

Turin Restaurants

Find the best place to open a new restaurant in Turin

Find the best place to open a new restaurant

- The aim of this work is to find the best area in the city of Turin, Italy, to open a new restaurant
- This work is based on
 - Distribution of existing restaurant
 - Population study regarding possible increase in inhabitants in different Turin Neighborhood between 2019 and 2020

Data Acquisition

- Turin Municipality statistics data

(<http://www.comune.torino.it/statistica/dati/>): this are data provided by Turin municipality and related with the demography of the different Neighborhoods. This data included the overall people that live in a particulare neighborhood as well as the percentage of the foreign residents.

- Foursquare

(<https://it.foursquare.com/>): the data retrived from forusquare website are related with the different business venues located in turin. We will use these data to understand where are located the current restaurants and what kind of restaurant (category) we are talking about.

Methodology: data cleaning

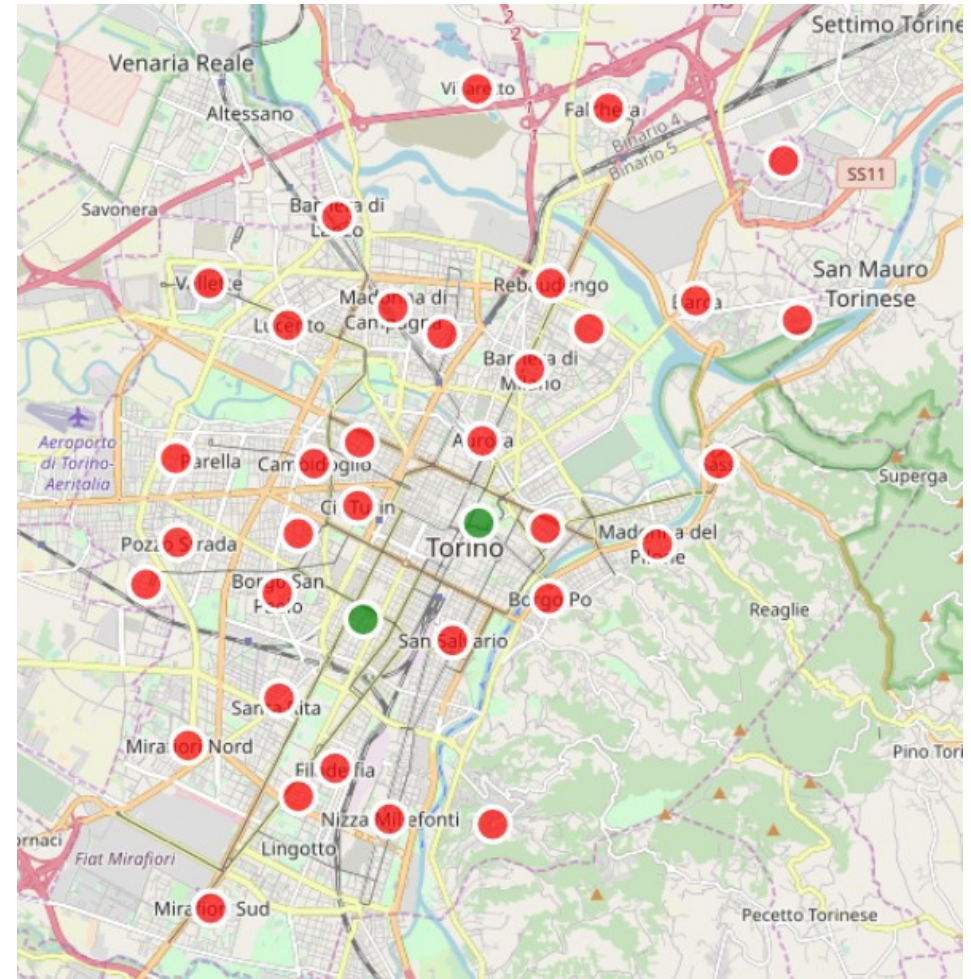
- **The data were cleaned based on the following approximation:**
 - Where Neighborhood (quartieri) Population was missing, it were used more generic Population data provided by turin districts (circonsrizioni). These inhabitants were equally splitted between the Nighborhood that are included in that particolare District.

