

# Where to buy a flat for Airbnb in Budapest?

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Applied Data Science Capstone  
by IBM/Coursera



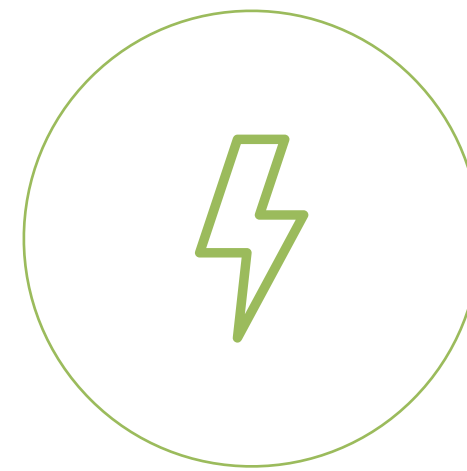
# Introduction

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## BACKGROUND

In Budapest the number of Airbnb overnight stays reached almost 1.5 million in 2017. A lot of investors buy flats specifically to rent them as Airbnb accommodations. However, it is very important that the flat has an excellent location that is attractive for tourists. In Budapest, the Airbnb letting market is mostly concentrated within the downtown area – District V, VI and VII – followed by districts VIII, IX, XIII and I. The top 3 neighbourhoods account for 69% of the total Airbnb supply in Budapest.



## PROBLEM

Let's imagine that an investor wants to buy a flat to rent it as Airbnb. What is the right location for such a flat? It should be in one of those neighborhoods where there are lots of tourist attractions, bars, restaurants and other venues that are attractive for tourists. However, housing prices should also be considered. The goal of this project is to find the best neighborhoods in Budapest to buy a flat for Airbnb based on the nearby venues of interest and housing prices.

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## INTEREST

The results can be useful for any investor who wants to buy a flat in Budapest to rent as an Airbnb accommodation. The Budapest Airbnb market is driven by professional operators who own multiple accommodations. Around 65% of listings are offered by hosts that have at least two listings, which is much higher than the 40-50% average multi-listers ratio across most other European cities. However, there are also small investors who rent only one apartment.



