

# BUILDING A HOTEL IN PORTO

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## 1. Introduction

Oporto is a historic place. It is a charismatic city, with proud residents. Filled with beautiful monuments and breathtaking landscapes, as well as home of one of the most famous football clubs in the world (FC Porto). In recent years, the most famous city in northern Portugal has witnessed a growing wave of tourism, with tourists from all over the world visiting the city. Given the growing interest in the city, businesses such as catering and hotels find the perfect opportunity to thrive.

### 1.1.The problem to be solved:

Given the growing wave of tourism in Oporto, a hotel building group is interested in opening a hotel in the city. They want to know what would be the best place in the city to open a hotel.

### 1.2. About Oporto:

Oporto is made up of 15 localities.

Aldoar	Massarelos
Bonfim	Miragaia
Campanhã	Nevogilde
Cedofeita	Paranhos
Foz do Douro	Ramalde
Lordelo do Ouro	Santo Ildefonso
São Nicolau	Sé
Vitória	

Table 1 – Oporto Localities

### **1.3. What do we need?**

We need to choose the best Locality in Oporto to Build a hotel. The ideal place to open a city hotel should take into account the following characteristics:

- Low amount of competition (other hotels)
- Presence of several nearby restaurants
- Near nightlife establishments
- Near the city's monuments and other art and leisure sources
- Easy subway access for tourists to move around the city in peace

### **1.4. Who would be interested in this project (Target Audience):**

- Hotel investors
- Tourists
- Traders.
- Residents

## **2. The data we need:**

- The localities of Oporto and their coordinates (latitude, longitude).
- **Venues of the localities we need from Foursquare (categories):** Hotels, Restaurants, Nightlife establishments, Art and Leisure Sources and Subway stations

## **3. Methodology:**

First, we must collect, for each locality, all hotels, restaurants, night establishments, art and leisure places and subway stations venues data from Foursquare.

Then, we should compute, for each locality, the sums of the hotels, restaurants, night establishments, art and leisure places and subway stations.

For each category, a weight (or penalty) will be defined according to what we think is important for a hotel to be successful.

Finally, we should compute a score for each locality as the weighted sum of the number of venues in each of the categories above.

