

**Capstone project**

**Final presentation**

**Sally Hany Café Shop Project**

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# Introduction and Business Problem

- A customer, Sally, wants to open a new Cafe Shop in Bogotá, Colombia.
- Due to Bogotá's high diversity and very large size, she asked me for help in order to find the best spot to place the Cafe Shop.
- Bogotá has 20 different Localities (Districts) and we aim to find the best one.
- We need to choose a Locality that has good amount of customers and low amount of competition.

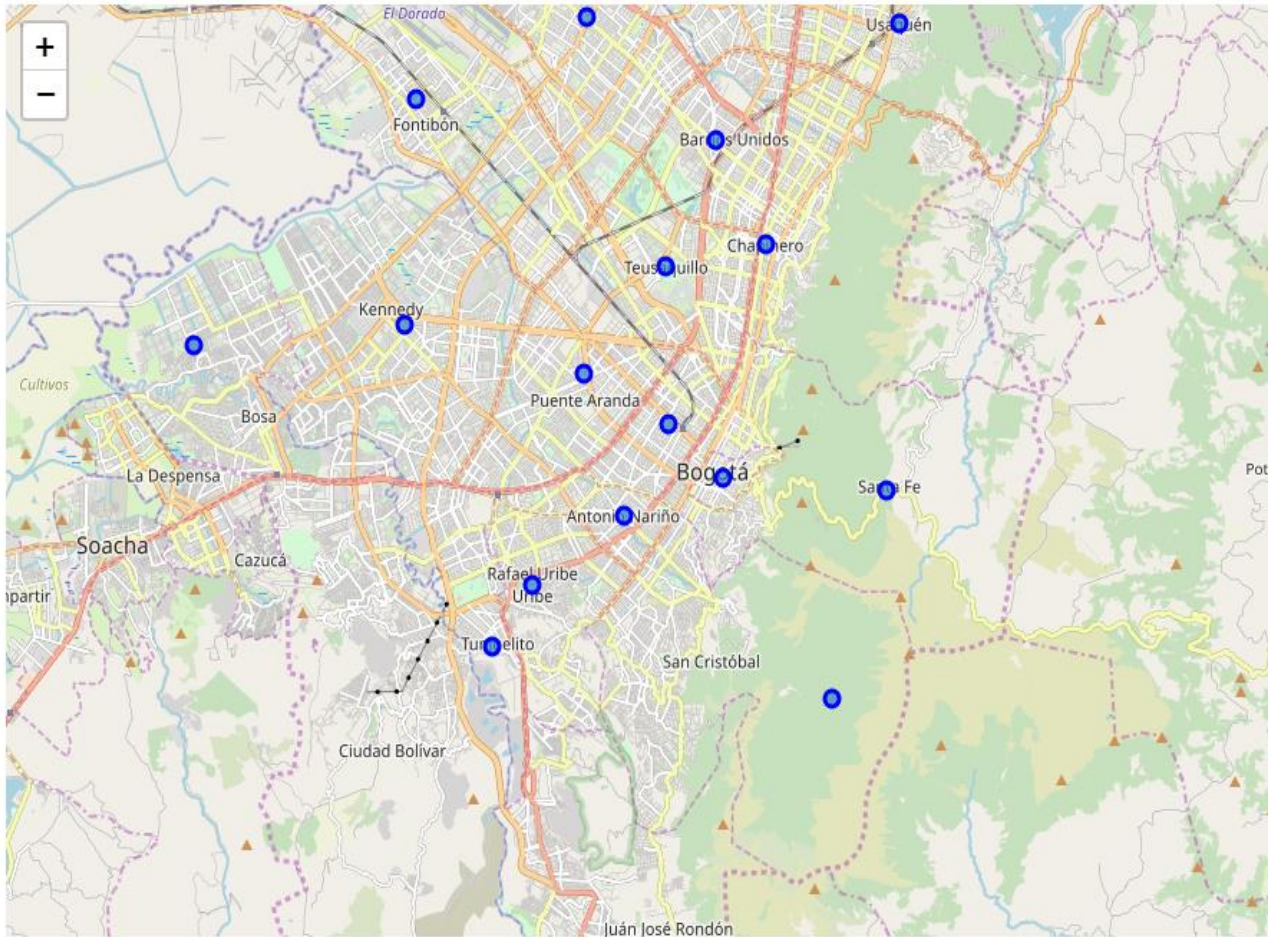
# Data

- To help Sally in her search we will need to access following data:
- The Localities of Bogotá, Colombia from Wikipedia:  
[https://es.wikipedia.org/wiki/Anexo:Localidades de Bogot%C3%A1](https://es.wikipedia.org/wiki/Anexo:Localidades_de_Bogot%C3%A1)
- The coordinates (latitude, longitude) at these Localities of Bogotá from Open Street Map APIs
- From Foursquare we will need following venues data:
- The Cafe Shop venues of the Localities
- The offices venues of the Localities
- The high schools venues of the Localities
- The universities venues of the Localities
- We will then leverage the data in order to determine which locality is the most appropriate in order to locate the Cafe Shop.

# Methodology

- For each locality, all office, school, university and Cafe Shops venues data have been collected from Foursquare.
- Then for each locality, the sums of the office, school, university and Cafe Shops were computed.
  - For each of this 4 categories, a weight (or penalty) has been defined according to what Sally considers the most important.
- Cafe Shops have been weighted with -1, since Sally wants to avoid concurrence.
- Schools have been weighted with 1, since student are good customers.
  - Universities have been weighted with 1.5, since students are good customers.
- Offices have been weighted with 2, since employees are even better customers.
- Note that the weights can be modified according to the importance of each category.
- Lastly, a score was computed for each locality as the weighted sum of the number of venues in each of the 4 categories (school, university, office, Cafe Shops).

