

# Big Data Analysis

## Do movies bring more tourism to Paris?

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### 1 Introduction

This document aims to analyze the following data set and extract several types of information by displaying them into graphs.

We chose to analyze a free open-source data set about film shootings in Paris, which is joined with this document's archive, in addition with another data set, also joined to the archive, which is a listing of AirBnb rental in Paris in 2015. The problem we want to work with and to answer using this data set is: *Do movies bring more tourism in Paris?* We hypothesize that seeing a movie shot in Paris can convince people to visit Paris. This analysis aims to verify this hypothesis.

### 2 Information extraction from the data set

**Number of movies per year** First of all, we wanted to know more about how the evolution of film shooting has been in Paris. We used the data set to create a graph that shows how many films have been shoot in Paris between 2002 and 2010.

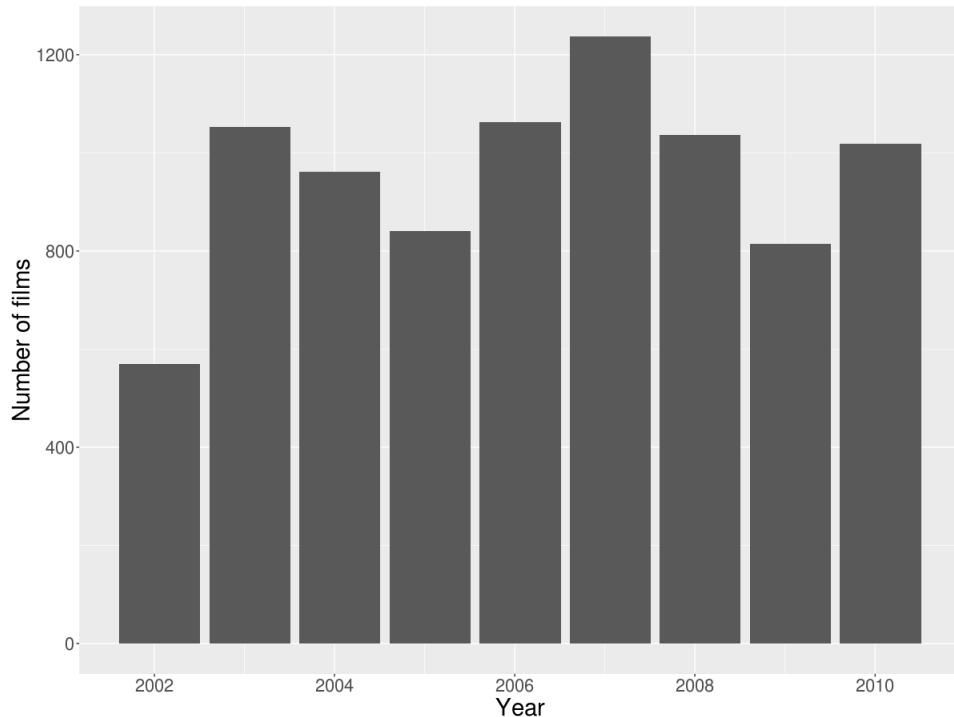


Figure 1: Graph of the number of films shot in Paris per year

We can see that shooting in Paris got more and more attractive from 2002 to 2007, but that it has now come to a stagnation. Can we find the same allure in the evolution of tourism in Paris during the same period?

**Evolution of tourism in Paris** We made a short CSV file from data we get at <http://presse.parisinfo.com/etudes-et-chiffres/chiffres-cles>. This CSV lists the number of reserved nights in Parisian hostels per year from 2002 to 2012. Figure 2 shows this evolution.

