



## **THE BATTLE OF THE NEIGHBORHOODS:**

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**ART GALLERY LOCATIONS IN  
DOWNTOWN CHARLOTTE, NC**

BY BRONWYN BOWERS

## OBJECTIVE:

- The objective of this project is to find an optimal location for an art gallery in Charlotte, NC. This report will be targeted to stakeholders interested in opening an Art Gallery in Charlotte, NC.

# DATA:

- Factors that influenced our decision are:
  - number of existing art galleries in the neighborhood (any type of art gallery)
  - number of and distance to art galleries in the neighborhood, if any
  - Distance of neighborhood from city center

# DATA:

- Data sources needed to extract/generate the required information:
  - centers of candidate areas will be generated algorithmically and approximate addresses of centers of those areas will be obtained using Google Maps API reverse geocoding
  - number of art galleries and their type and location in every neighborhood will be obtained using Foursquare API
  - coordinate of Charlotte, NC city center will be obtained using Google Maps API geocoding of well-known Charlotte, NC location (Spectrum Center)

# FOURSQUARE INFORMATION:

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## Art galleries around location

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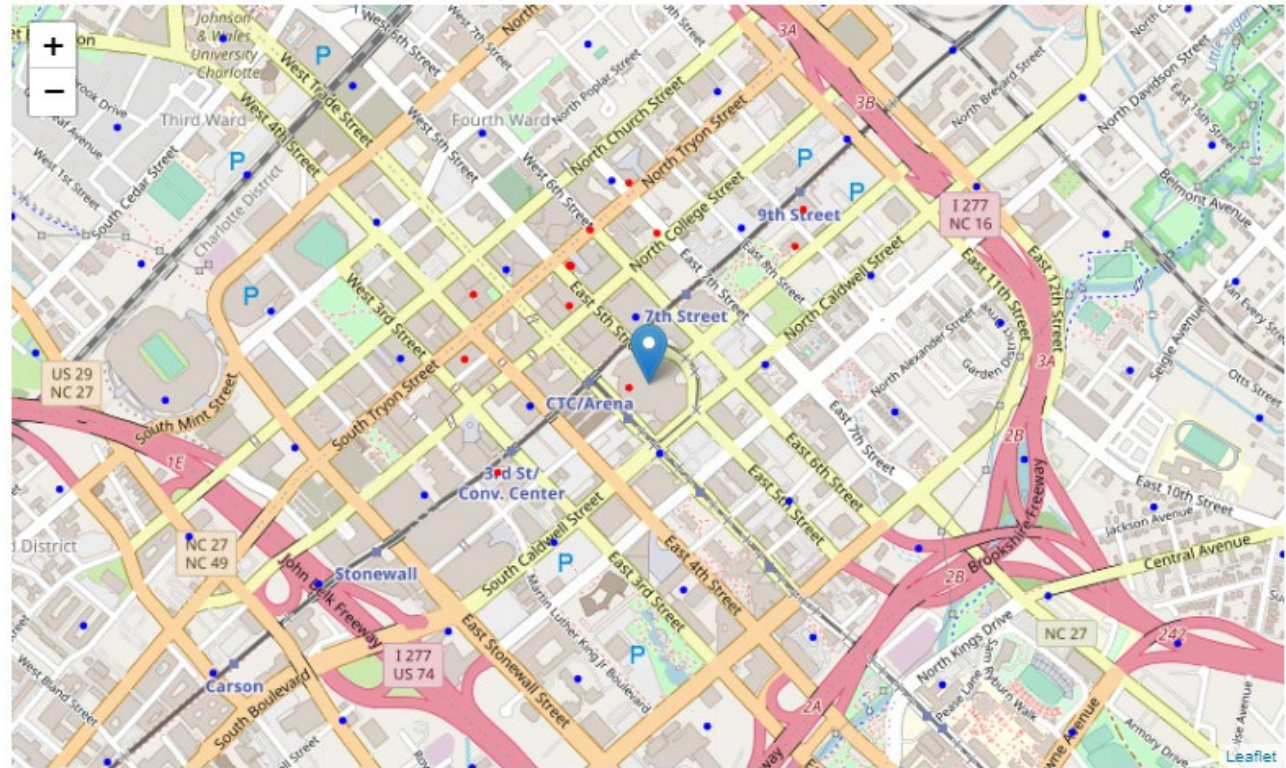
	Name	Lat	Lng	Distance
0	Sip & Stroll	35.225124	-80.839825	63
1	Bank Of America Gallery	35.226996	-80.841495	306
2	Gallery W.D.O.	35.227899	-80.841477	383
3	Foundation For Carolina	35.227910	-80.841443	382
4	Sozo Gallery	35.227922	-80.841501	386
5	Northwest School of the Arts Rocking Chair @ S...	35.228661	-80.839043	403
6	Sonia & Isaac Luski Art Gallery	35.228735	-80.840917	442
7	A Pinata 4 U, LLC	35.223185	-80.843496	446
8	Junior Achievement	35.225775	-80.844425	487
9	UNC gallery	35.228355	-80.835182	515
10	Narasinga jaya reklame	35.227256	-80.844179	521
11	Hodges Taylor Gallery	35.229809	-80.839830	535
12	Clayworks Studio & Gallery	35.229197	-80.834952	599

