

Finding the best location for a Specialty coffee shop in Santiago of Chile

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1. Introduction: Business Problem

¿Where is the best location for a Specialty Coffee Shop in Santiago of Chile?

For this project we will be targeted to stakeholders interested in opening an Specialty Coffee Shop in Santiago, Chile.

Coffee is a fundamental part of food culture around the world and the specialty coffee is a growing market.

Coffee consumption has increased dramatically and the consumers in general are moving toward higher-quality, gourmet coffee. For years, you could only get coffee beans and grounds from a few companies and regions, but the foodservice trend toward higher-quality and craft foods has opened up many other options. Nowadays, there is a nearly endless selection of coffee from all over the world that wouldn't have been available a few decades ago.

The age of coffee consumers also has decreased. The change was identified through the findings of a 2017 study on coffee consumption. The study was published in the journal Annals of Internal Medicine and involved more than 520,000 people. Their findings showed that drinking coffee regularly could improve life expectancy. After these results were published, the National Coffee Association (NCA) discovered that the percentage of daily coffee drinkers increased from 57% to 62% in the course of a year. In the United States alone, 44% of those coffee consumers are millennials. (<https://www.webstaurantstore.com/blog/2356/top-coffee-trends.html>)

There are 941 coffee shops in the metropolitan area of Santiago and this number has been increasing in the last 10 years. (<http://santiagocoffee lovers.cl/cafe terias-especialidad-nuevo-mundo-sabores-experiencias/>)

We will explore the metropolitan area of Santiago to find the best locations based on a good quality of life with less number of coffee shops and places frequented by young people.

2. Data

Based on the definition of our problem, factors that will influence our decision are:

- ◆ number of existing coffee shops in the areas explored
- ◆ venues like museums, art gallery's, cultural centers or farmer markets (places frequented by young people)
- ◆ a zone with a good quality of life

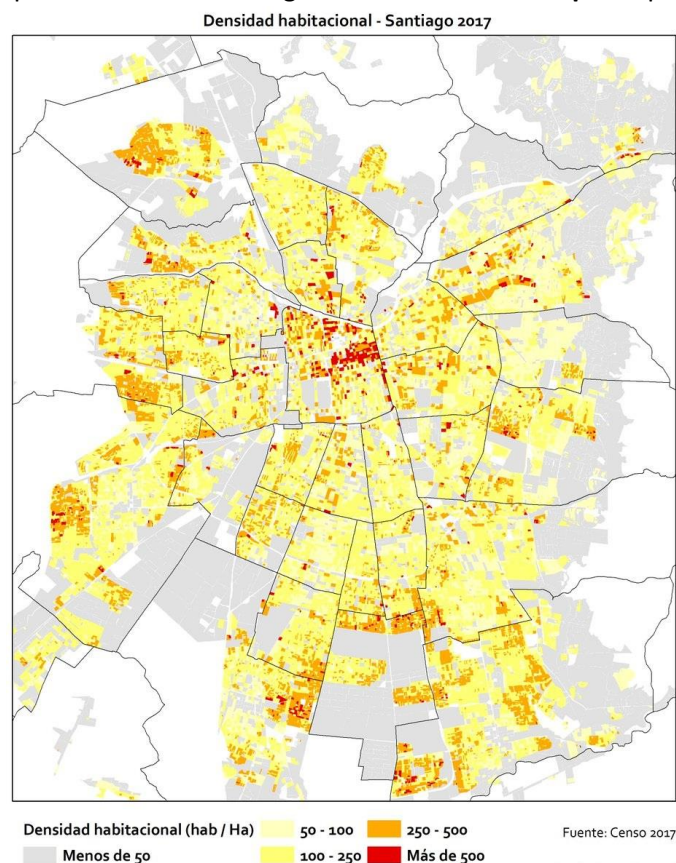
Following data sources will be needed to extract/generate the required information:

- ◆ List of the Zones of Santiago using **wikipedia**

https://es.wikipedia.org/wiki/Anexo:Comunas_de_Santiago_de_Chile



- ◆ Population data of Santiago also of the same **wikipedia** page



- ◆ **HERE geocode** to obtain the latitude and longitude of the zones (communes) of Santiago
- ◆ number and location of coffee shops using **Foursquare API**
(<https://developer.foursquare.com/docs/api/venues/explore>)
- ◆ venues by zone and their categories using **Foursquare API**
(<https://developer.foursquare.com/docs/api/venues/explore>)