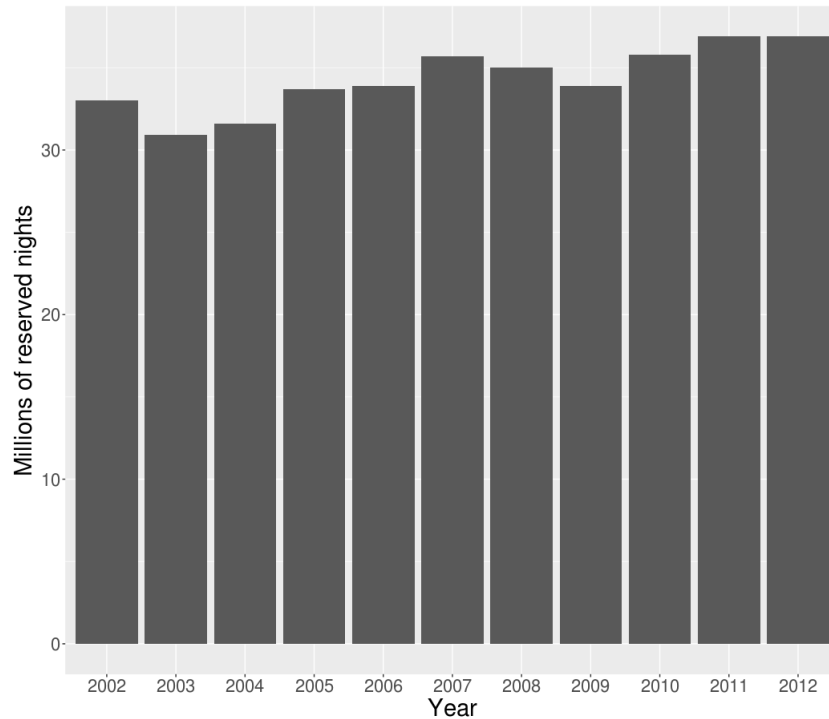


Figure 2: Evolution of the reserved nights in Parisian hostels.

We can observe that from 2002 to 2012, the number of reserved nights has grown quite regularly. We could even note that it has grown from 2003 to 2007 and started to decrease or globally stagnate, following the evolution of the number of movies shot in Paris during this period. But it would be a bit "far-fetched". What about the most popular places in Paris for both movies and tourism?

**Top 10 of Parisian districts where the most movies were shot** Figure 3 shows the top 10 of districts where the most movies were shot.