## **4. Results and Discussion**

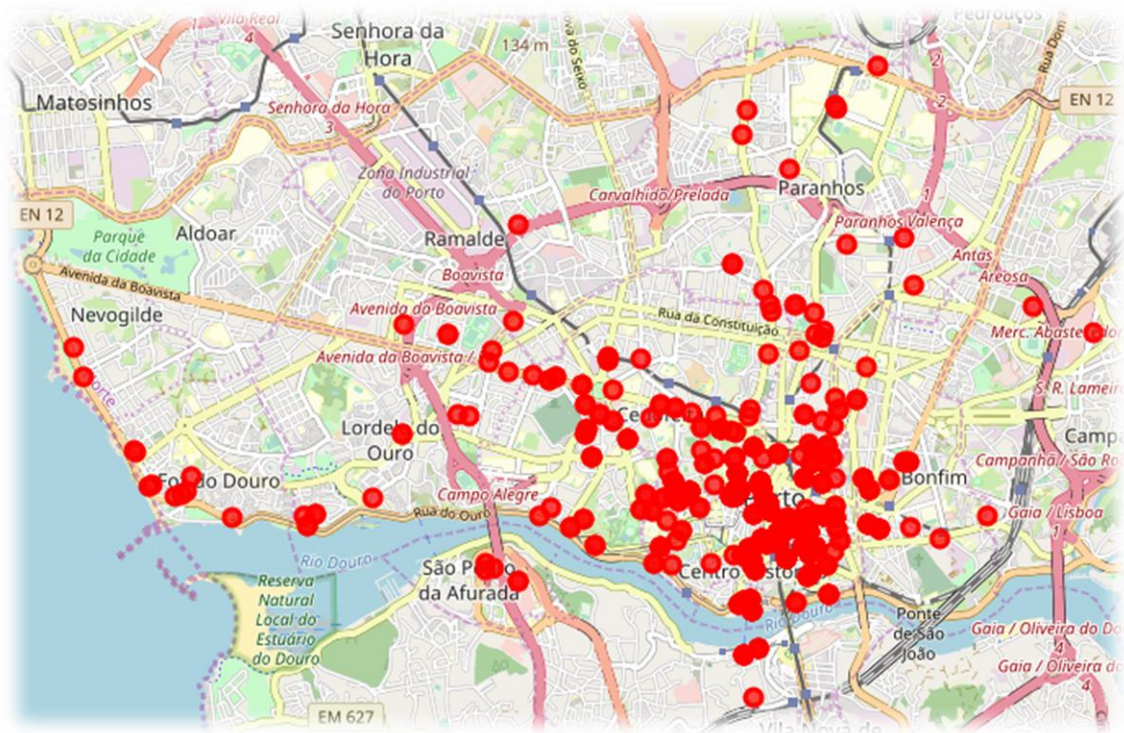


Figure 1 – Map of Oporto Hotels (marked)

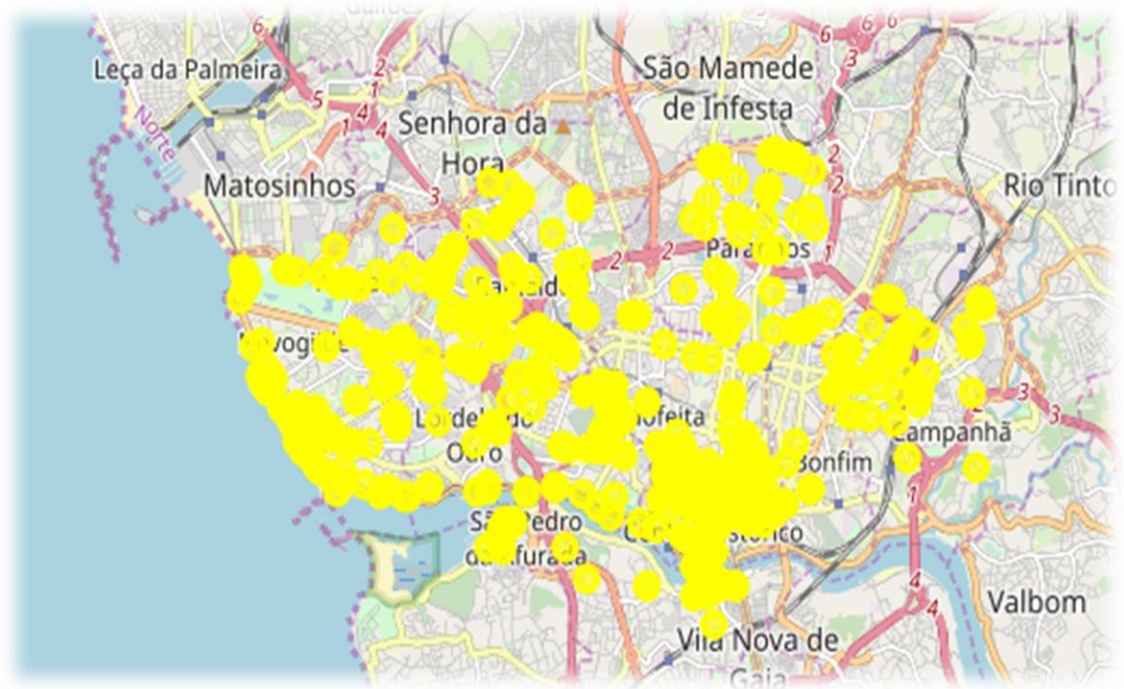


Figure 2 – Map of Oporto Restaurants (marked)