2.1. Communes of Santiago

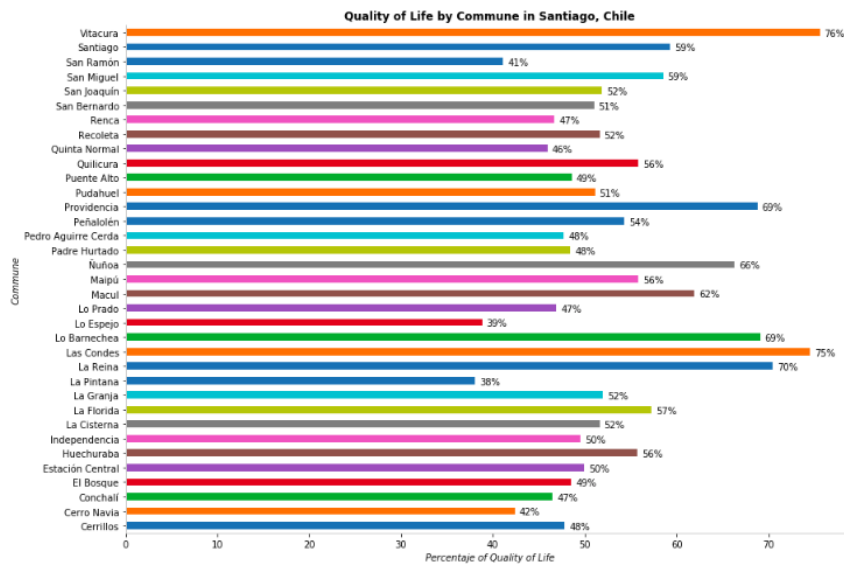
Santiago is divided in different zones called “communes”.

In the Wikipedia I found the list of communes and indicators like population, poverty index, and quality of life index.

	Location	Population (2017)	Poverty	Quality of Life	Index Quality of Life	Latitude	Longitude
Cerrillos	surponiente	80832	19.7	47.82	74	-33.48862	-70.70079
Cerro Navia	norponiente	132622	35.6	42.42	92	-33.43472	-70.72992
Conchalí	norte	126955	21.6	46.52	84	-33.39659	-70.67104
El Bosque	sur	162505	27.0	48.54	70	-33.55567	-70.66590
Estación Central	surponiente	147041	14.5	49.96	64	-33.45101	-70.67941
Huechuraba	norte	98671	23.8	55.70	33	-33.37464	-70.63490
Independencia	norte	100281	21.3	49.51	66	-33.42097	-70.65578
La Cisterna	sur	90119	20.0	51.63	53	-33.51775	-70.65973
La Florida	surorient	366916	17.0	57.23	22	-33.52185	-70.59863
La Granja	sur	116571	24.5	51.97	51	-33.54309	-70.63107
La Pintana	sur	177335	42.4	38.08	99	-33.58474	-70.62883
La Reina	nororient	92787	9.8	70.45	3	-33.43929	-70.55638
Las Condes	nororient	294838	4.8	74.54	2	-33.41657	-70.59553
Lo Barnechea	nororient	105833	17.3	69.09	4	-33.36199	-70.51445
Lo Espejo	sur	98804	28.2	38.82	97	-33.52284	-70.69790
Lo Prado	norponiente	96249	20.3	46.90	81	-33.44353	-70.71768
Macul	surorient	116534	17.5	61.92	8	-33.48178	-70.59921
Maipú	surponiente	521627	12.5	55.87	30	-33.51041	-70.75638
Ñuñoa	nororient	208237	10.7	66.28	6	-33.45521	-70.59388
Padre Hurtado	surponiente	63250	21.1	48.43	72	-33.57804	-70.82459
Pedro Aguirre Cerda	sur	101174	31.0	47.74	75	-33.48887	-70.66447
Peñalolén	surorient	241599	20.7	54.28	42	-33.47628	-70.54176
Providencia	nororient	142079	4.6	68.79	5	-33.43179	-70.60940
Pudahuel	norponiente	230293	20.5	51.11	60	-33.44449	-70.74932
Puente Alto	surorient	568106	27.1	48.60	69	-33.60946	-70.57504
Quilicura	norte	210410	18.5	55.86	31	-33.36969	-70.73404
Quinta Normal	norponiente	110026	13.5	45.93	86	-33.42253	-70.69522
Recoleta	norte	157851	26.2	51.62	54	-33.40170	-70.64294
Renca	norponiente	147151	26.2	46.70	82	-33.40472	-70.70440
San Bernardo	sur	297262	22.0	51.00	62	-33.59185	-70.70504
San Joaquín	sur	94492	23.7	51.88	52	-33.47913	-70.64167
San Miguel	sur	107954	11.6	58.53	17	-33.48576	-70.64995
San Ramón	sur	82900	29.5	41.13	93	-33.54248	-70.64368
Santiago	centro	404495	11.6	59.27	16	-33.43722	-70.65002
Vitacura	nororient	85384	2.8	75.59	1	-33.39923	-70.60105