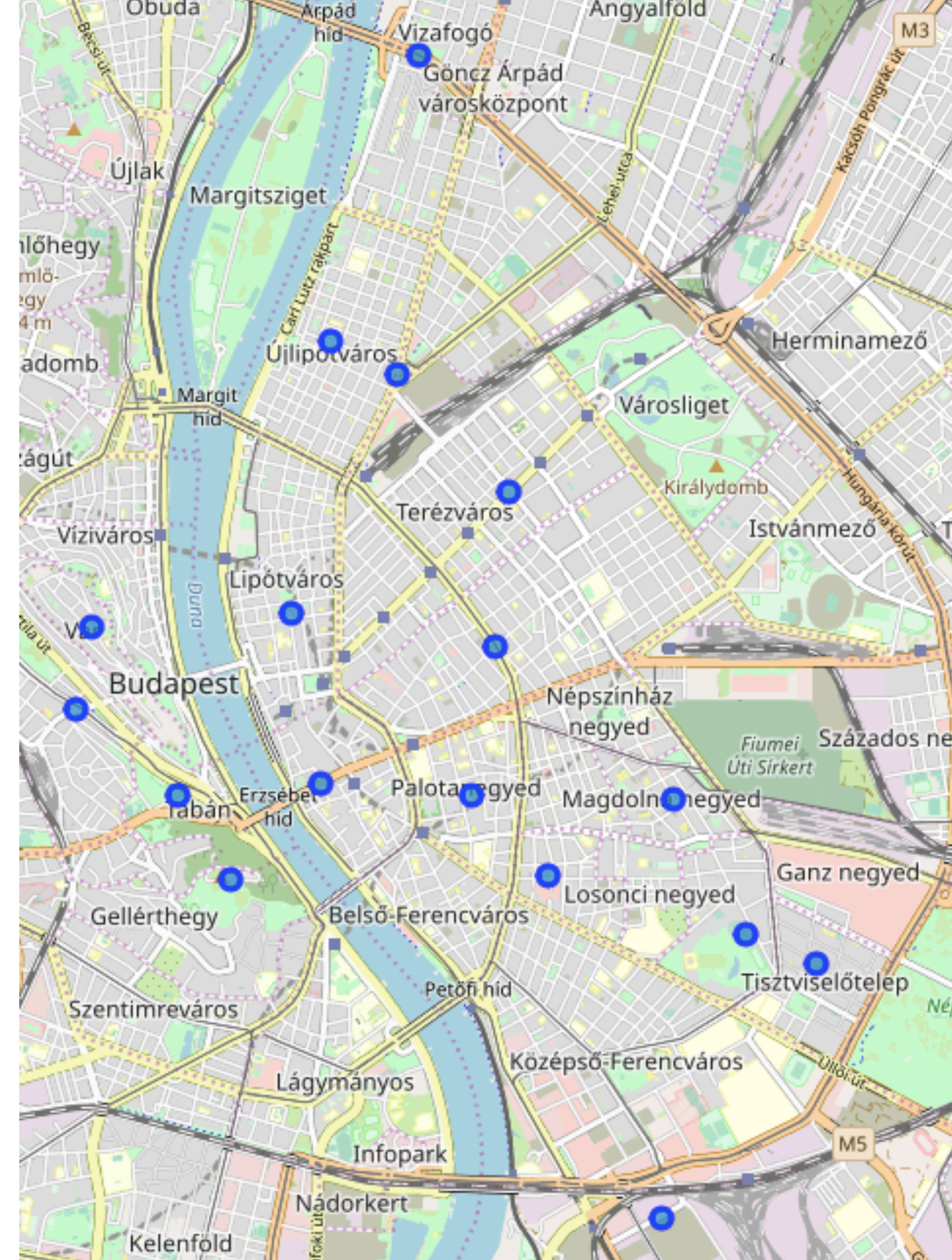
# Neighborhood Candidates

Budapest has 23 districts numbered from I to XXIII. The Airbnb room demand is concentrated within the downtown area and is insignificant in the rest of the districts, so I work only with districts I, V, VI, VII, VIII, IX and XIII.

In these 7 districts there are 17 neighborhoods.

I got their data from Wikipedia ([https://hu.wikipedia.org/wiki/](https://hu.wikipedia.org/wiki/Budapest_v%C3%A1rosr%C3%A9szek_list%C3%A1ja)

Budapest\_v%C3%A1rosr%C3%A9szek\_list%C3%A1ja)

