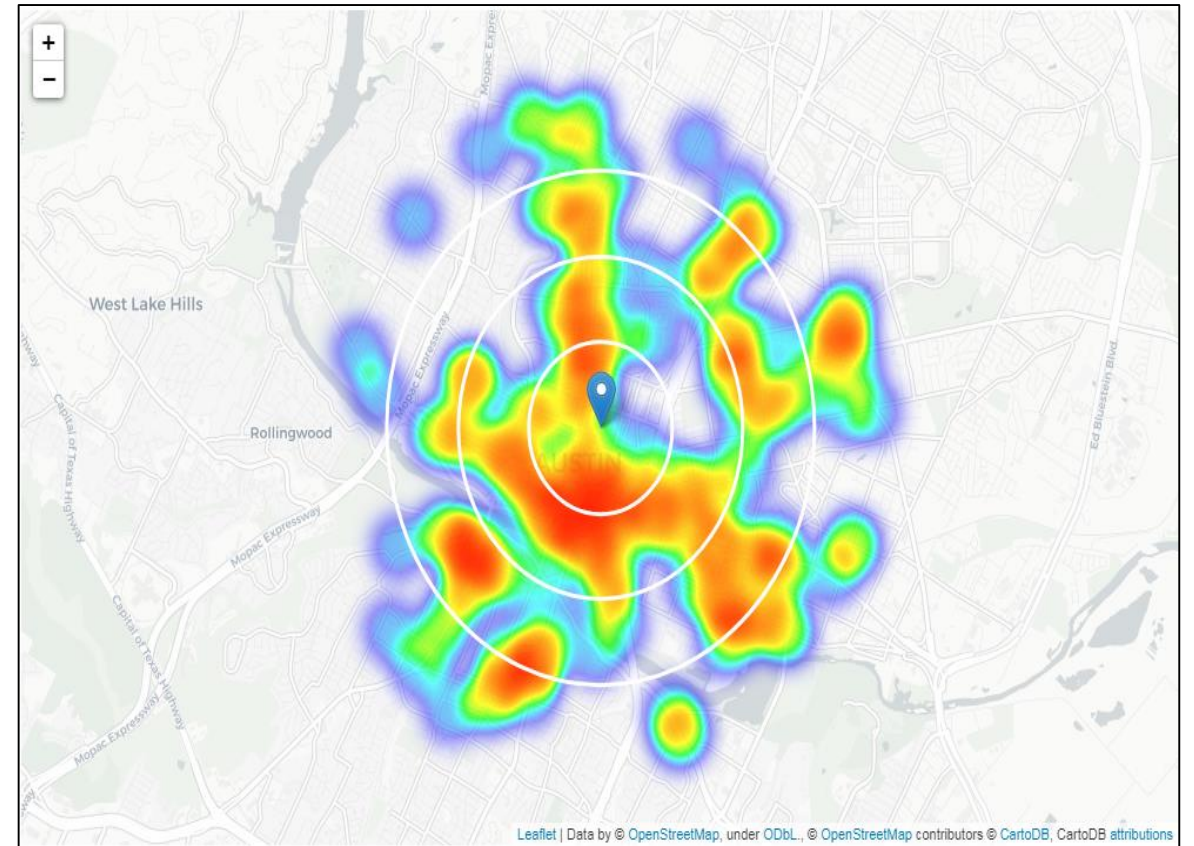
Map of Existing Restaurants (blue)  
and BBQ (red)



# TEXAS STATE CAPITOL RESTAURANT DENSITY

Low restaurant density closest to city center:

- East
- North-East
- North-West



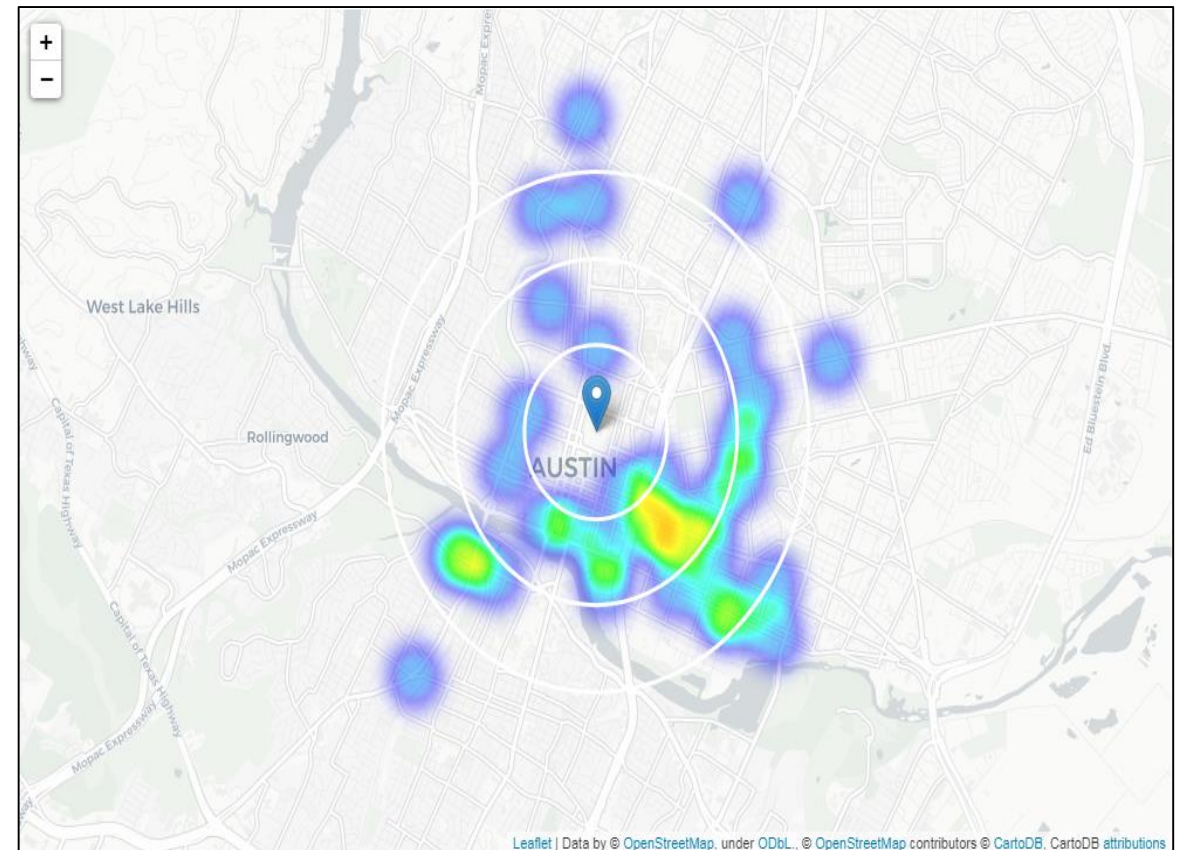


# TEXAS STATE CAPITOL BBQ DENSITY

BBQ restaurants represent a subset of ~8% of all restaurants in our target area.

Low BBQ density closest to city center:

- West
- North-West
- South East



# THE UNIVERSITY OF TEXAS

Popular with tourists, locals and students always out and about ready to eat, relatively close to city center and well connected, this area justified further analysis.

- Just north of the Texas State Capitol
- Hums with activity from athletics to the arts to cutting-edge research
- 50,000-plus students and 24,000 faculty and staff