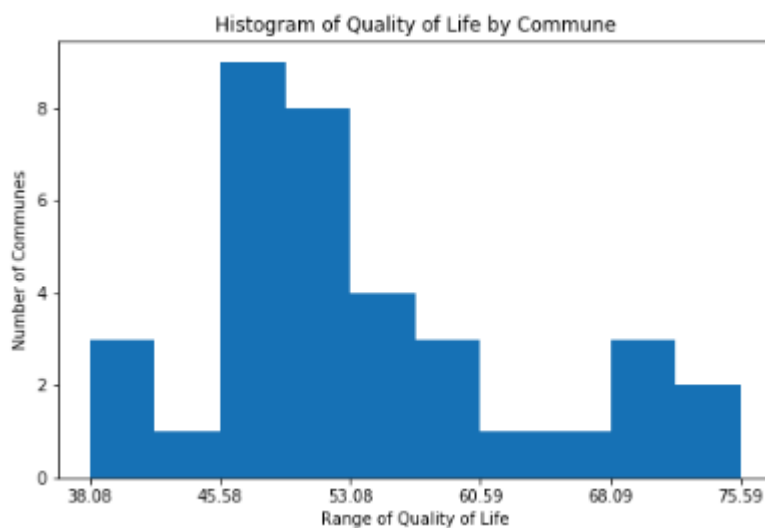
Using data visualization, I was able to compare the communes and select the more appropriate communes for the analysis

First, I used a plot to visualize the Quality of Life by Commune

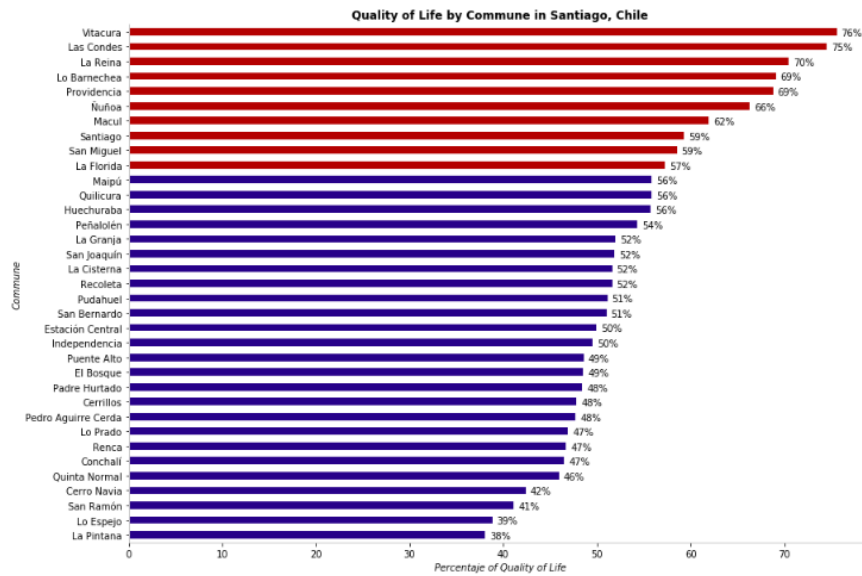


Using a histogram, I could detect how many communes have a better Quality of Life.

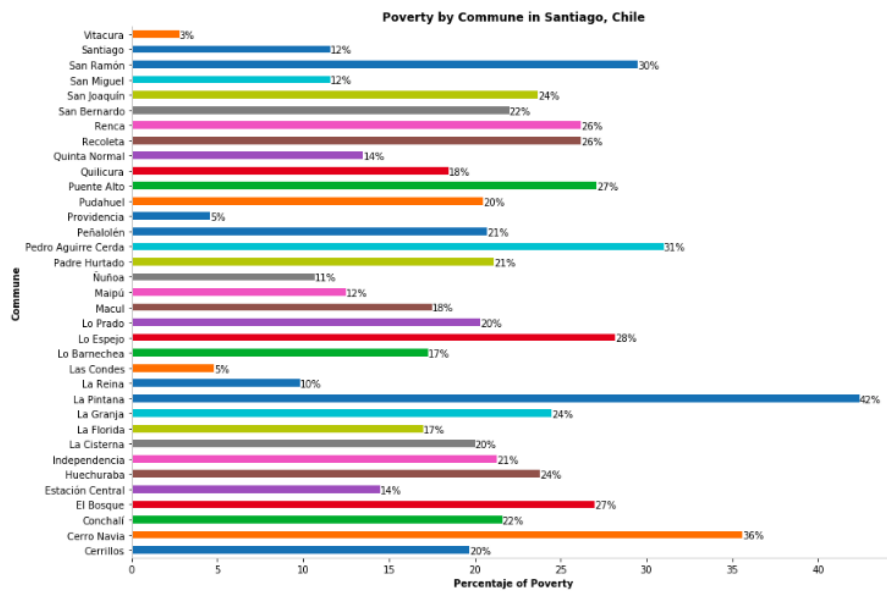
A higher index implies a better quality of life



