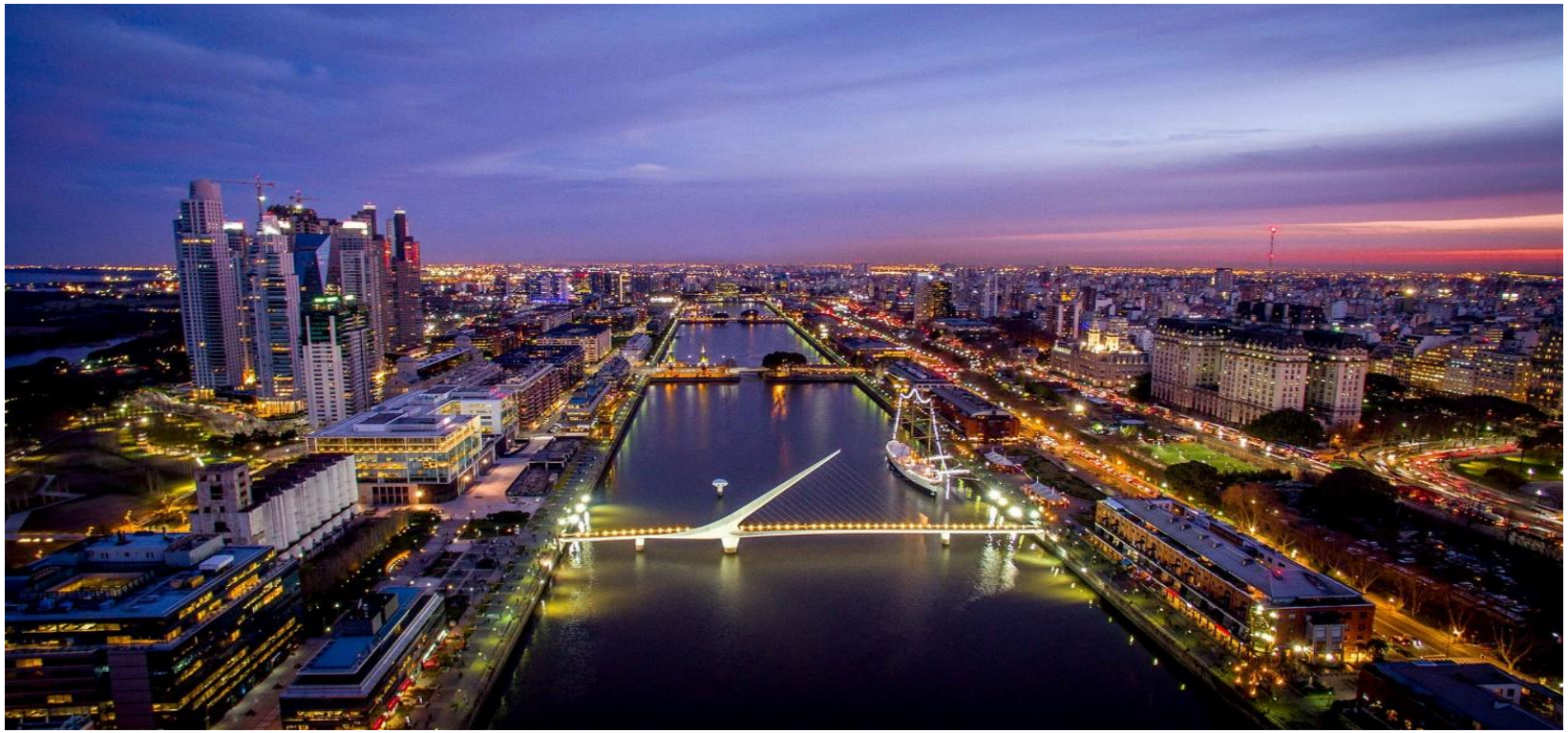
Buenos Aires
Segmentation and Clustering for Real estate investments
(areas near metro stations)



Buenos Aires - Segmentation and Clustering for Real estate investments

Investments in real state in Buenos Aires (in the same way as in large cities) generate an attractive income and future value.

As real state investors we want to determine the most appropriate area to invest in the purchase of an apartment to offer to rent in the city of Buenos Aires, considering that it is located near a metro station.