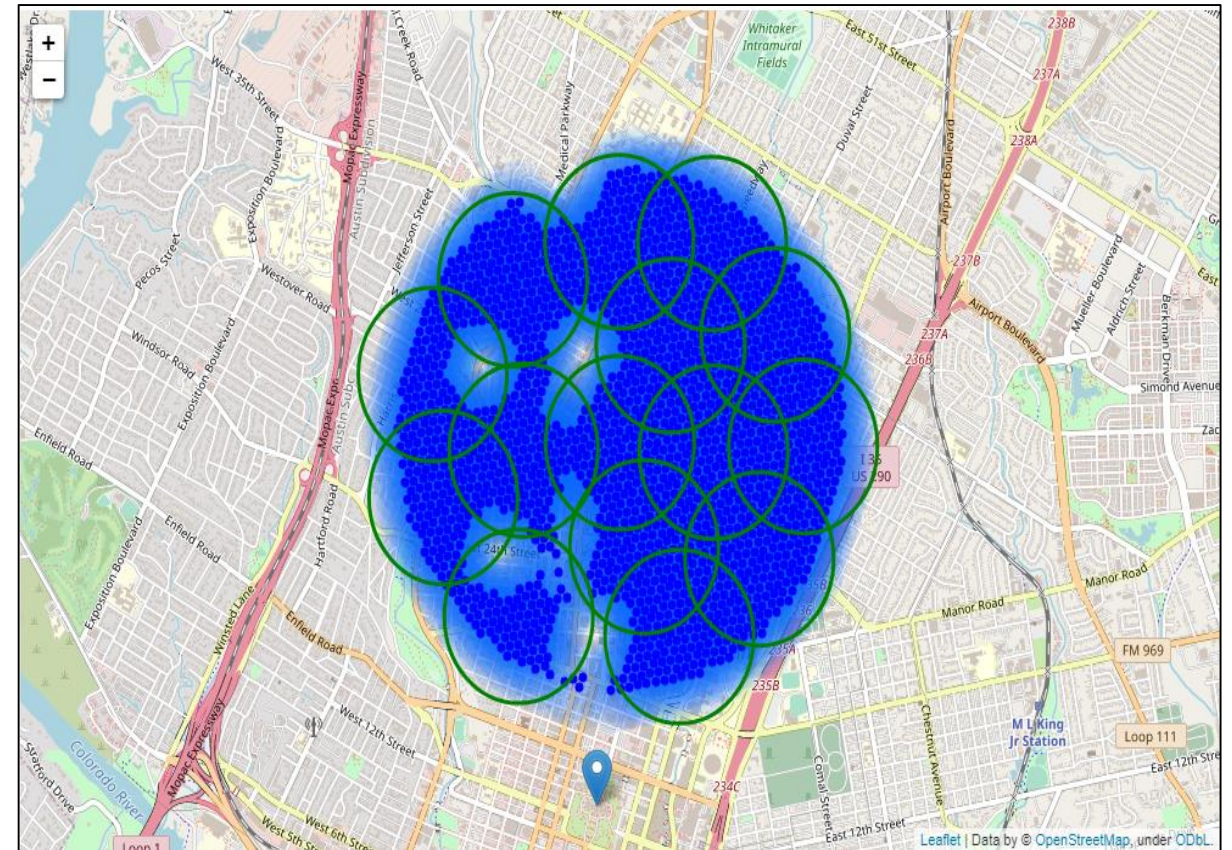
# UNIVERSITY OF TEXAS NEIGHBORHOOD

- Narrowing the area to 2.5km around the University of Texas
- Create a more dense grid of 226 location candidates 100m apart.
- Restaurant data was filtered to locations that meet the stakeholders two criteria
  - locations with no more than two restaurants in a radius of 250 meters
  - locations with no Barbecue (BBQ) restaurants in a radius of 400 meters
- 1890 locations met the above criteria and are fairly close to the Texas State Capitol (mostly in the University of Austin area and just east of IH-35).