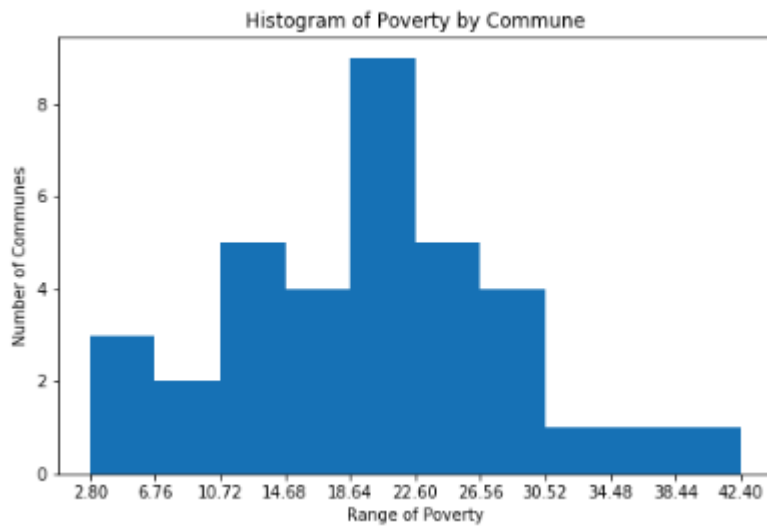
And in a plot, I can order the communes by the Quality of Life and in red there are the communes with a quality of life index higher than 57



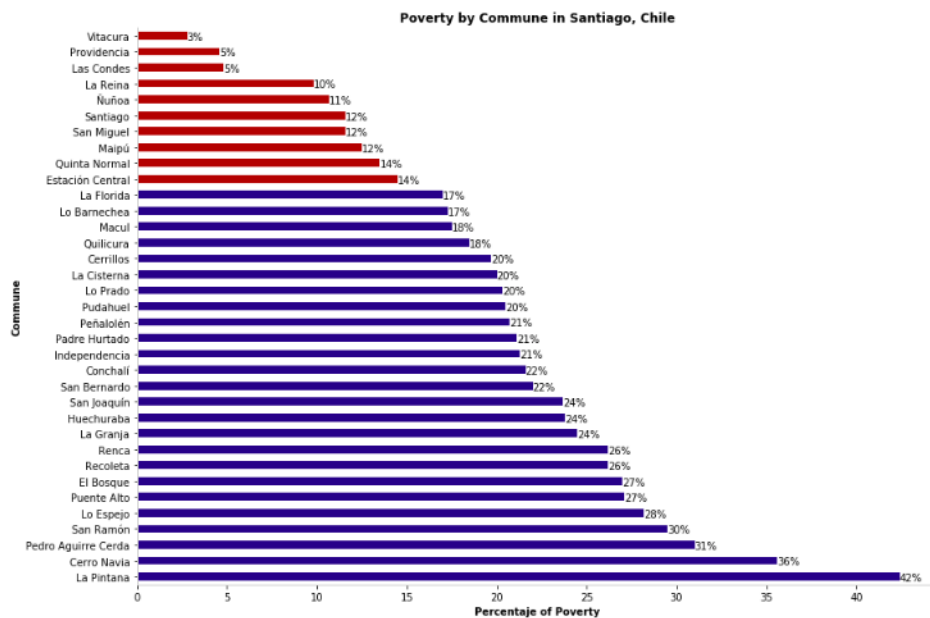
I used the same method to visualize the Poverty index by commune



The histogram of the Poverty index by Commune. Opposite to the Quality of life, a lower Poverty index implies less Poverty