We want to carry out a segmentation of the areas surrounding the metro station in the federal capital in order to compare and decide according to the urban infrastructure and nearby shops.

Segmenting this areas of interest (areas near the metro station) will allow us to make a decision taking into account the similarities and differences in the characteristics of each area.

Data Acquisition and Cleaning

In order to clustering and segmenting areas, I used mainly geospatial data to retrieve information from foursquare to identify areas which can be similar to the objective investment.

Main information and datasets used:

- I get datasets with information provided by the Buenos Aires city government (see https://data.buenosaires.gob.ar/dataset), in particular geospatial information in geojson format.

- Using the datasets provided by the city government, I can get an idea of availability of properties offered for sale or rent and average monthly price of apartments for rent and or sale.

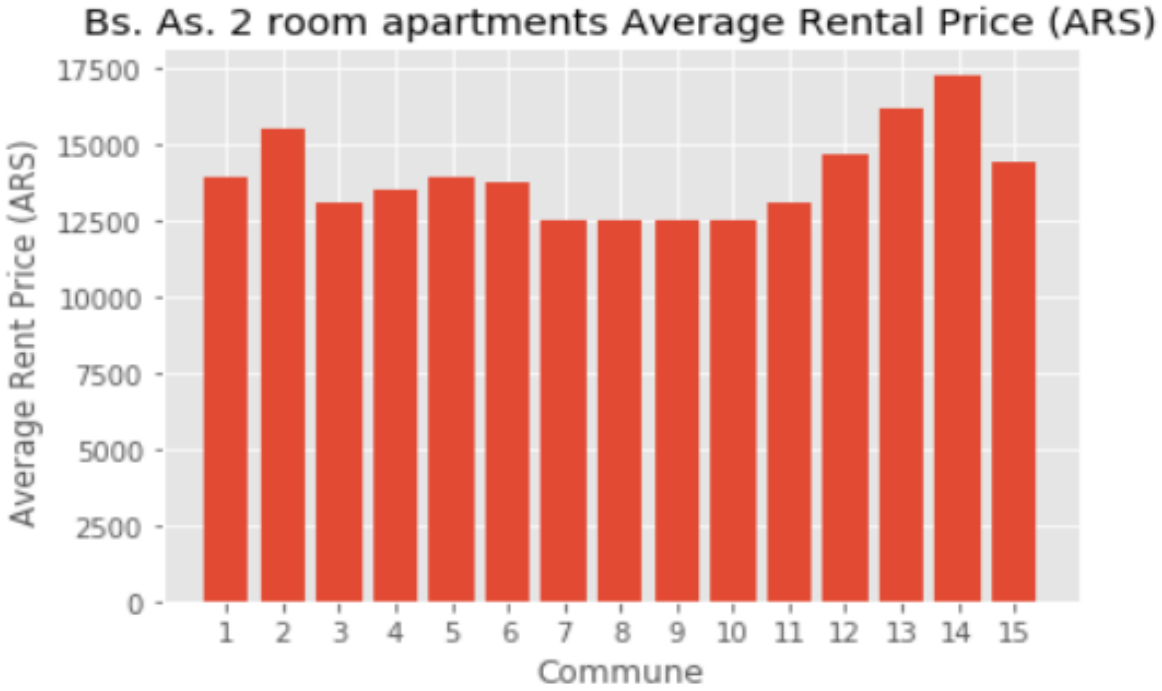
- I obtain venues data from foursquare using metro station geospatial information.

Properties offered for sale or rent by commune

Using the datasets provided by the city government, you can get an idea of availability of properties offered for sale or rent.