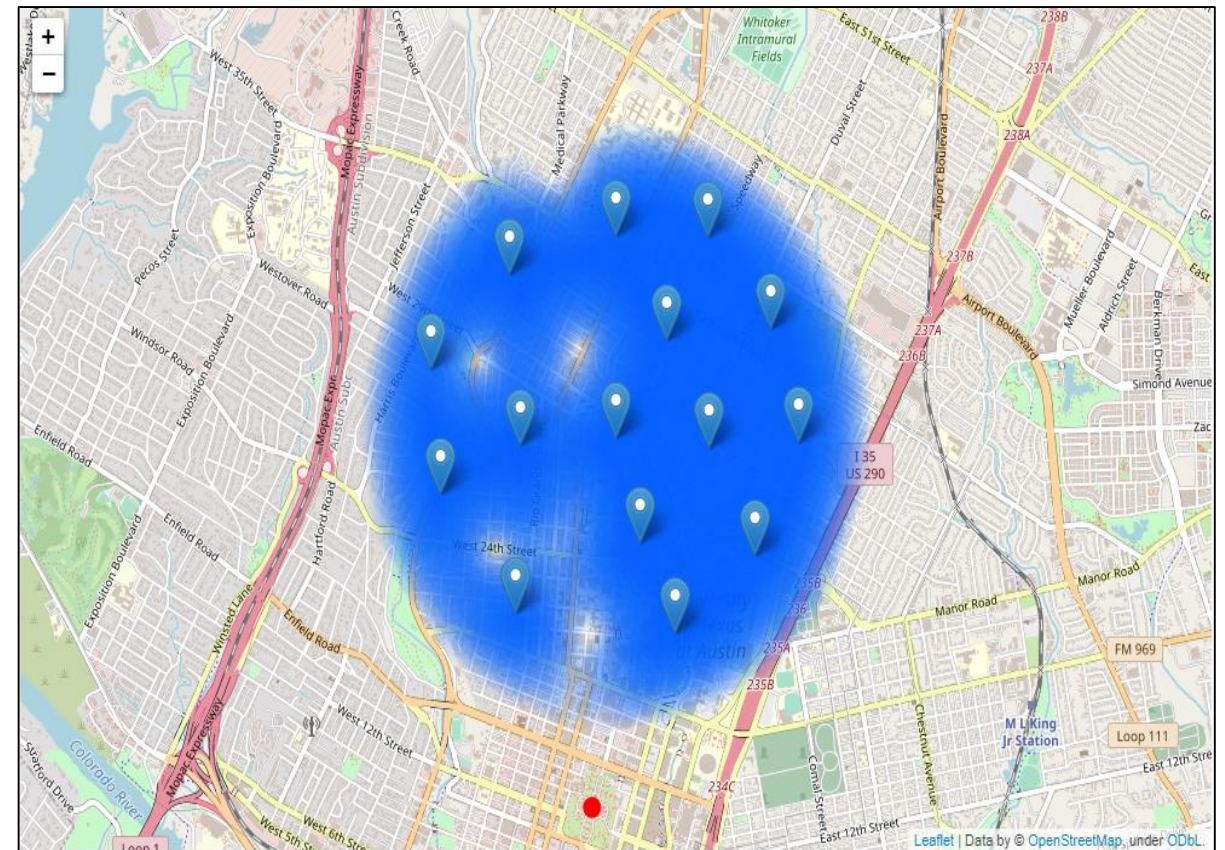
# UNIVERSITY OF TEXAS CLUSTERS

- Used the K-means algorithm to create 15 clusters containing good locations.
- Clusters represent groupings of most of the candidate locations
- Cluster centers are placed nicely in the middle of the zones 'rich' with location candidates



# UNIVERSITY OF TEXAS CENTER OF CLUSTERS

- 15 addresses was created representing centers of zones containing locations with
  - low number of restaurants
  - no Barbecue (BBQ) restaurants nearby
  - less than 4km from the Texas State Capitol
  - half less than 2km from the Texas State Capitol
- Their centers should be considered only as a starting point for exploring area neighborhoods in search for potential restaurant locations





# ADDRESSES OF CENTER OF AREAS

#	Street Address	Distance from Texas State Capitol
1	2904 University Avenue	> 3.5km
2	2701 Oakhurst Avenue	> 4.5km
3	4009 Avenue D	> 5.5km
4	Liberty Street	> 3.6km
5	704 West 21st Street	> 2.0km
6	1 East 21st Street	> 1.9km
7	803 West 28th Street	> 3.5km
8	Central Park	> 5.4km
9	Peck Avenue	> 4.9km
10	Speedway	> 2.5km
11	826 Harris Avenue	> 4.2km
12	West 33rd Street	> 5.1km
13	3406 Speedway	> 4.5km
14	East Dean Keeton Street	> 3.0km
15	North Lamar Boulevard	> 3.4km

# RESULTS

- Initial area of interest had ~425 restaurants around the Texas State Capitol in Austin Texas.
- Based on existing restaurant density, focused attention to the UT at Austin area.
- Narrowed area of interest covering approx. 1km north from the Texas State Capitol.
- Filtered locations so that those with more than two restaurants in radius of 250m and those with an BBQ restaurant closer than 400m were removed.
- Clustered locations to create zones of interest which contain greatest number of location candidates.
- Resulting in 15 zones containing largest number of potential new locations based on number of and distance to existing venues - both restaurants in general and BBQ restaurants particularly.

# DISCUSSIONS & CONCLUSION

- 15 zones identified require further investigation before a final location can be selected.
- The purpose of this analysis was to only provide info on areas close to Austin, Texas center but not crowded with existing restaurants (particularly BBQ).
- Recommended zones are only as a starting point for more detailed analysis
- Final decision will be made based on additional factors such as:
  - attractiveness of each location (proximity to park or water)
  - levels of noise / proximity to major roads
  - real estate availability, prices, social and economic dynamics of every neighborhood
  - etc.