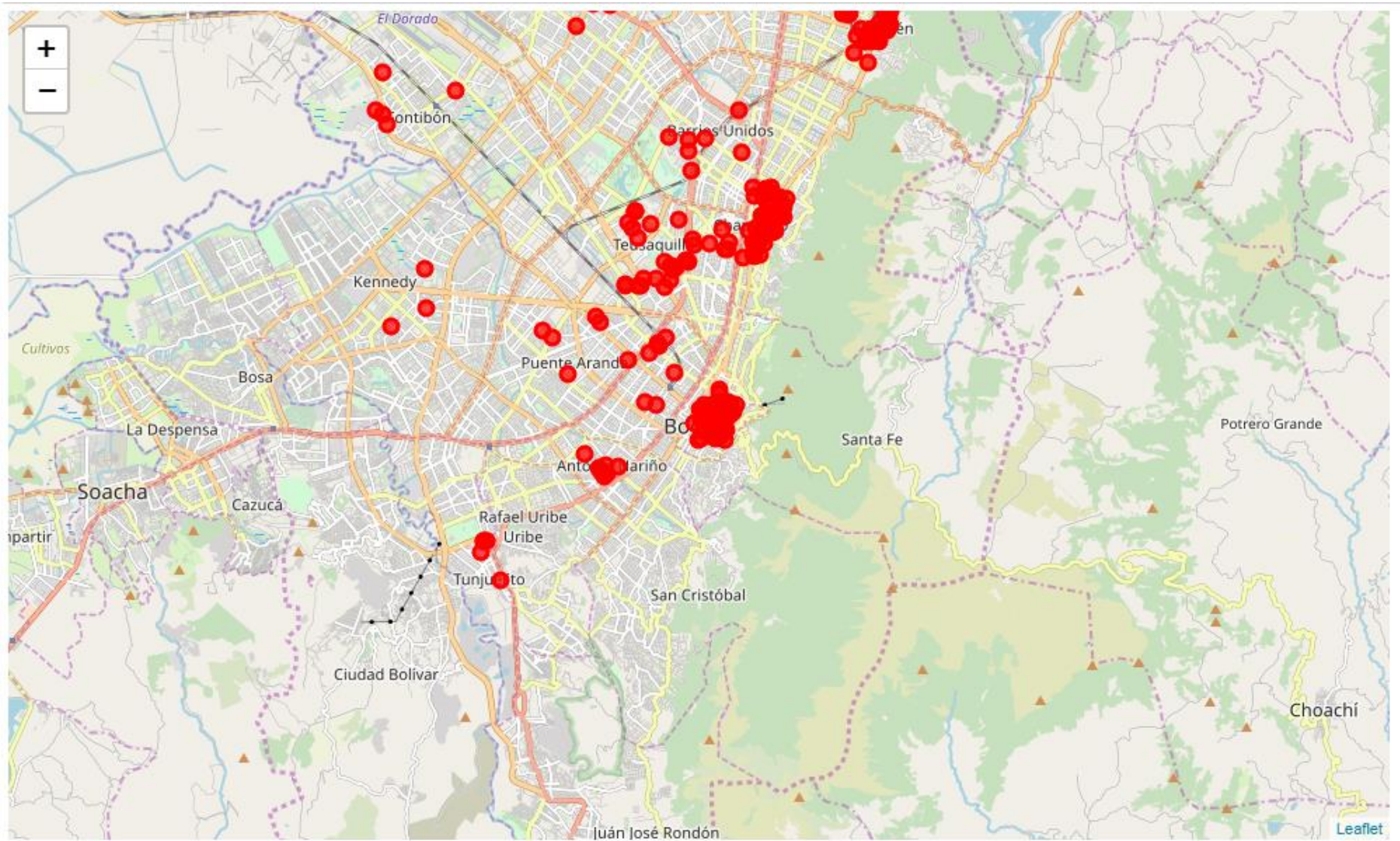
# Localities of Bogotá, Colombia



	Localidades	Latitude	Longitude
0	Usaquén	4.695047	-74.031493
1	Chapinero	4.647120	-74.063458
2	Santa Fe (Bogotá)	4.593766	-74.034314
3	San Cristóbal (Bogotá)	4.548658	-74.047473
4	Usme	4.411136	-74.129108
5	Tunjuelito	4.560148	-74.128922
6	Bosa (Bogotá)	4.625492	-74.200280
7	Kennedy (Bogotá)	4.629682	-74.149935
8	Fontibón	4.678737	-74.146988
9	Engativá	4.696628	-74.106120
10	Suba	4.761197	-74.082518
11	Barrios Unidos (Bogotá)	4.669679	-74.075483
12	Teusaquillo	4.642343	-74.087217
13	Los Mártires	4.608375	-74.086538
14	Antonio Nariño (Bogotá)	4.588253	-74.097455
15	Puente Aranda	4.619234	-74.106763
16	La Candelaria	4.596515	-74.073492
17	Rafael Uribe Uribe (Bogotá)	4.573490	-74.119208
18	Ciudad Bolívar (Bogotá)	4.492632	-74.143119
19	Sumapaz (Bogotá)	4.097379	-74.342307