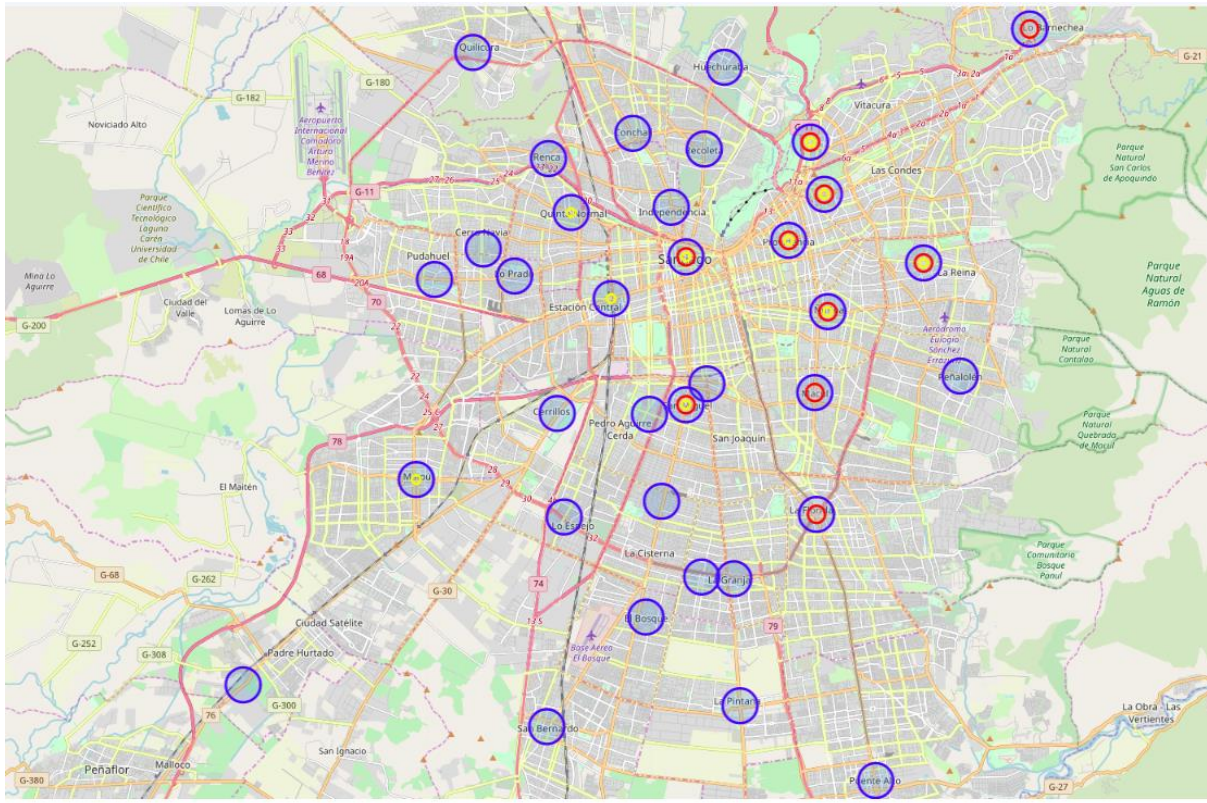
And in a plot, I sorted the communes by the Quality of Life and in red there are the communes with a Poverty index less than 15



Finally, to use a map visualization I needed the geographical location of every commune, so I used the geocode HERE to obtain the latitude and longitude of every commune.

In the map with a blue circle it's displayed where are located the communes.

With a red circle are located the communes with a Quality of life higher than 57 and in a yellow circle the communes with a Poverty index less than 15.



3. Methodology

In this project we will direct our efforts on detecting areas of Santiago with a good quality of life and low poverty.

Based on the map visualization of the communes and the communes with low poverty and high quality of life I decided what communes to explore.

The communes with the higher Quality of Life are almost equivalent to the communes with lower poverty, so we can explore the communes with a Quality of Life with more than 57 percent.

With Foursquare we are going to get the venues by commune and classify it by their categories.

With the categories we can choose the communes with less coffee shops.

As final step we can visualize the choose commune and detect the venues frequented by young people to recommend the best places to open a coffee shop

4. Analysis

Based on the communes displayed in the map, I'm going to use the sub-dataframe with the communes with higher Quality of Life

I used the foursquare api to explore the different venues categories using the latitude and longitude of every commune

Using the foursquare api I have the top ten categories by commune

Commune	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0 La Florida	Sushi Restaurant	Ice Cream Shop	Chinese Restaurant	Sporting Goods Shop	Flea Market	Peruvian Restaurant	Bookstore	Sandwich Place	Café	Pharmacy
1 La Reina	Pizza Place	Park	Chinese Restaurant	Bakery	Sushi Restaurant	Peruvian Restaurant	Gym / Fitness Center	Multiplex	Sandwich Place	Clothing Store
2 Las Condes	Hotel	Coffee Shop	Plaza	Italian Restaurant	Bakery	Burger Joint	Café	Clothing Store	Park	Ice Cream Shop
3 Lo Barnechea	Gym	Restaurant	Coffee Shop	Burger Joint	Shopping Mall	Pharmacy	Chinese Restaurant	Sushi Restaurant	Motorcycle Shop	Steakhouse
4 Macul	Chinese Restaurant	Sandwich Place	Pharmacy	Restaurant	Bakery	Peruvian Restaurant	Sushi Restaurant	Soccer Field	Pizza Place	Plaza
5 Providencia	Pizza Place	Coffee Shop	Sandwich Place	Restaurant	Café	French Restaurant	Tea Room	Seafood Restaurant	Burger Joint	Park
6 San Miguel	Sushi Restaurant	Restaurant	Peruvian Restaurant	Plaza	Latin American Restaurant	Pizza Place	Flea Market	Bakery	Sandwich Place	Bar
7 Santiago	Coffee Shop	Sandwich Place	Café	Bookstore	Hotel	Art Museum	Pizza Place	Restaurant	Burger Joint	Art Gallery
8 Vitacura	Hotel	Coffee Shop	Restaurant	Peruvian Restaurant	Plaza	Bistro	Pizza Place	Steakhouse	Ice Cream Shop	Wine Shop
9 Ñuñoa	Bakery	Coffee Shop	Café	Pizza Place	Italian Restaurant	Gym	Peruvian Restaurant	Plaza	Restaurant	Bar