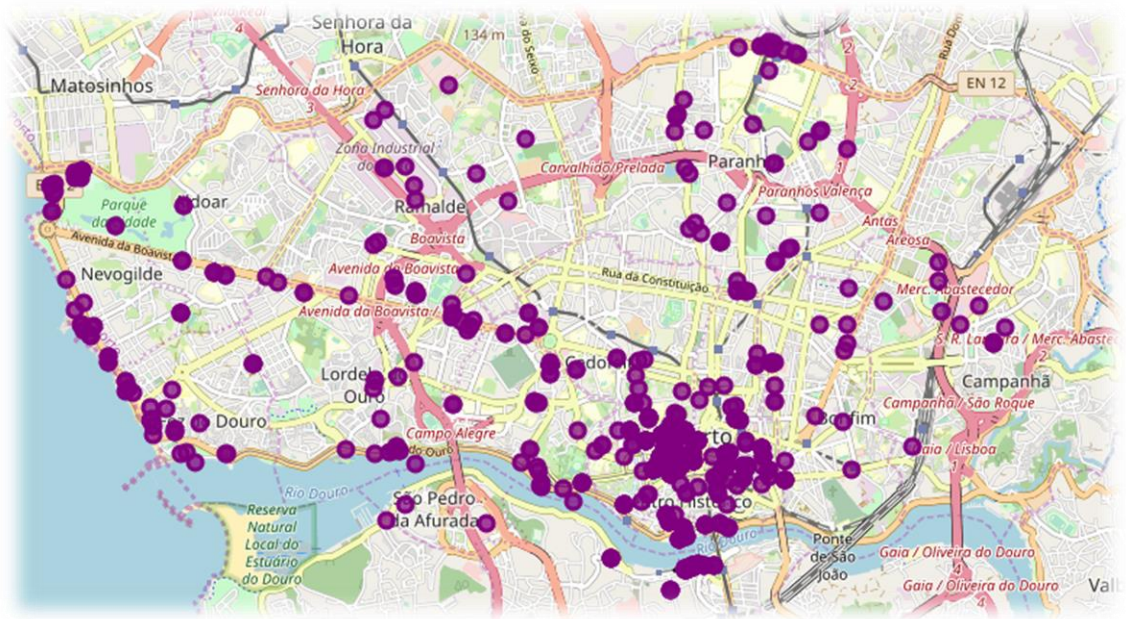


Figure 3 – Map of Oporto Night Establishments (marked)