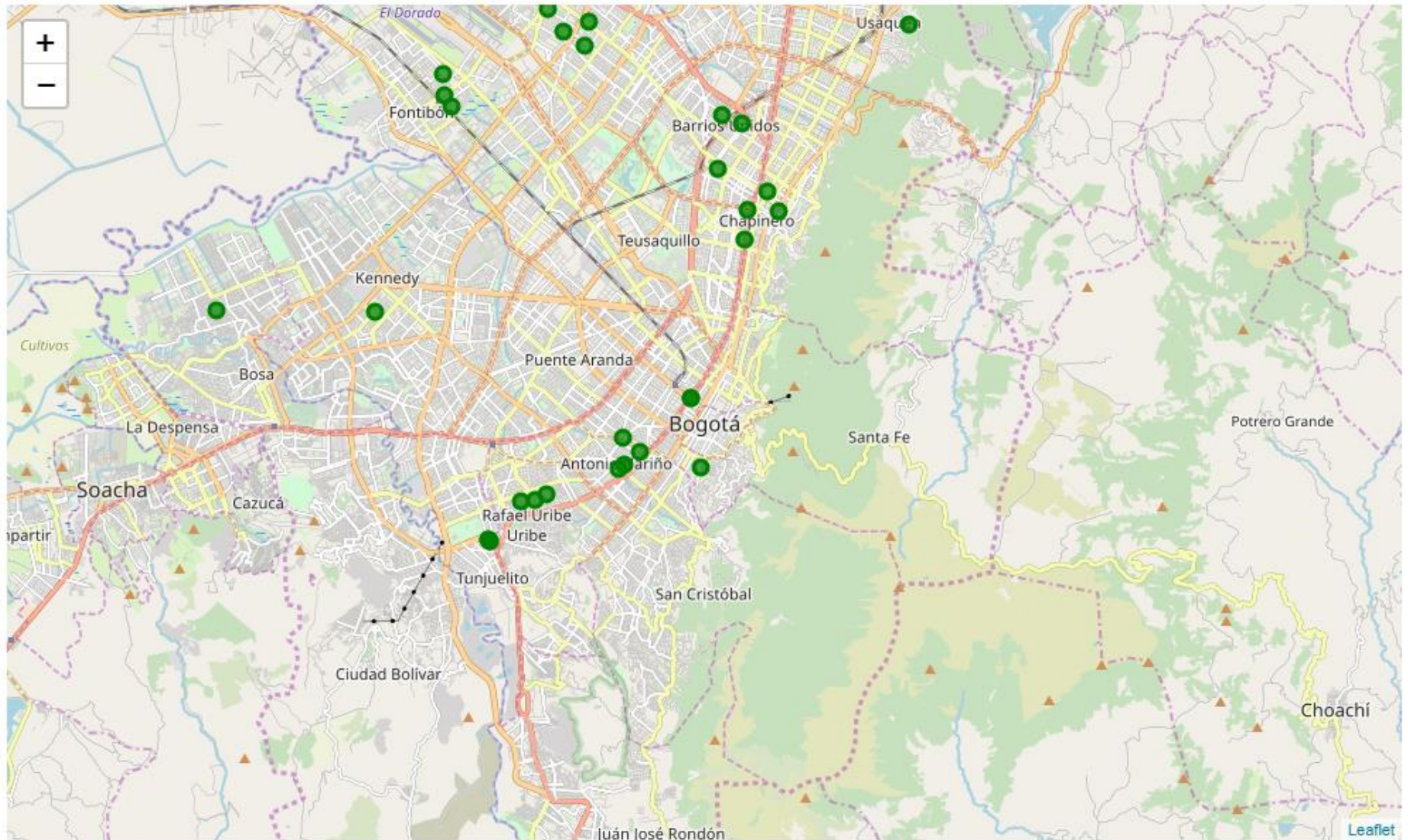
## Café Shops in Bogotá Localities





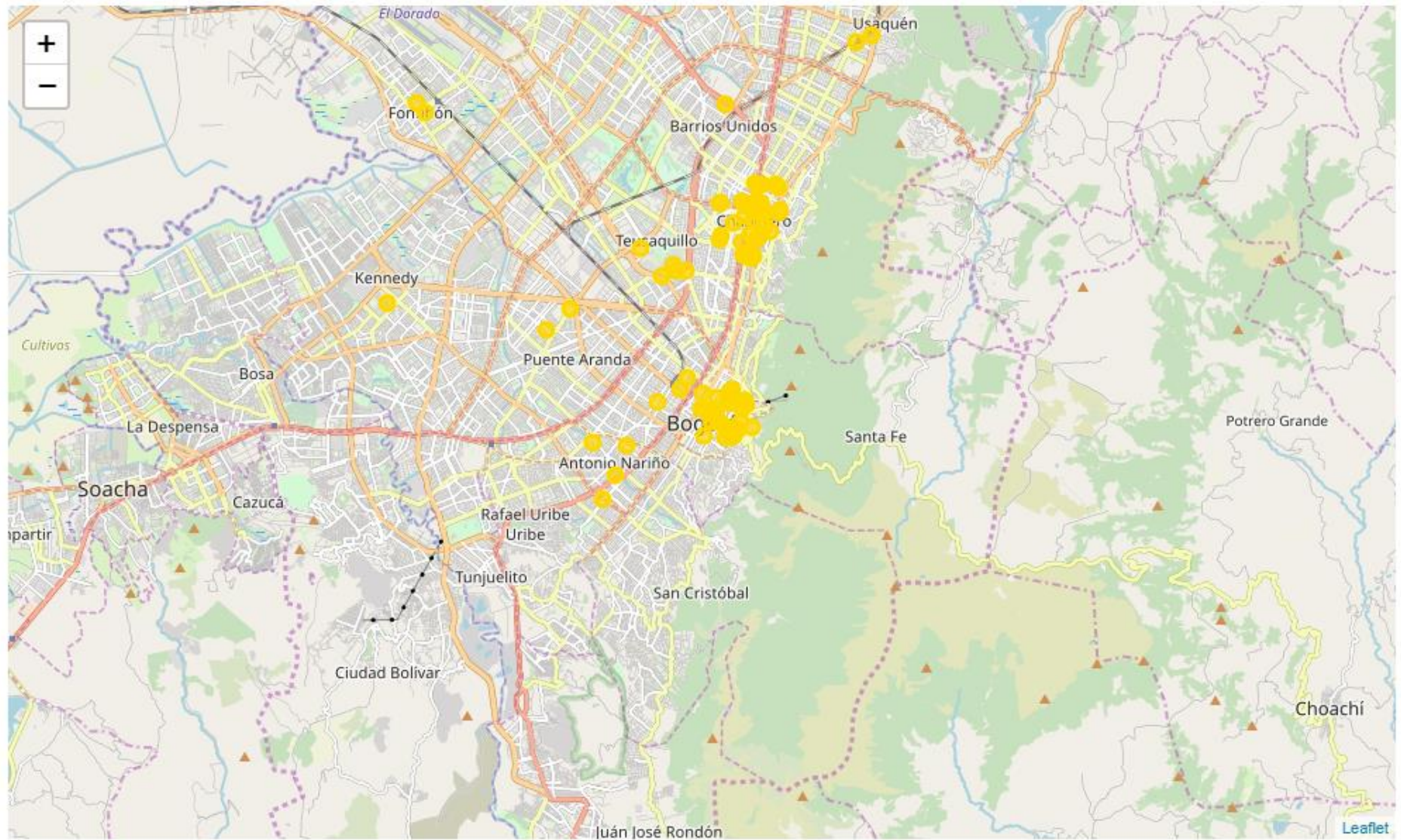
## High Schools in Bogotá Localities





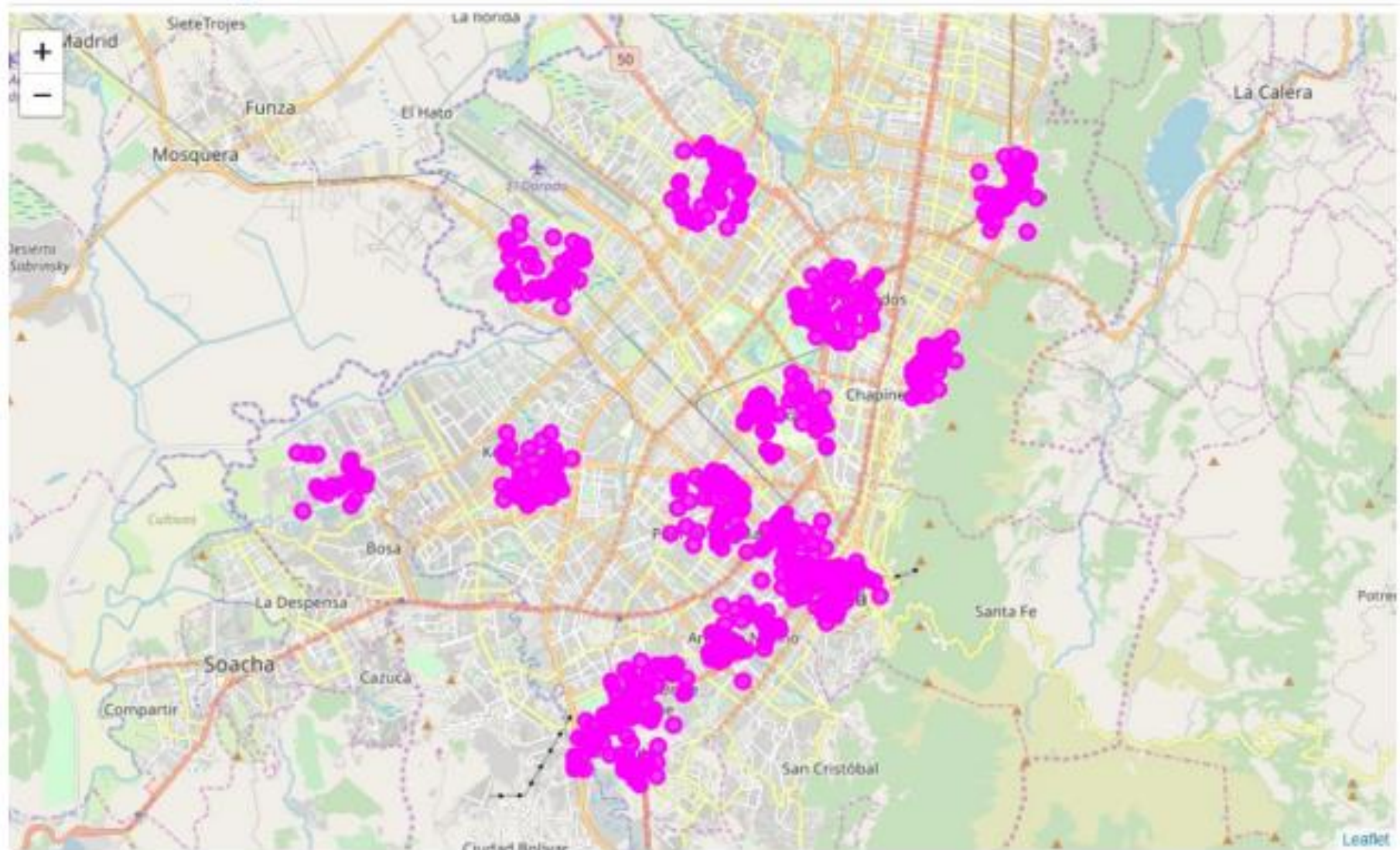
## Universities in Bogotá Localities





## Offices in Bogotá Localities





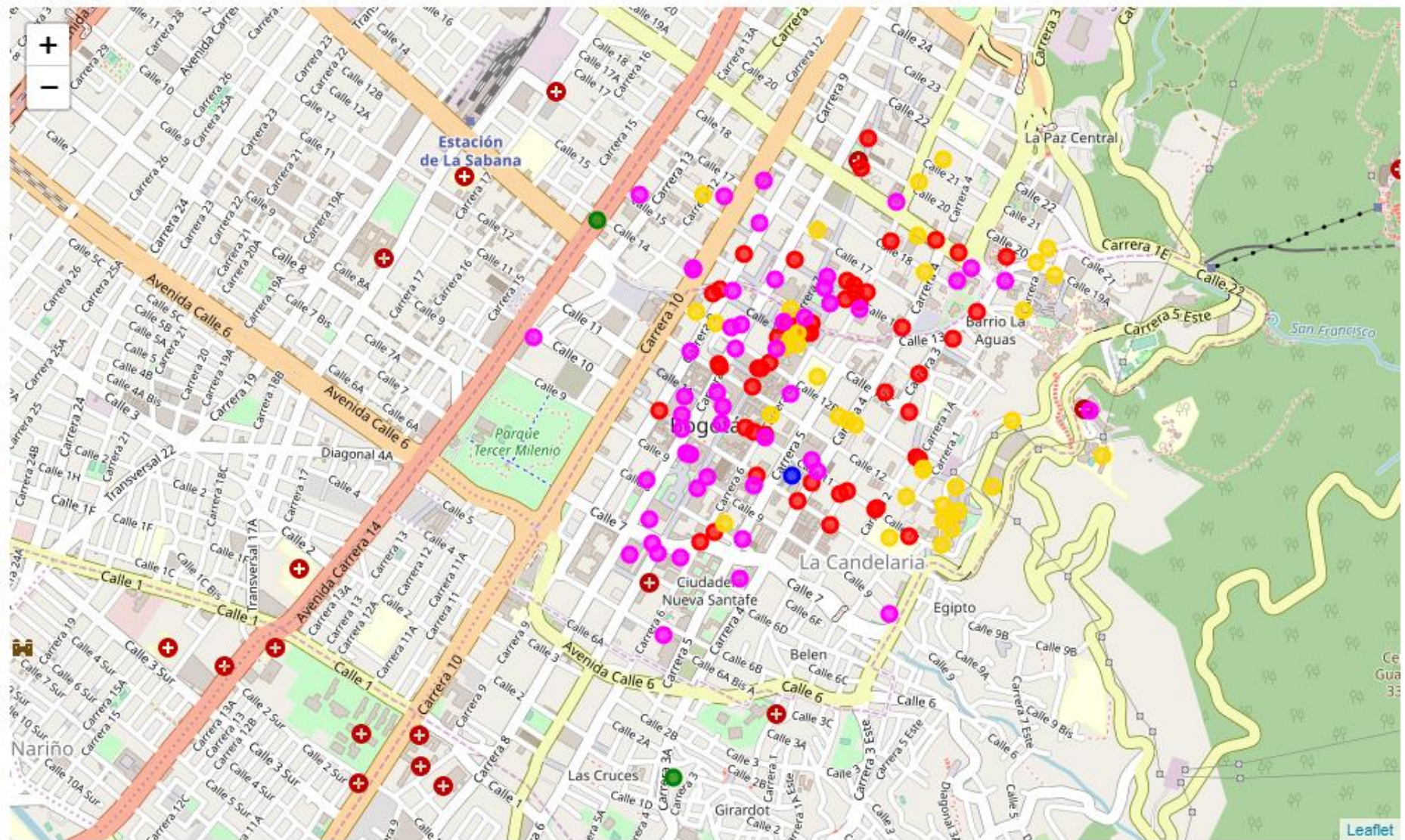
Results

	<b>Localidad</b>	<b>Score</b>
<b>1</b>	Chapinero	110.0
<b>16</b>	La Candelaria	107.5
<b>9</b>	Engativá	98.5