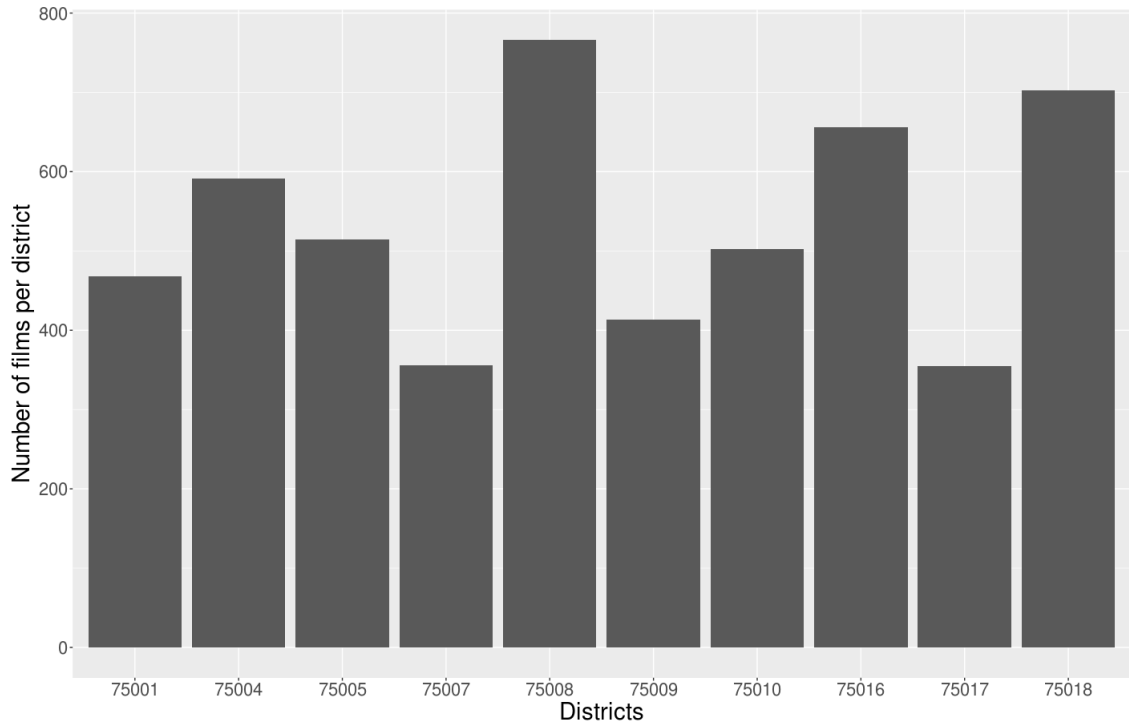


Figure 3: Graph of top 10 districts

What we can learn from Figure 3 is that, apparently, the 8th district is the most popular for movies, followed by the 18th and 16th.

**Comparison with the most popular places in Paris** We wanted to see if the shooting of films had a correlation with the most famous tourist attractions in Paris, such as The Eiffel Tower, *The Orsay Museum*, *The Louvre Museum*, *The Luxembourg garden*, and *The Notre Dame de Paris*. If the films have been shoot nearby an attraction, it would probably have been displayed in the film, and it could have been looked at as a commercial to promote Paris as a tourist destination.

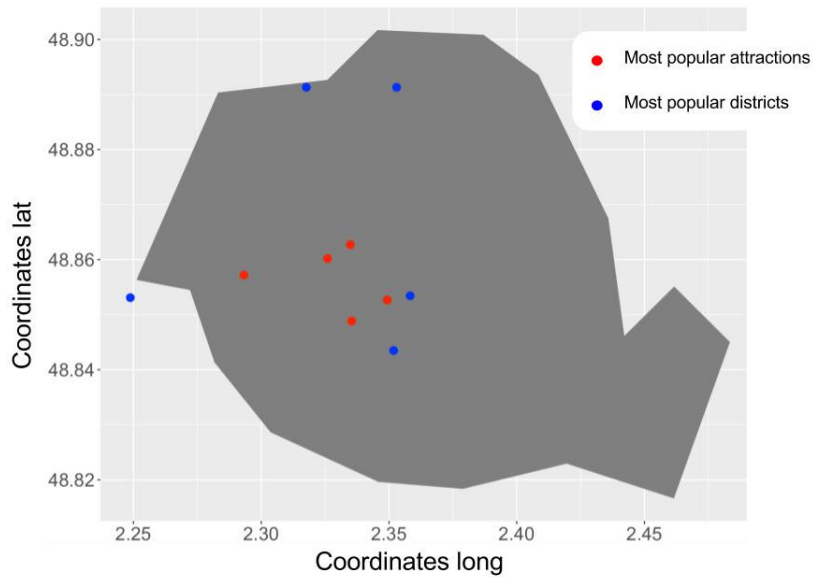


Figure 4: Location of top 5 shooting districts and the most popular tourist attraction in Paris

From the data that we could retrieve, there does not seem to be a strong correlation between famous locations in Paris and the shooting of films. That being said, films showing off Paris in this way have a tendency to be

foreign films, and we have already seen that most of the directors are of french origin. This directors may not feel the need to sell Paris as a city to its inhabitants.