This allow us to identify 3 communes without coffee shops or cafés:

- La Reina
- Macul
- San Miguel

Comparing the Poverty and Quality of Life index of this communes, La Reina has a lower poverty and a better Quality of Life.

	Location	Population (2017)	Poverty	Quality of Life	Index Quality of Life	Latitude	Longitude
La Reina	nororiente	92787	9.8	70.45	3	-33.4393	-70.5564
Macul	suroriente	116534	17.5	61.92	8	-33.4818	-70.5992
San Miguel	sur	107954	11.6	58.53	17	-33.4858	-70.65
La Florida	suroriente	366916	17	57.23	22	-33.5219	-70.5986

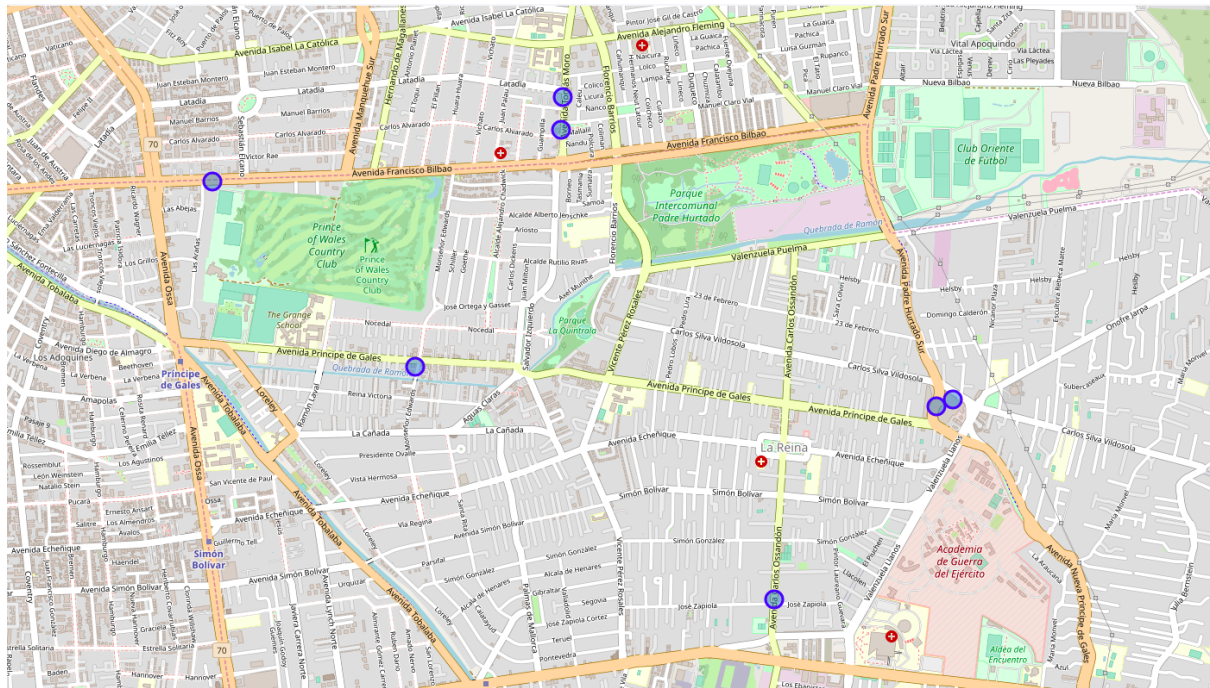
So, based in that indicators, La Reina is the commune we are going to use for our analysis.

First, we need to identify the places that could be our competitors.