List of all art galleries in  
Downtown Charlotte, NC  
within 600m of the Spectrum  
Center.



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Blue Dots represents the neighborhood within Downtown Charlotte, NC



# METHODOLOGY:

- In this project we will direct our efforts on detecting areas of Charlotte that have low art gallery density, particularly those with low number of art galleries. We will limit our analysis to area ~6km around city center.
- In first step we have collected the required **data: location and type (category) of every art gallery within 6km from Charlotte center** (Spectrum Center). We have also **identified art gallery** (according to Foursquare categorization).
- Second step in our analysis will be calculation and exploration of '**art gallery density**' across different areas of Charlotte - we will use **heatmaps** to identify a few promising areas close to center with low number of art galleries in general (*and* no art galleries in vicinity) and focus our attention on those areas.
- In third and final step we will focus on most promising areas and within those create **clusters of locations that meet some basic requirements** established in discussion with stakeholders: we will take into consideration locations with **no more than two art galleries in radius of 250 meters**, and we want locations **without art galleries in radius of 400 meters**. We will present map of all such locations but also create clusters (using **k-means clustering**) of those locations to identify general zones / neighborhoods / addresses which should be a starting point for final 'street level' exploration and search for optimal venue location by stakeholders.

# ANALYSIS:

The number of art galleries in every area with radius 600m: 13.0  
List of 10 Art Galleries