**AirBnb rents in Parisian Districs from 2013 to 2016** Figure 5 shows the number of flat rents in Parisian districts.

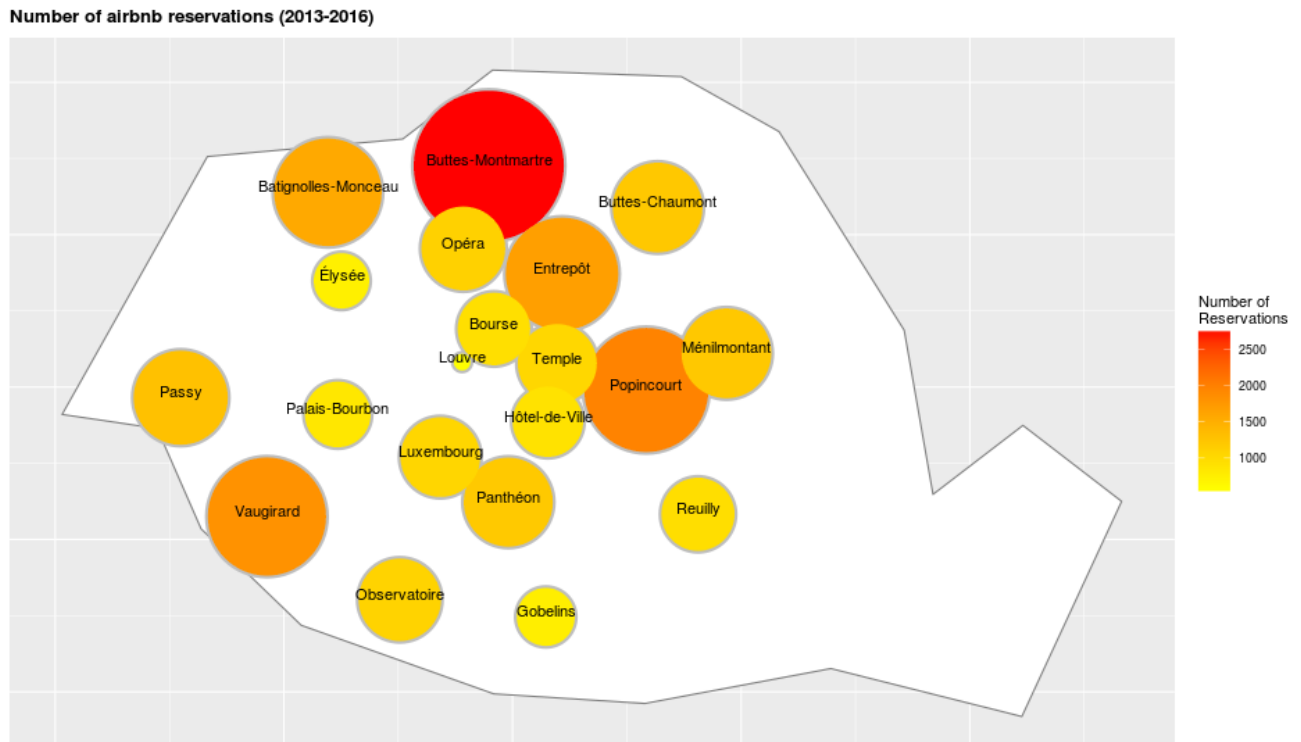


Figure 5: Graph of AirBnb rents in Parisian districs from 2013 to 2016.

By comparing Figure 5 with Figure 4, it appears that there is a correlation between the most popular districts for movie shootings and the districts were most people want to rent flats.

### 3 Conclusion

Parisian cultural councils could extract some interesting information from these data sets in order to emphasize what makes Paris so attractive for movie shootings, and if this increases the number of tourists in the districts where the movies are shot. Our two data sets do not match the same period since the one contains data from 2002 to 2012 while the other, about AirBnb, from 2013 to 2015. Nevertheless, we suppose that the observations drawn from the data would be more or less the same if the data were from the same time period.

Finally, what this analysis emphasizes is that there is a relation between what people see in movies and what they want to experience in real life. The real question should then be: *Do movies bring more tourism to Paris?* or *Do directors want to shoot in places where people enjoy spending time?* Unfortunately, this analysis cannot answer these questions, but confirms that there is a strong link between these two established facts.