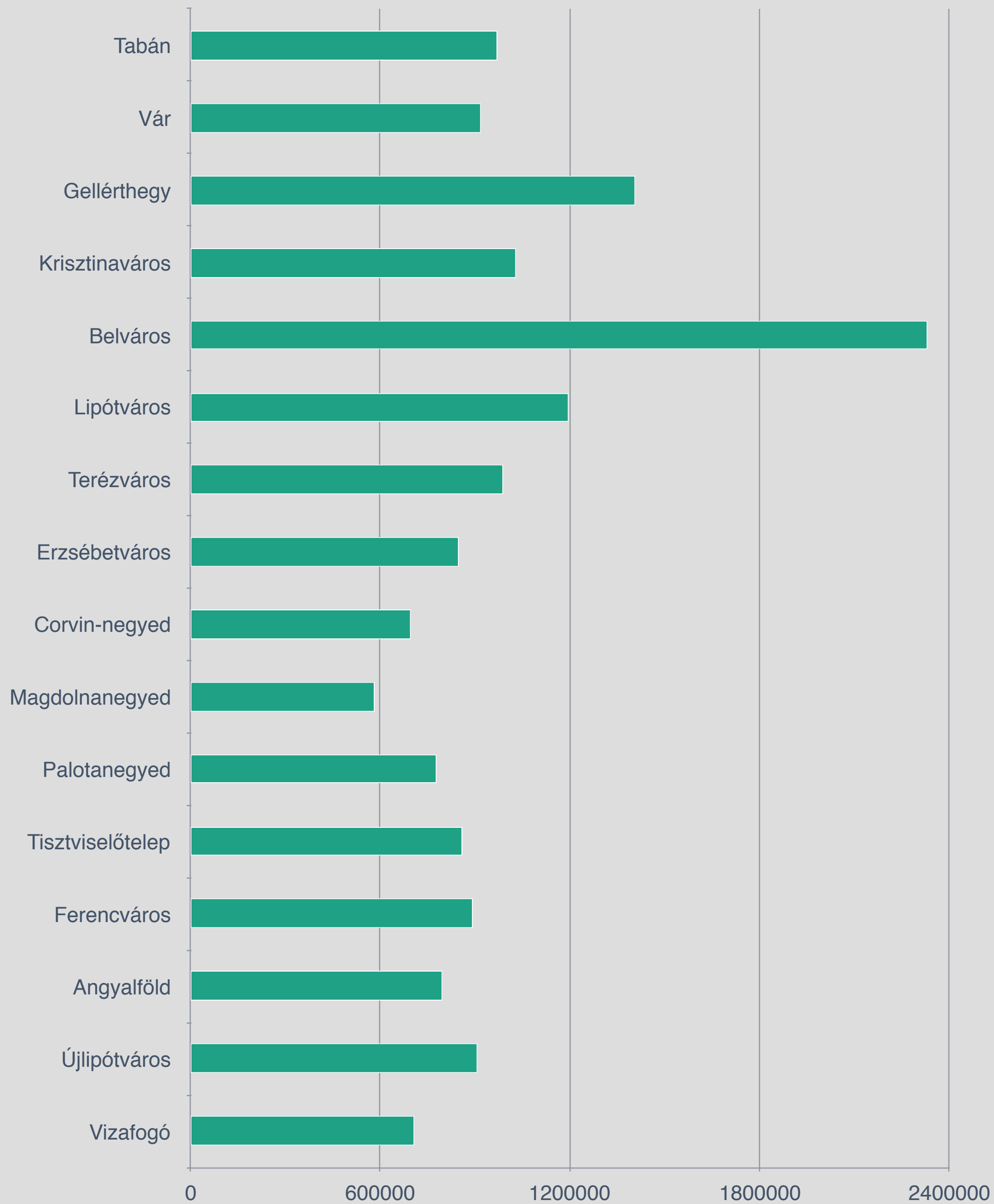




# Housing Prices

The second group of data we need is the average housing price in each potential neighborhood. I found the average price in Hungarian Forint / m<sup>2</sup> in each neighborhood on the website <https://www.ingatlanet.hu/statisztika/Budapest>.

We can see that there are huge differences between the housing prices. The neighborhood Belváros is by far the most expensive, this is the city centre where there are very few flats and most of them are luxury penthouses.