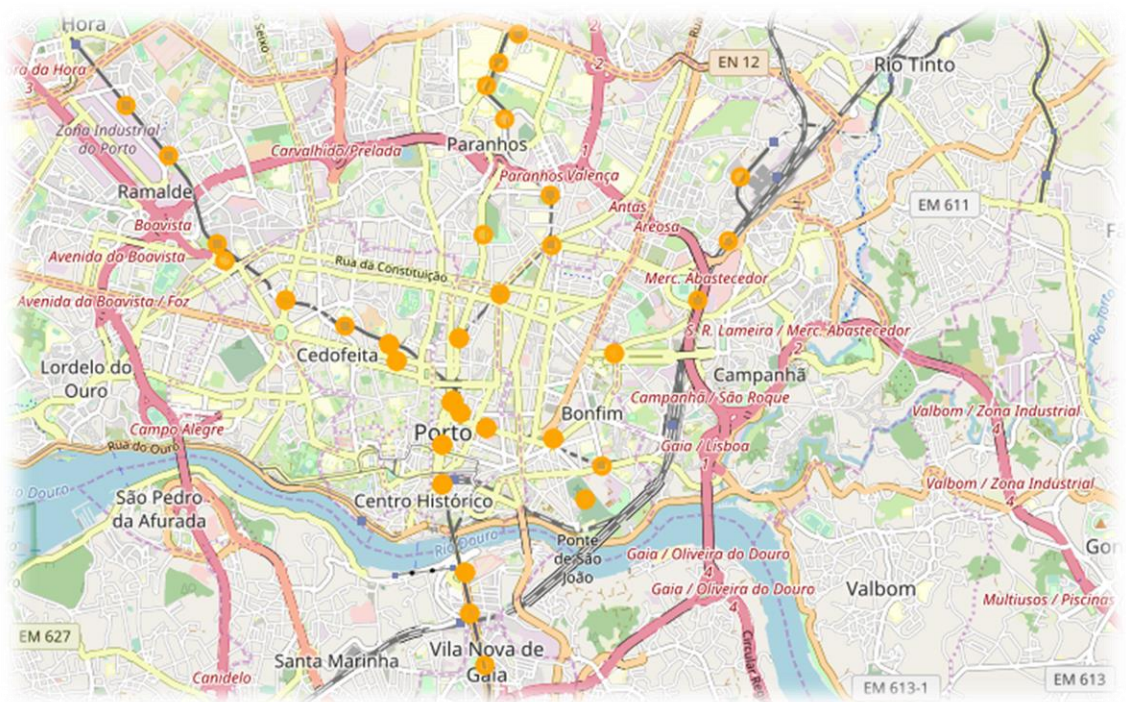


Figure 4 – Map of Oporto Subway Stations (marked)

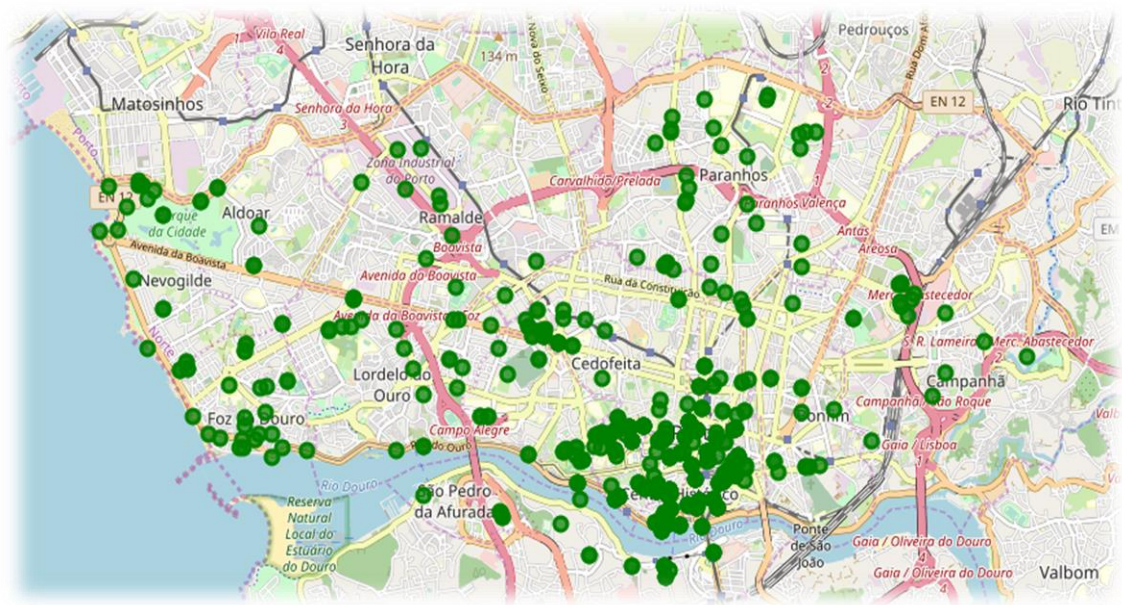


Figure 5 – Map of Oporto Art and Leisure Places Stations (marked)

	Localidade	Latitude	Longitude	Hotel	Restaurants	Nocturn Life	Art and Leisure	Subway
0	Aldoar	41.167935	-8.668306	0.0	50.0	10.0	12.0	0.0
1	Bonfim	41.152711	-8.597608	50.0	50.0	50.0	47.0	10.0
2	Campanhã	41.159674	-8.576985	2.0	50.0	12.0	14.0	4.0
3	Cedofeita	41.158350	-8.621314	50.0	50.0	49.0	47.0	5.0
4	Foz do Douro	41.151305	-8.670185	12.0	50.0	26.0	25.0	0.0
5	Lordelo do Ouro	41.154044	-8.651083	12.0	50.0	33.0	22.0	0.0
6	Massarelos	41.149678	-8.631936	49.0	50.0	50.0	48.0	1.0
7	Miragaia	41.145485	-8.620929	50.0	50.0	50.0	48.0	3.0
8	Nevogilde	41.164363	-8.681921	2.0	50.0	39.0	19.0	0.0
9	Paranhos	41.173513	-8.605900	18.0	50.0	48.0	28.0	7.0
10	Ramalde	41.171649	-8.642028	3.0	50.0	19.0	10.0	4.0
11	Santo Ildefonso	41.153628	-8.607705	50.0	50.0	50.0	48.0	11.0
12	São Nicolau	41.141013	-8.614407	50.0	50.0	50.0	48.0	5.0
13	Sé	41.142854	-8.608236	50.0	50.0	50.0	48.0	8.0
14	Vitória	41.146769	-8.614988	50.0	50.0	50.0	48.0	9.0