Use percentage data of dwellings by occupation condition by commune, this dataset contains the Percentage Distribution of Dwellings by Occupation Condition by commune

Properties offered for sale or rent by commune

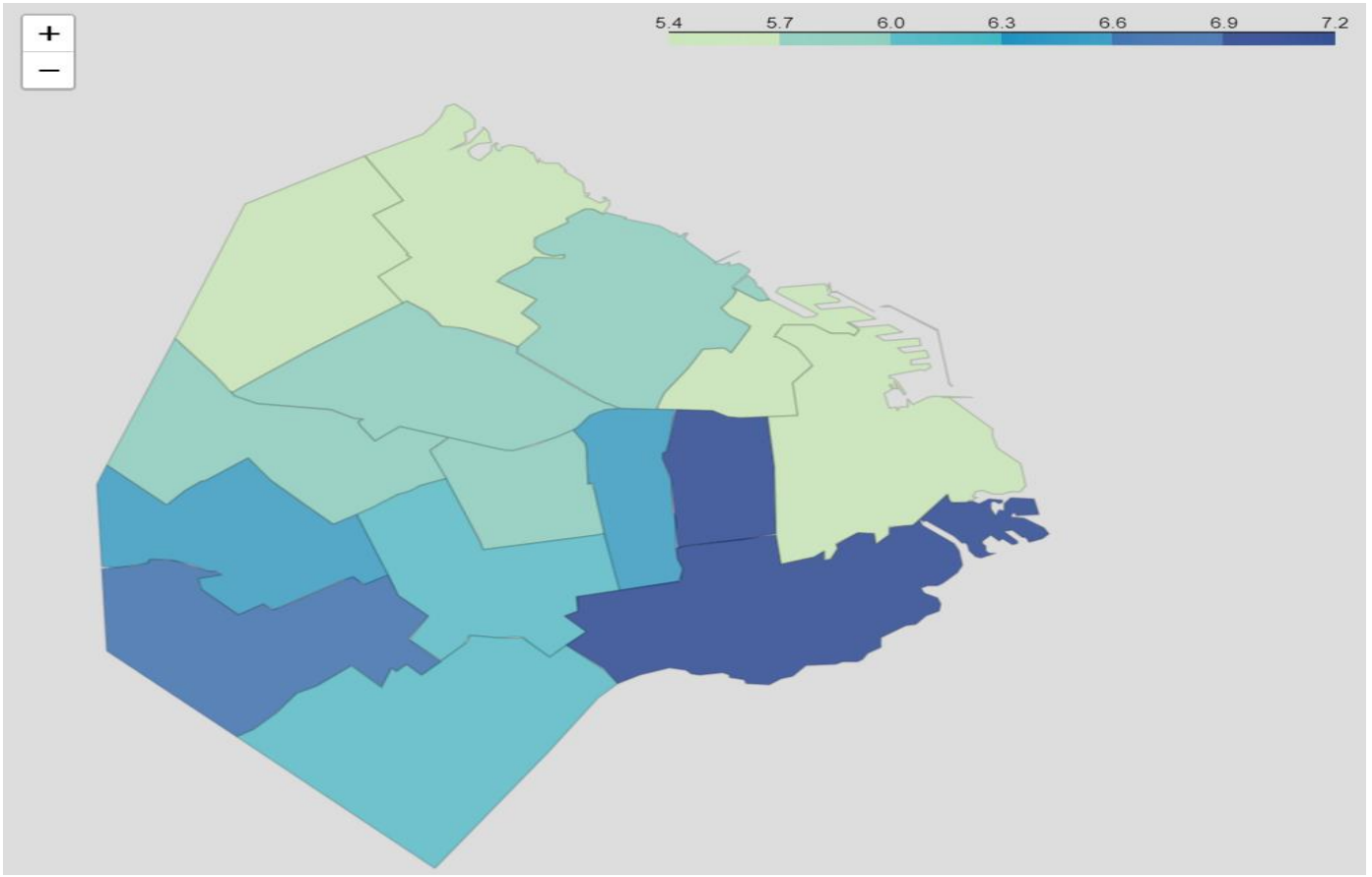


Average monthly price (pesos) of apartments for rent of 2 and 3 rooms used and brand new in the City

Dataset contains notarial acts of purchase and sale of real estate and mortgages recorded in the College of Notaries of the City of Buenos Aires