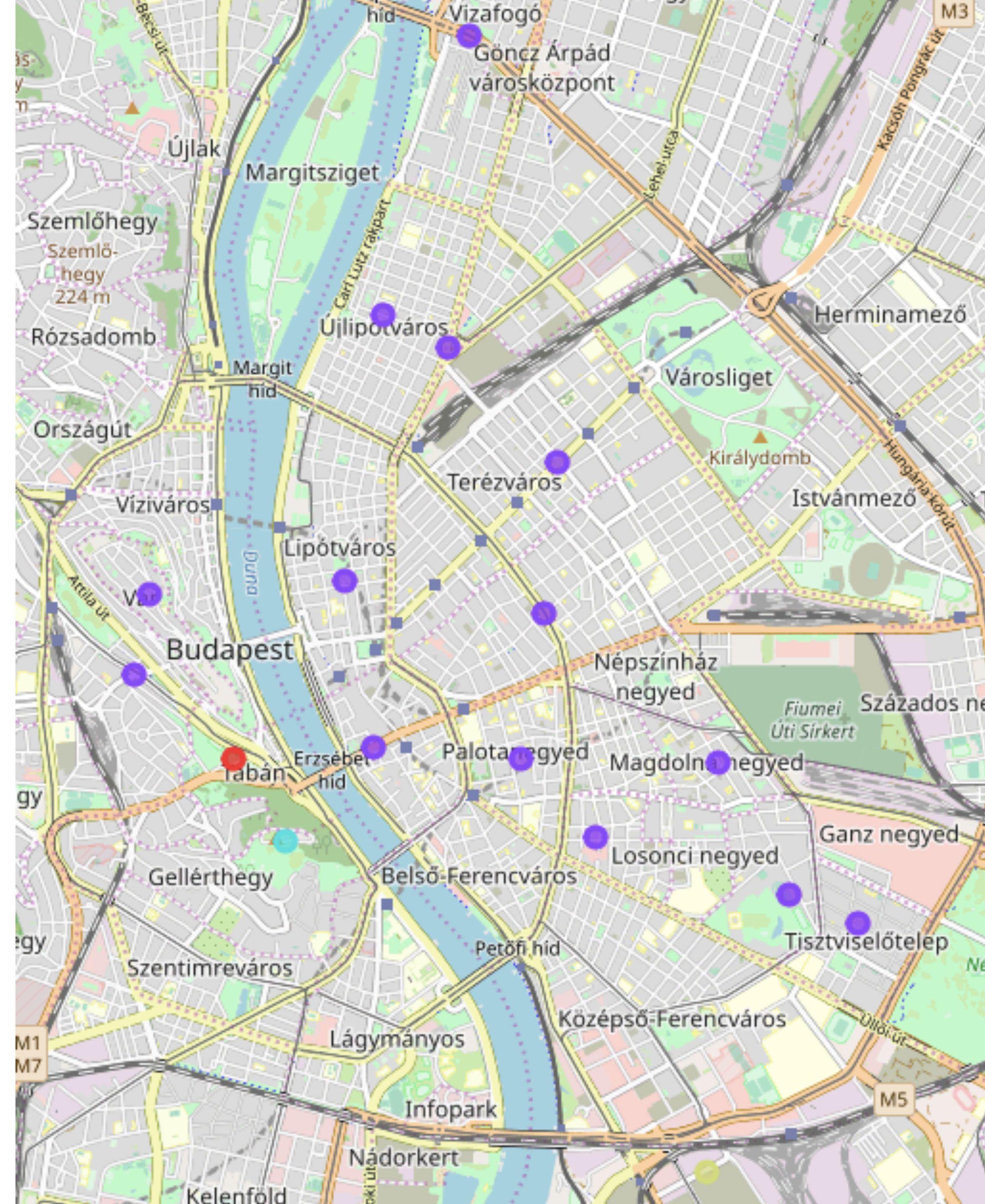




# Clustering

I used the Foursquare API, to get the venues of interest in each candidate neighborhood, and divided the neighborhoods into four clusters based on the types of venues by k-means clustering.

We can see that most neighborhoods belong to the second cluster, which covers the inner city of Budapest. The most common venues here are cafés, hotels, restaurant - those places tourists are usually interested in. This cluster seems like a good place to rent an Airbnb.