<b>14</b>	Antonio Nariño (Bogotá)	98.0
<b>11</b>	Barrios Unidos (Bogotá)	95.5
<b>17</b>	Rafael Uribe Uribe (Bogotá)	95.0
<b>15</b>	Puente Aranda	94.0
<b>8</b>	Fontibón	93.0
<b>7</b>	Kennedy (Bogotá)	91.5
<b>13</b>	Los Mártires	90.5
<b>5</b>	Tunjuelito	86.0
<b>12</b>	Teusaquillo	81.5
<b>0</b>	Usaquén	57.5
<b>10</b>	Suba	54.0
<b>6</b>	Bosa (Bogotá)	45.0
<b>4</b>	Usme	0.0
<b>3</b>	San Cristóbal (Bogotá)	0.0
<b>2</b>	Santa Fe (Bogotá)	0.0
<b>18</b>	Ciudad Bolívar (Bogotá)	0.0
<b>19</b>	Sumapaz (Bogotá)	0.0

- The Locality with the best score is “Chapinero” with 110, being the best option.
- Follows closely “La Candelaria” with 107.5
- These options maximize the number of potential customers from offices and universities and at the same time have not too large competence.



# Best Place for the Cafe Shop in Bogotá is “Chapinero”



# **Recommendation**

**The following analysis can be improved with following extensions:**

- Consider more categories. For example like "Night life" which is also a good source for customers. But also like "Restaurants", which even if not Cafe Shops may be some concurrence if too many.
- In the Locality itself, it can also be computed the distance between all the venues in order to find a place with the most number of potential customers.
- Using smaller geographical areas like Neighborhoods could improve the accuracy for the scores.