Cost effectiveness

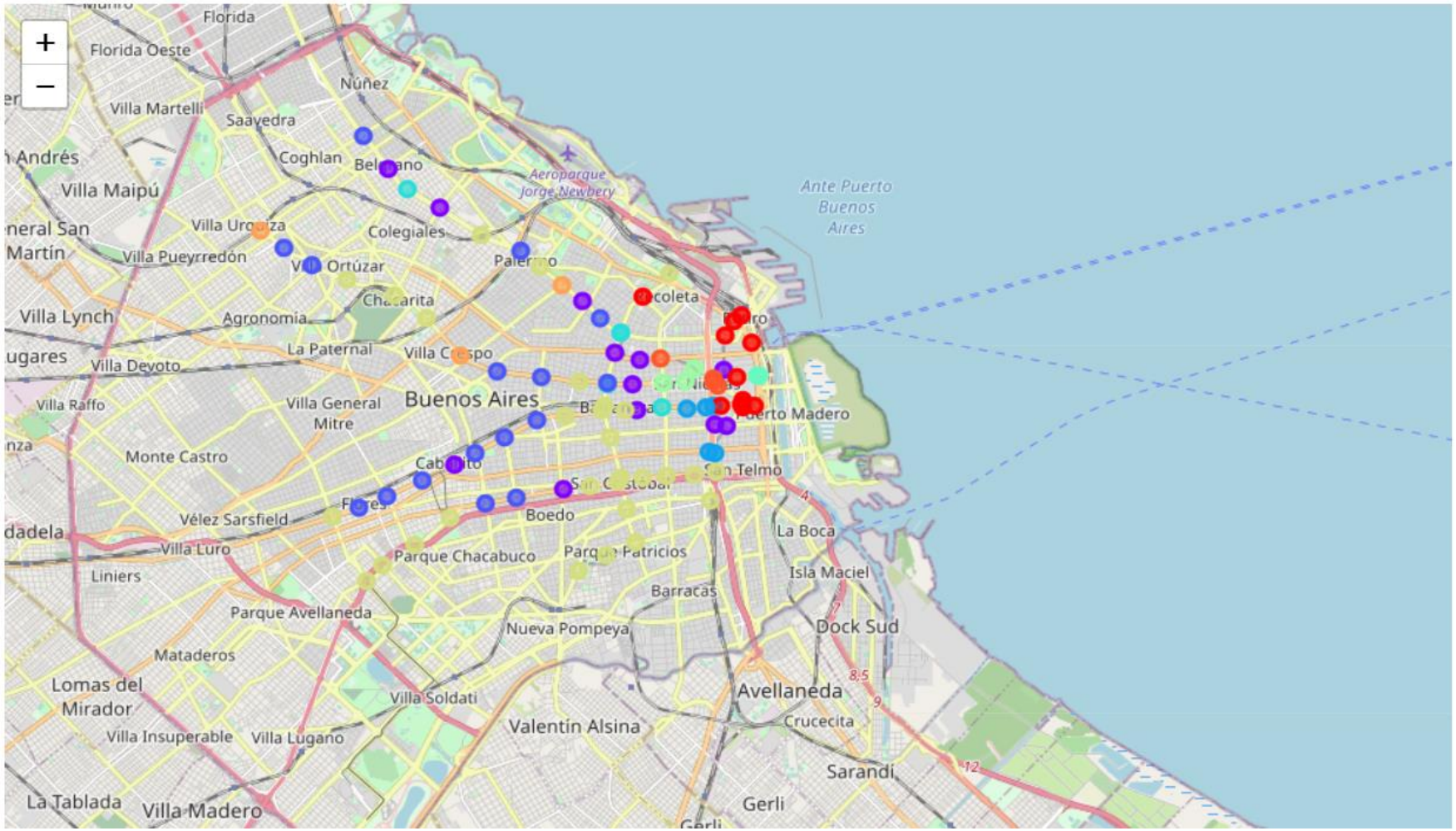
ROI estimated by commune, considering the sale values per square meter and the rental values.



Segmentation and Clustering

Venues was taken from places near metro stations and grouped into categories.

Applying the K nearest supervised machine learning algorithm, the model defines ten clusters.