Based in the venues categories of the Commune, our competitors could be Coffee Shops and Bakerys:

Venue	Venue Category
Starbucks	Coffee Shop
Wenger Haus	Bakery
Amasa Bakery	Bakery
Doña Cata	Bakery
Panificadora Rosemary	Bakery
Butterfly Coffee	Coffee Shop
Bogat Caffé	Café

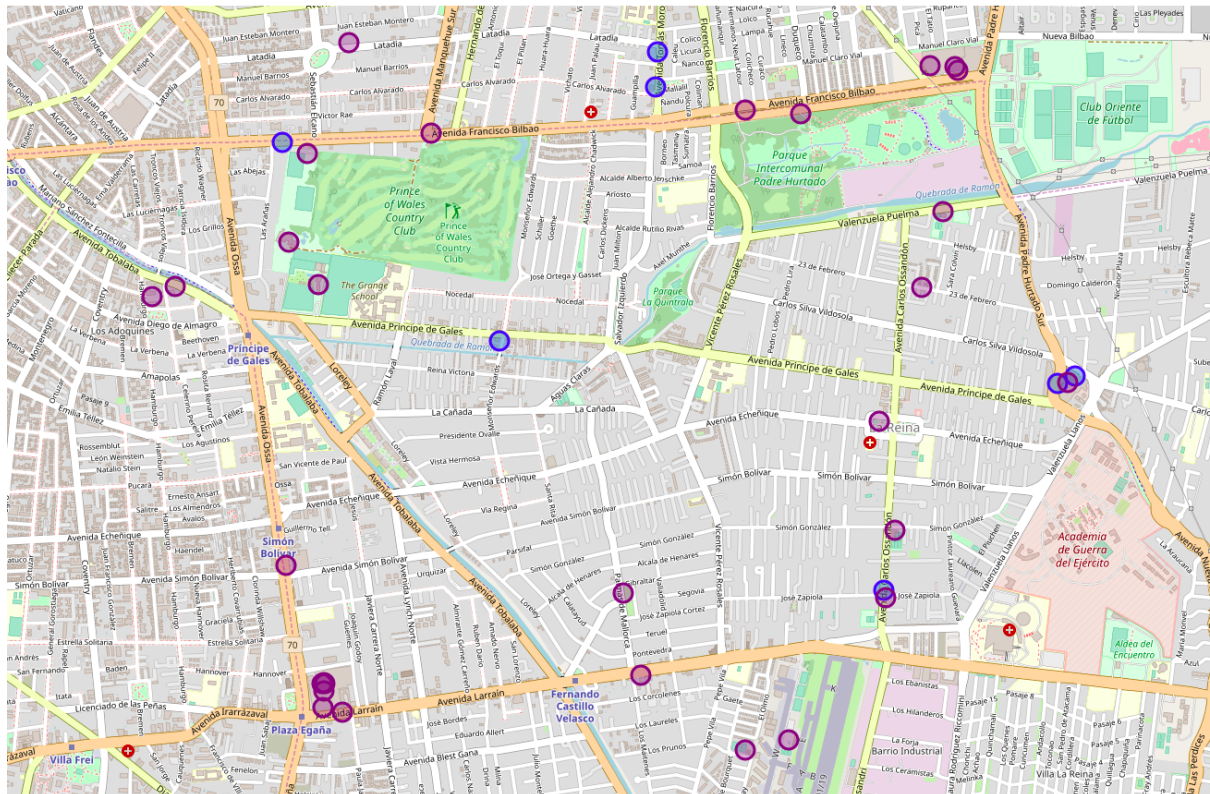
Using a map visualizacion we locate our competitors with a blue circle