Table 2 – Oporto scores by localities and categories (not weighted)



	Localidade	Score
11	Santo Ildefonso	138.5
1	Bonfim	135.5
14	Vitória	135.5
13	Sé	134.0
9	Paranhos	132.5
12	São Nicolau	129.5
3	Cedofeita	127.0
7	Miragaia	126.5
6	Massarelos	124.5
8	Nevogilde	115.5
5	Lordelo do Ouro	104.0
4	Foz do Douro	101.5
2	Campanhã	87.0
10	Ramalde	87.0
0	Aldoar	78.0

Applying the above explained tests, we find that the locality with the best score is “Santo Ildefonso” with 138.5 pts. Given that this location is right in the center of the city, the construction of a hotel in this location seems appropriate as it contains all the features we took into account in our analysis. With this result we maximize the number of potential tourists who will visit the hotels.

As expected, localities on the outskirts of the city have the worst results, as they do not have the desired features in large numbers.

## 5. Conclusions

In this study, we analyzed the best place to build a hotel in Oporto, taking into account the hotels, restaurants, night establishments, art and leisure places and subway stations nearby. According to our tests, Santo Ildefonso seems to be appropriated to build a hotel in the city.

Table 3 – Oporto scores by localities (weighted)

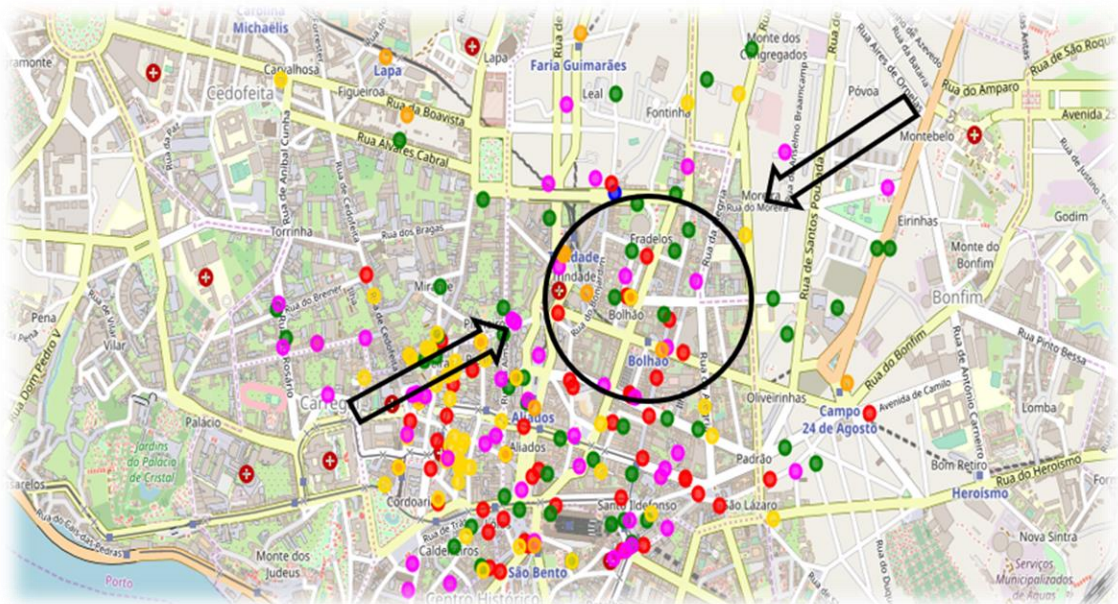


Figure 6 – Map of Oporto Art and Leisure Places Stations (marked)