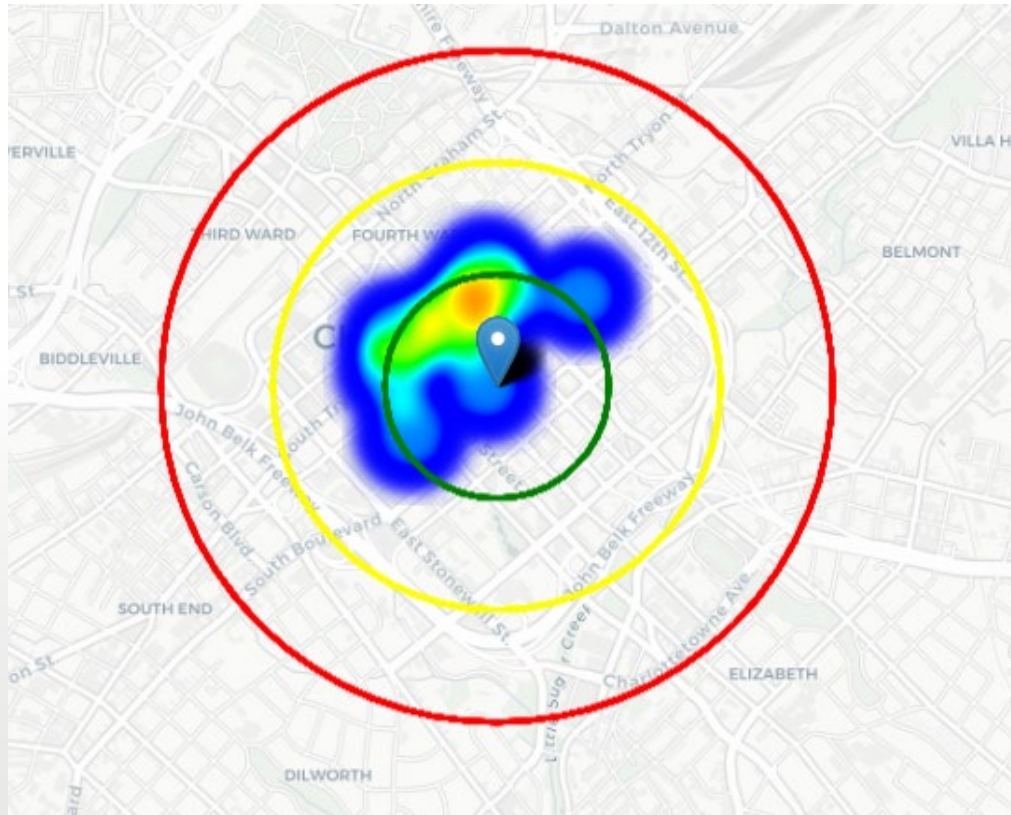
	Address	Latitude	Longitude	X	Y	Distance from center	Art galleries in area
0	1634 Chatham Ave 28205, USA	35.221032	-80.801112	-6.734149e+06	1.090178e+07	5992.495307	13
1	1918 Winter St 28205, USA	35.224150	-80.801775	-6.733549e+06	1.090178e+07	5840.376700	13
2	2237 Chambwood Dr 28205, USA	35.227268	-80.802439	-6.732949e+06	1.090178e+07	5747.173218	13
3	3304 Josephine Ct 28205, USA	35.230386	-80.803103	-6.732349e+06	1.090178e+07	5715.767665	13
4	2409 Daniel St 28205, USA	35.233505	-80.803767	-6.731749e+06	1.090178e+07	5747.173218	13
5	2610 Duncan Ave 28205, USA	35.236623	-80.804431	-6.731149e+06	1.090178e+07	5840.376700	13
6	1120 Leigh Ave 28205, USA	35.239742	-80.805095	-6.730549e+06	1.090178e+07	5992.495307	13
7	2505 McClintock Rd 28205, USA	35.215884	-80.803406	-6.735049e+06	1.090230e+07	5855.766389	13
8	2133 Central Ave 28205, USA	35.219001	-80.804070	-6.734449e+06	1.090230e+07	5604.462508	13
9	2214 Randall St 28205, USA	35.222119	-80.804734	-6.733849e+06	1.090230e+07	5408.326913	13

- Let's perform some basic explanatory data analysis and derive some additional info from our raw data. First let's count the **number of art galleries in every area candidate**



## ART GALLERIES NEAR CITY CENTER:

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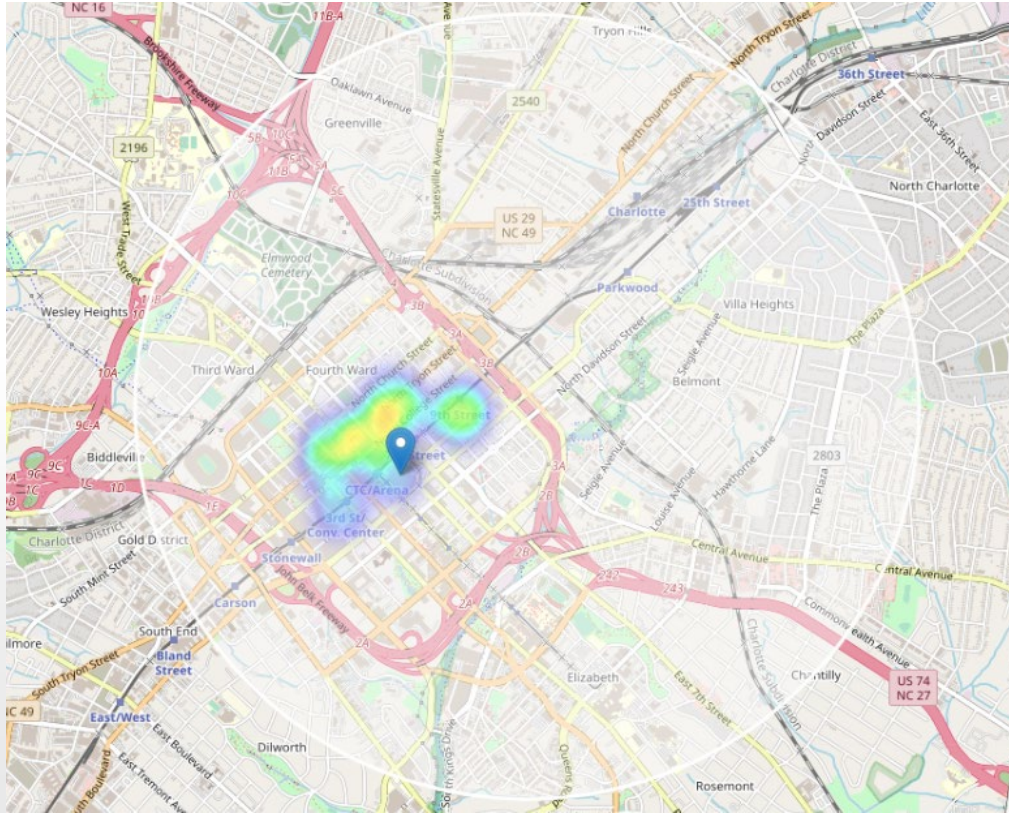