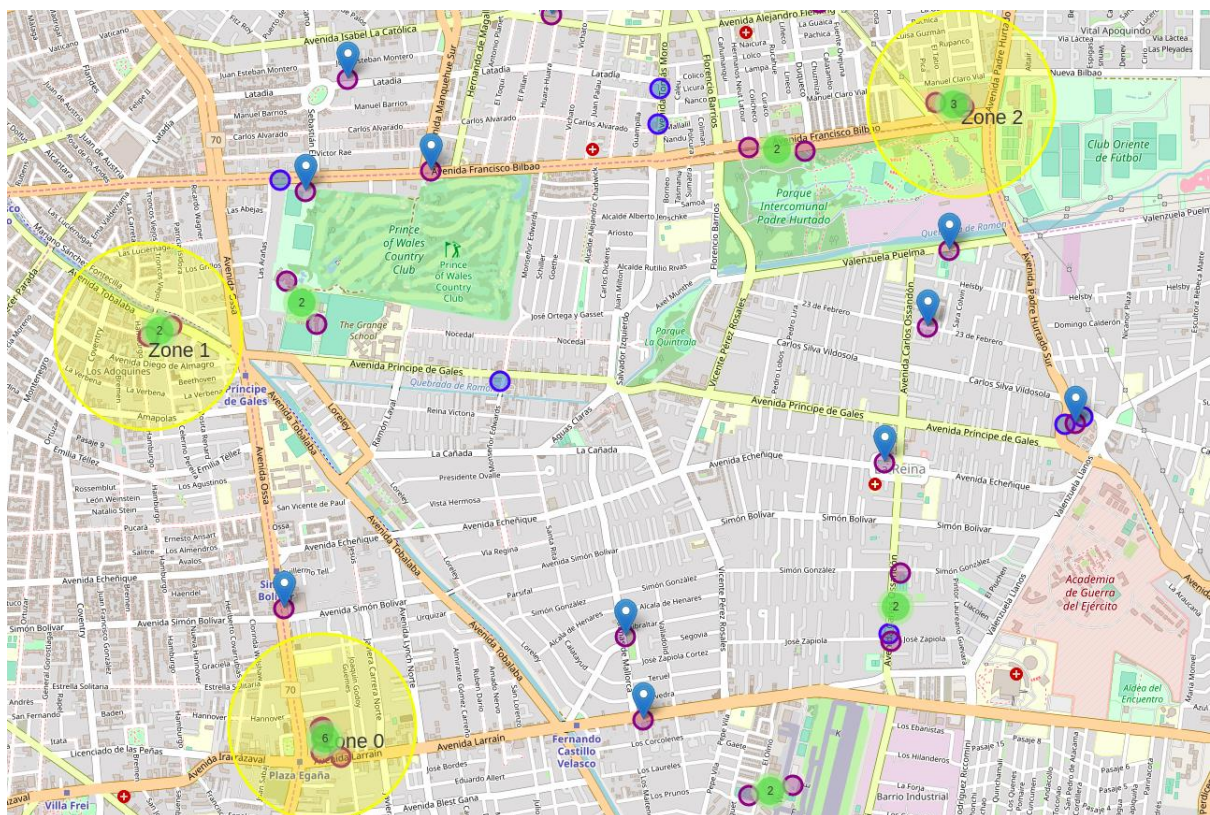
Discarding our competitors, we filter by the venues that could be frequented by young adults:

	Venue Category	Count
0	Amphitheater	1
1	Shopping Mall	1
2	Plane	1
3	Other Great Outdoors	1
4	Music Venue	1
5	Movie Theater	1
6	Hockey Field	1
7	Sporting Goods Shop	1
8	Golf Course	1
9	Farmers Market	1
10	Bookstore	1
11	Bike Rental / Bike Share	1
12	Athletics & Sports	1
13	Soccer Field	2
14	Outdoors & Recreation	2
15	Plaza	2
16	Multiplex	3
17	Gym / Fitness Center	4
18	Park	6

We located this venues in the map with a purple circle



Using a clustering visualization we can identify 3 zones far from our competitors and with our venues of interest. In the following map they are displayed with a yellow circle



Finally we obtained the top 10 venues nearby of every detected zone:

Venue	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0 Zone 0	Bakery	Multiplex	Sushi Restaurant	Ice Cream Shop	Clothing Store	Coffee Shop	Furniture / Home Store	Massage Studio	Latin American Restaurant	Toy / Game Store
1 Zone 1	Chinese Restaurant	Coffee Shop	Park	Japanese Restaurant	Grocery Store	Fast Food Restaurant	Pharmacy	Pie Shop	Pizza Place	Gym / Fitness Center
2 Zone 2	Tourist Information Center	Pharmacy	Sporting Goods Shop	Soccer Field	Furniture / Home Store	Shopping Mall	Nail Salon	Latin American Restaurant	Candy Store	Plaza

5. Results and discussion

Our Analisis shows there are still zones in Santiago with not many coffee shops and this zones could have a potential for open a new Speacialty Coffee Shop.

To detect the potential zones, first we aislated the zones with better quality of life and less poverty and using the Foursquare API we found that "La Reina" commune was the more suitable for our objective because it doesn't have any Coffee Shops or Cafes in their top 10 venues, also this commune has a better Quality of Life index and Poverty than the other two communes without coffee shops in their top 10 venues.

With a commune in mind we explored the different venues categories of the commune, we detected our posible competitors and the other venues that could be frecuentted by the target public of the Coffee Shop like cinemas, parks, librarys, etc.

Using a map visualizacion we located our posible competitors and visually we could cluster 3 posible zones for our objective, relatively far from the competitors and near several venues of interest.

6. Conclusion

Purpose of this project was to identify the best location to open a Specialty Coffee Shop in Santiago.

With the exploration of venues in all the city, gradually we could aislate a 3 zones viables for our purpose.

Our target was determined by the socioeconomics indicatos of the communes of Santiago and the density of Coffee Shops in the different zones of Santiago.

this is an aproximation for the best location, the final decission must be made by stakeholders After analyzing the recommended areas, a market study is needed and see if there are places to lease near these 3 locations