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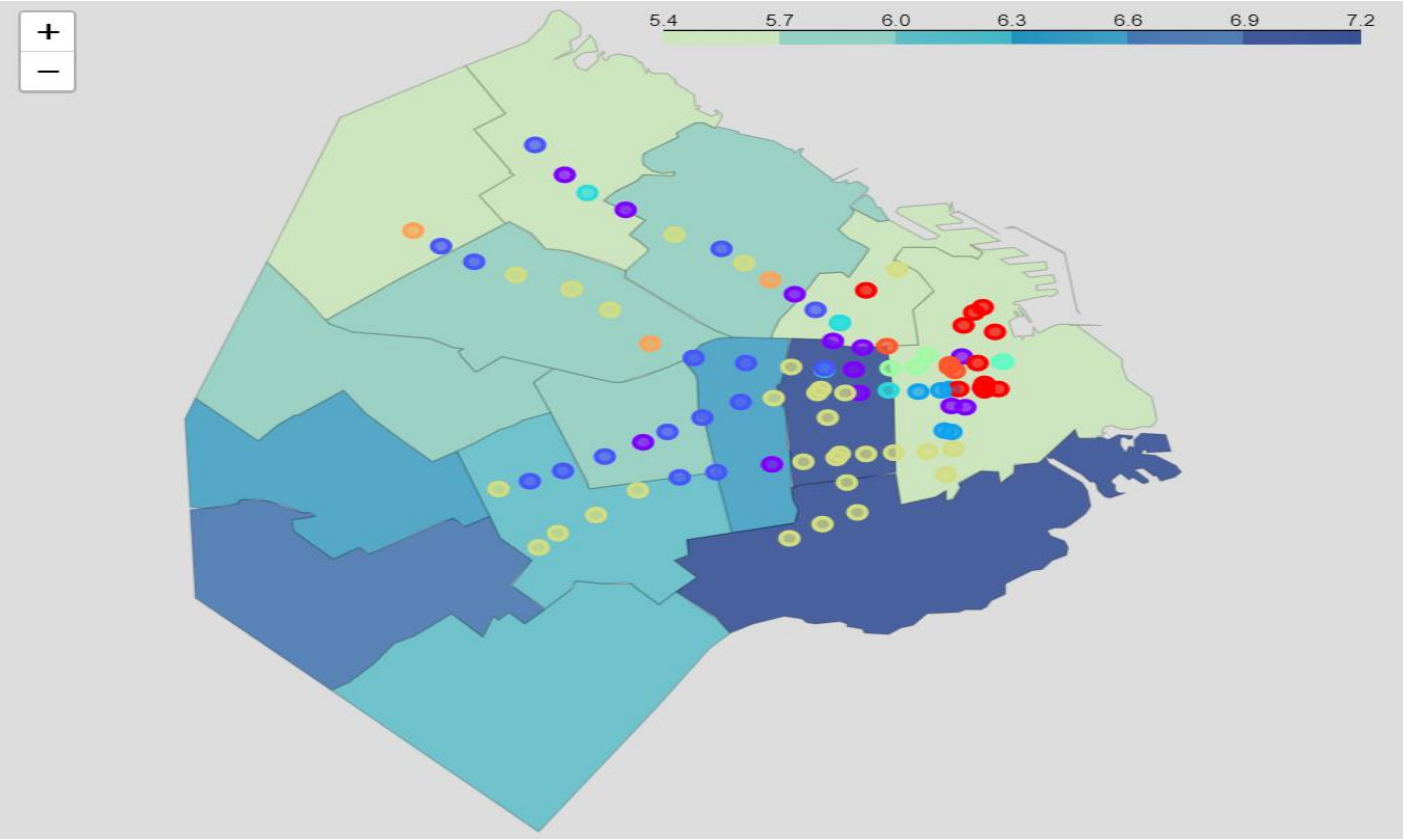
Clusters

Exposing the clusters over the map of expected returns, it is possible to show both dimensions of interest together



Conclusion and future directions

A segmentation model of geographical areas was carried out that allows micro-segmentation strategies in the real estate market considering the object of investment.

The focus is on urban infrastructure considering the structure of the venues near the metro, in order to determine areas that may result from similar characteristics / offers and thus expand the possibility of investing in communities that can offer better profitability (acquisition cost and rent expected).

The proposed segmentation can serve as a basis for micro-segmentation in the real estate market and can be expanded by incorporating a other study dimensions, such as. demographic information.