This map is showing **heatmap / density of art galleries** and try to extract some meaningful info from that. Also, let's show **borders of Charlotte** on our map and a few circles indicating distance of 1km, 2km and 3km from Spectrum Center.

## ART GALLERIES NEAR CITY CENTER:

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- This map represents a narrower region of interest, which will include low-art-gallery-count parts of East Charlotte and South Charlotte closest to Spectrum Center

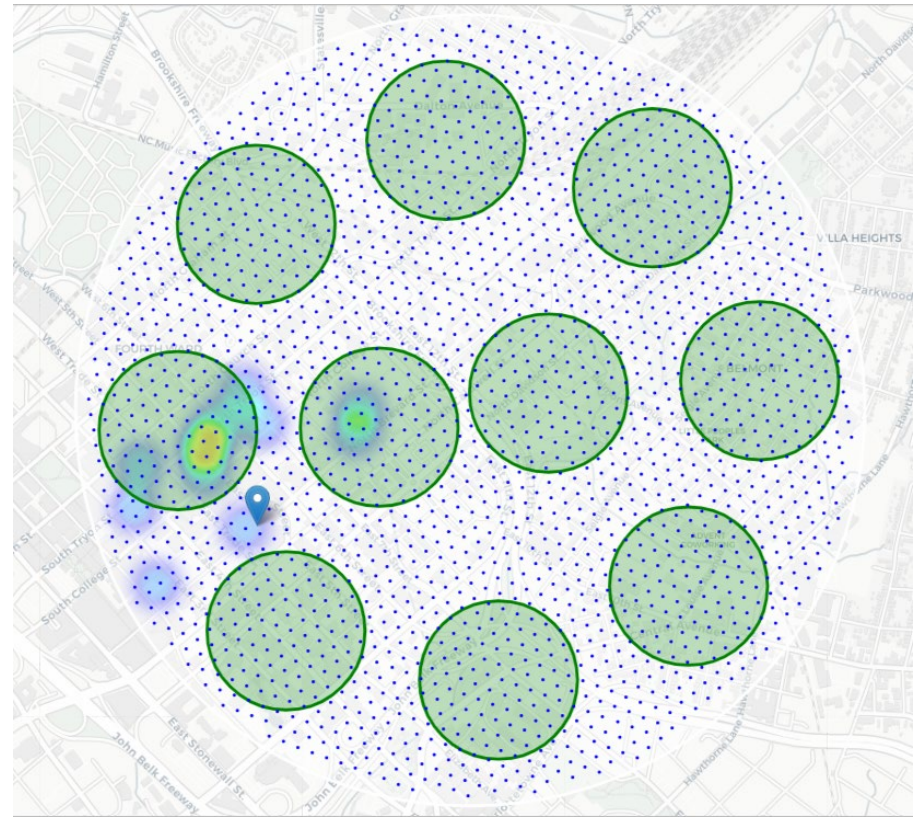




## ANALYSIS OF LOCATIONS FOR AN ART GALLERY NEAR CITY CENTER:

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- These locations were created to **centers of zones containing good locations**. Those zones, their centers and addresses will be the final result of our analysis





## ANALYSIS OF LOCATIONS FOR AN ART GALLERY NEAR CITY CENTER:

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- Addresses of those cluster centers will be a good starting point for exploring the neighborhoods to find the best possible location based on neighborhood specifics.