# Categories of Interests

in each Neighborhood Candidate

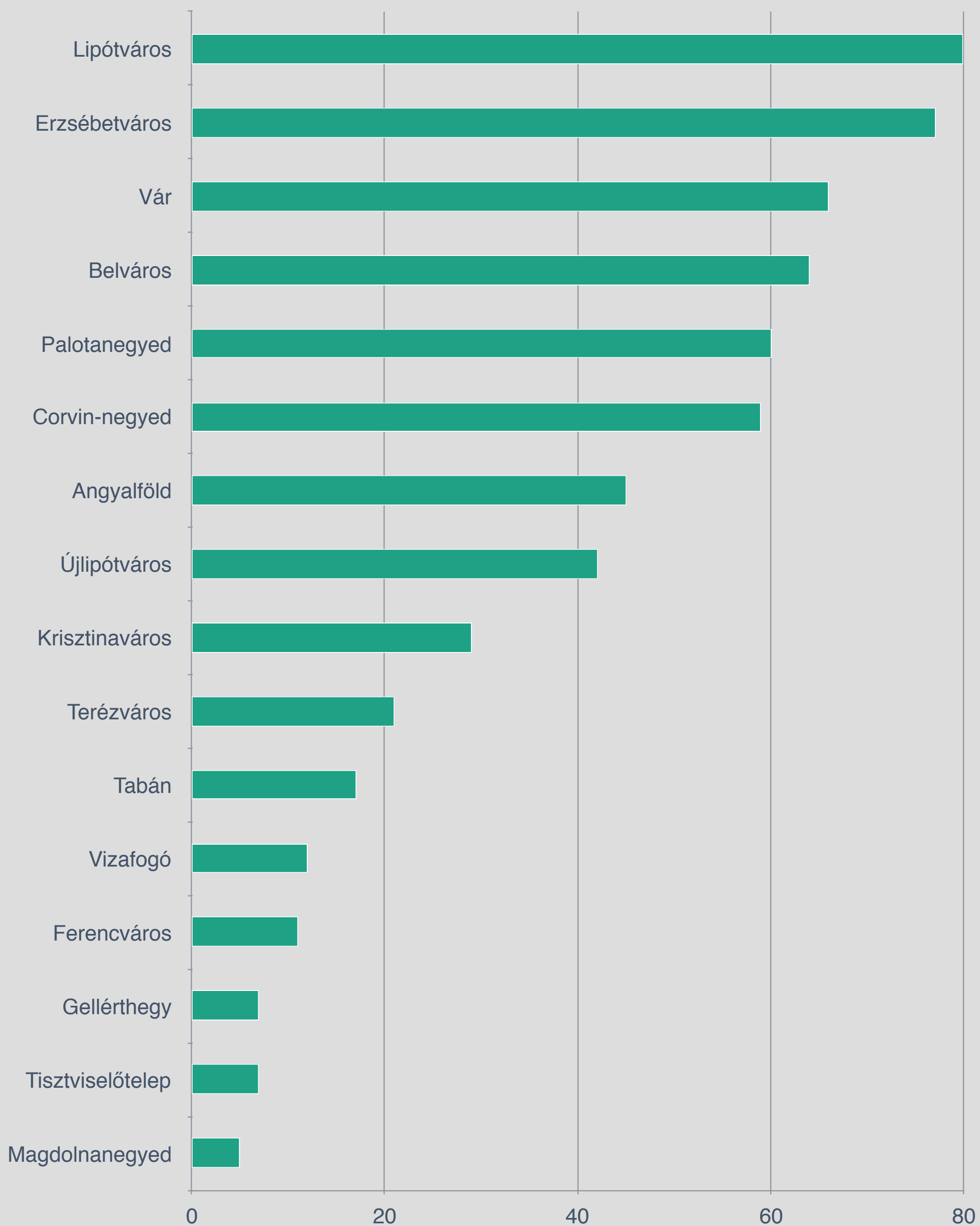


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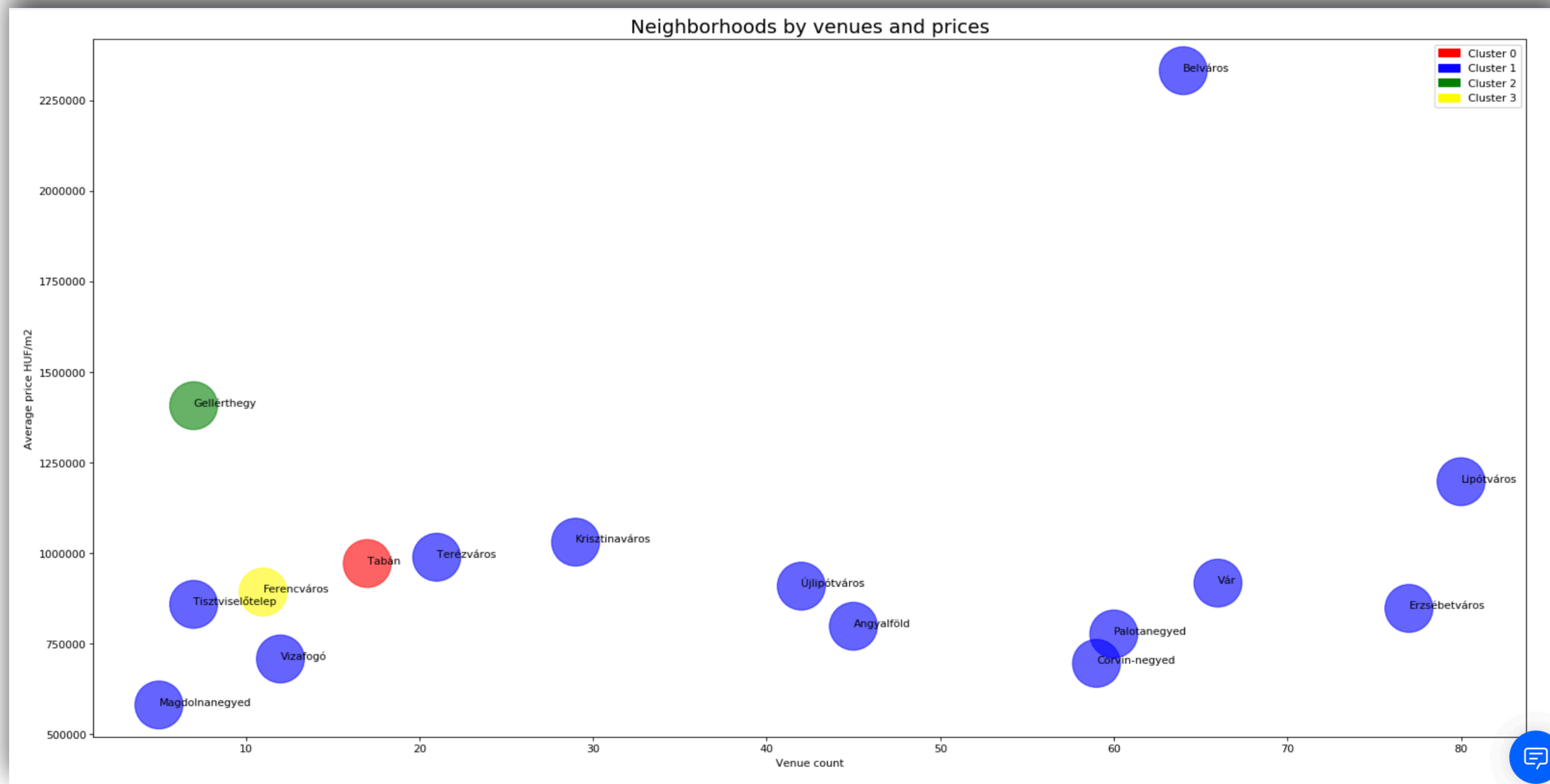
# Number of Venues

People who rent an Airbnb flat typically want to visit specific types of venues, and they are likely to choose an accommodation that is close to these places. Tourists are most likely to visit restaurants, bars, different tourist attractions and other entertainment facilities. Here we can see how many venues in these categories different neighborhoods have. The neighborhoods Lipótváros and Erzsébetváros have the most venues that tourists typically seek.



# Neighborhoods

## by Venues and Prices



The ideal locations are where there are a lot of interesting venues, but the housing prices are quite low – these are located in the lower right corner of the chart.

We can finally determine which neighborhoods are the best locations for Airbnb flats and announce the winners of the battle of neighborhoods: **Erzsébetváros** and **Lipótváros**.



# ... and the winners are...

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## ERZSÉBETVÁROS & LIPÓTVÁROS

This area is referred to as the "Party District" by locals. With its countless bars, cafés and restaurants, it is the most popular spot for young people.