# ANALYSIS OF LOCATIONS FOR AN ART GALLERY NEAR CITY CENTER:

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CANDIDATE AREAS  
IN SOUTHEAST-  
DOWNTOWN CHARLOTTE:

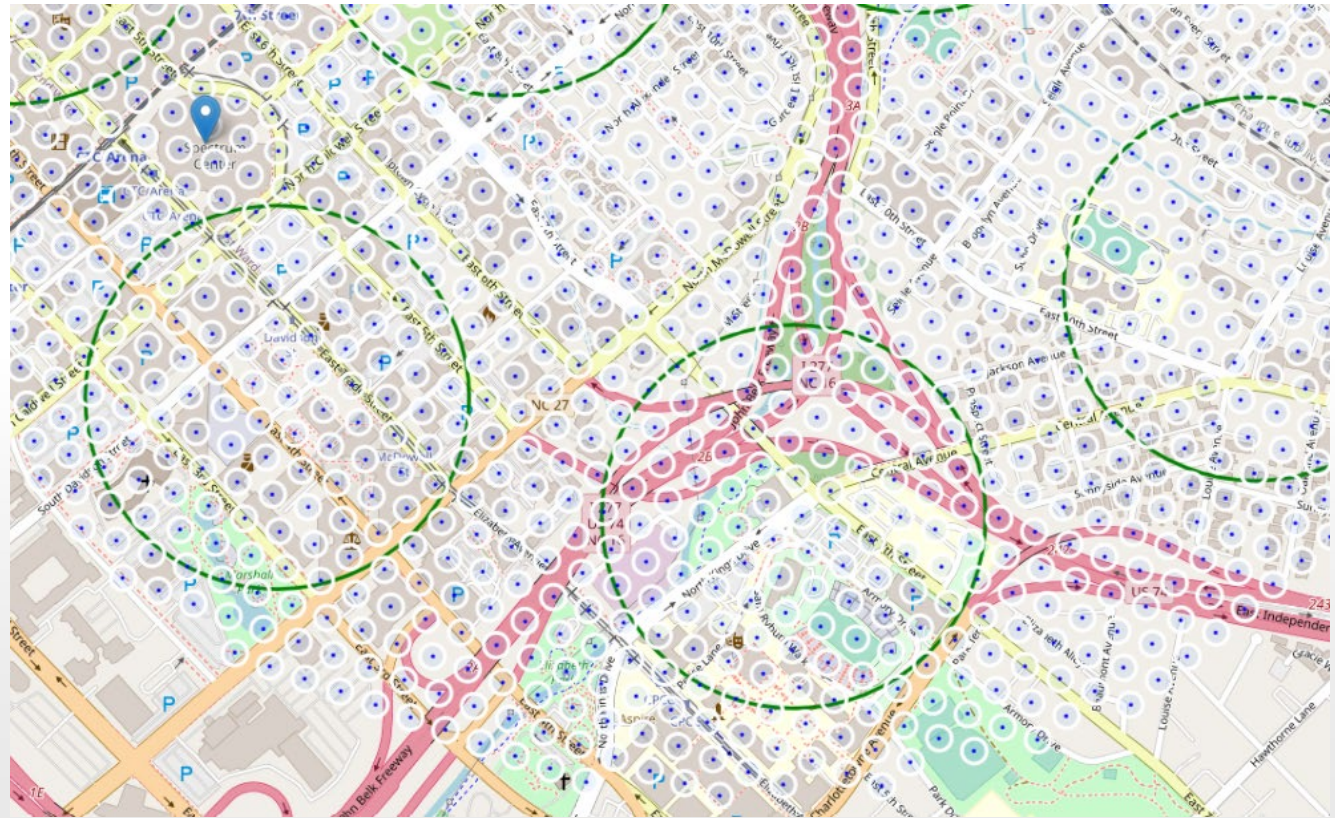




# ANALYSIS OF LOCATIONS FOR AN ART GALLERY NEAR CITY CENTER:

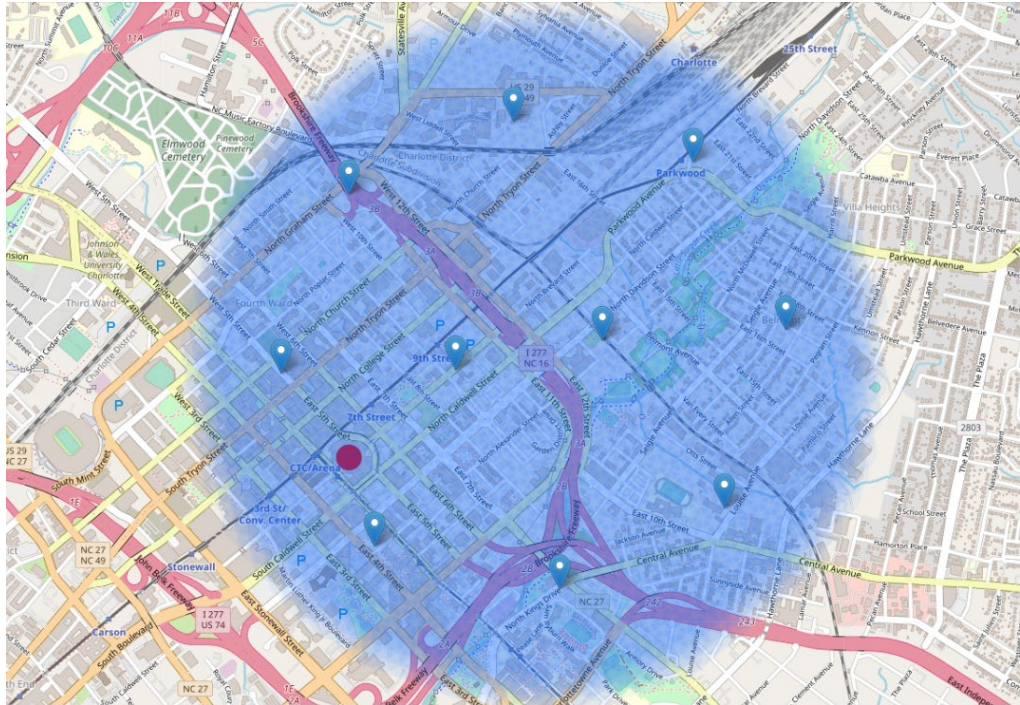
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CANDIDATE AREAS  
IN SOUTH - DOWNTOWN  
CHARLOTTE:





# RECOMMENDED AREA FOR FURTHER ANALYSIS



Addresses of centers of areas recommended for further analysis

401 E 9th St 28202, USA	=> 1.0km from Spectrum Center
1008 E 17th St 28205, USA	=> 3.4km from Spectrum Center
829 Louise Ave 28204, USA	=> 2.8km from Spectrum Center
301 Dalton Ave 28206, USA	=> 2.8km from Spectrum Center
600 E Trade St 28202, USA	=> 0.7km from Spectrum Center
940 N Davidson St 28206, USA	=> 2.1km from Spectrum Center
407 N Kings Dr 28204, USA	=> 1.9km from Spectrum Center
Parkwood 28206, USA	=> 3.4km from Spectrum Center
700 N Graham St 28202, USA	=> 2.0km from Spectrum Center
127 N Tryon St 28202, USA	=> 0.8km from Spectrum Center

# RESULTS AND DISCUSSION

- Result of all this is 15 zones containing largest number of potential new art gallery locations based on number of and distance to existing venues. This, of course, does not imply that those zones are actually optimal locations for a new art gallery! Purpose of this analysis was to only provide info on areas close to Spectrum Center but not crowded with existing art galleries - it is entirely possible that there is a very good reason for small number of art galleries in any of those areas, reasons which would make them unsuitable for a new art galleries regardless of lack of competition in the area. Recommended zones should therefore be considered only as a starting point for more detailed analysis which could eventually result in location which has not only no nearby competition, but also other factors considered, and all other relevant conditions met.



# CONCLUSION

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- Purpose of this project was to identify Charlotte areas close to Spectrum Center with low number of art galleries to aid stakeholders in narrowing down the search for optimal location for a new art gallery. By calculating art gallery density distribution from Foursquare data, we have first identified general areas that justify further analysis (South and Southeast Downtown), and then generated extensive collection of locations which satisfy some basic requirements regarding existing nearby art galleries. Clustering of those locations was then performed to create major zones of interest (containing greatest number of potential locations) and addresses of those zone centers were created to be used as starting points for final exploration by stakeholders.
- Final decision on optimal art gallery location will be made by stakeholders based on specific characteristics of neighborhoods and locations in every recommended zone, taking into consideration additional factors like 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.