Methodology: model

- In order to evaluate the possible 2019 and 2020 population for each Neighborhood it was used a linear regression model. This was used for overall population as well as the foreigners population.
- In order to cluster the Neighborhood by restaurants similarities it was used a k-means model.

Result: Overall Population

According with the data model built only two Neighborhood, Crocetta and Centro, localized in the Turin Downtown will have in 2020 and increase in population compared with the inhabitants in 2018

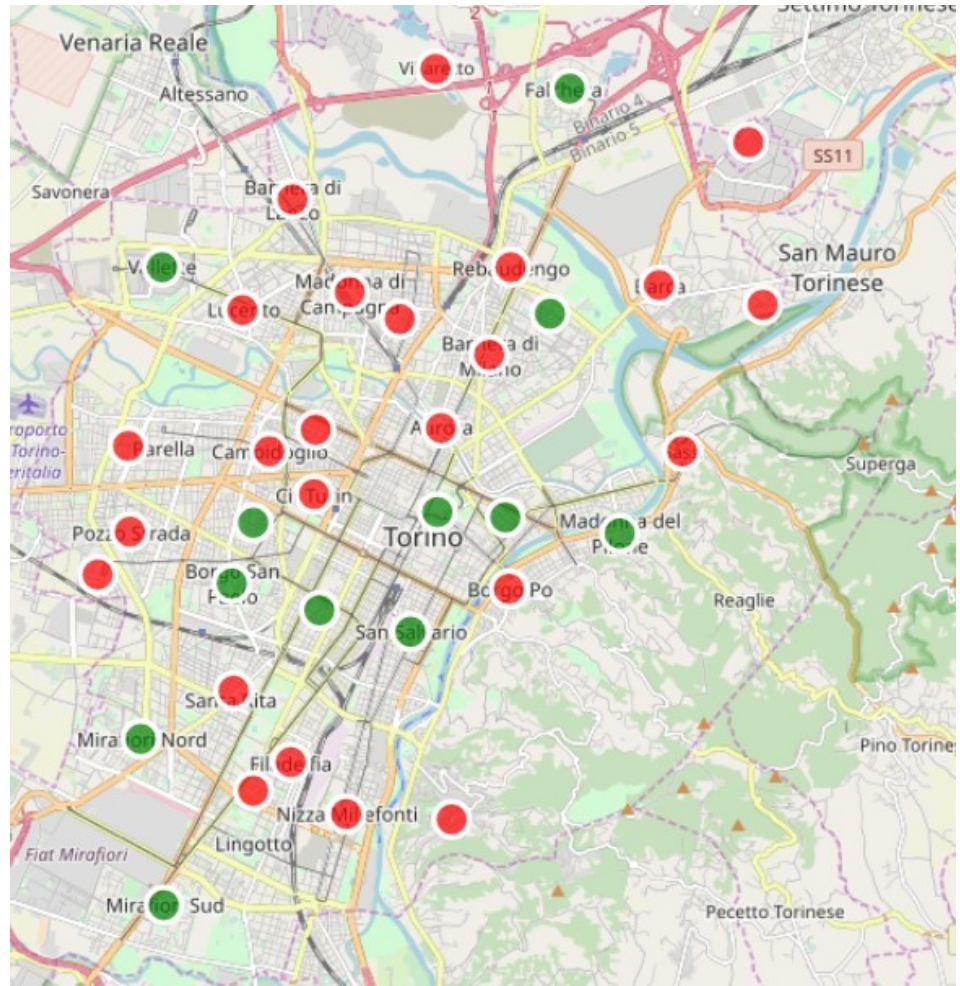


Green: increase in population between 2018 and 2020

Red: decrease in population between 2018 and 2020

Result: Foreigners Population

According with the data model there are several Neighborhood in the city that will have an increase in foreigners inhabitants between 2018 and 2020. This Neighborhood are mainly localized in city center, but there are also scattered neighborhood in the south and in the north of the city.

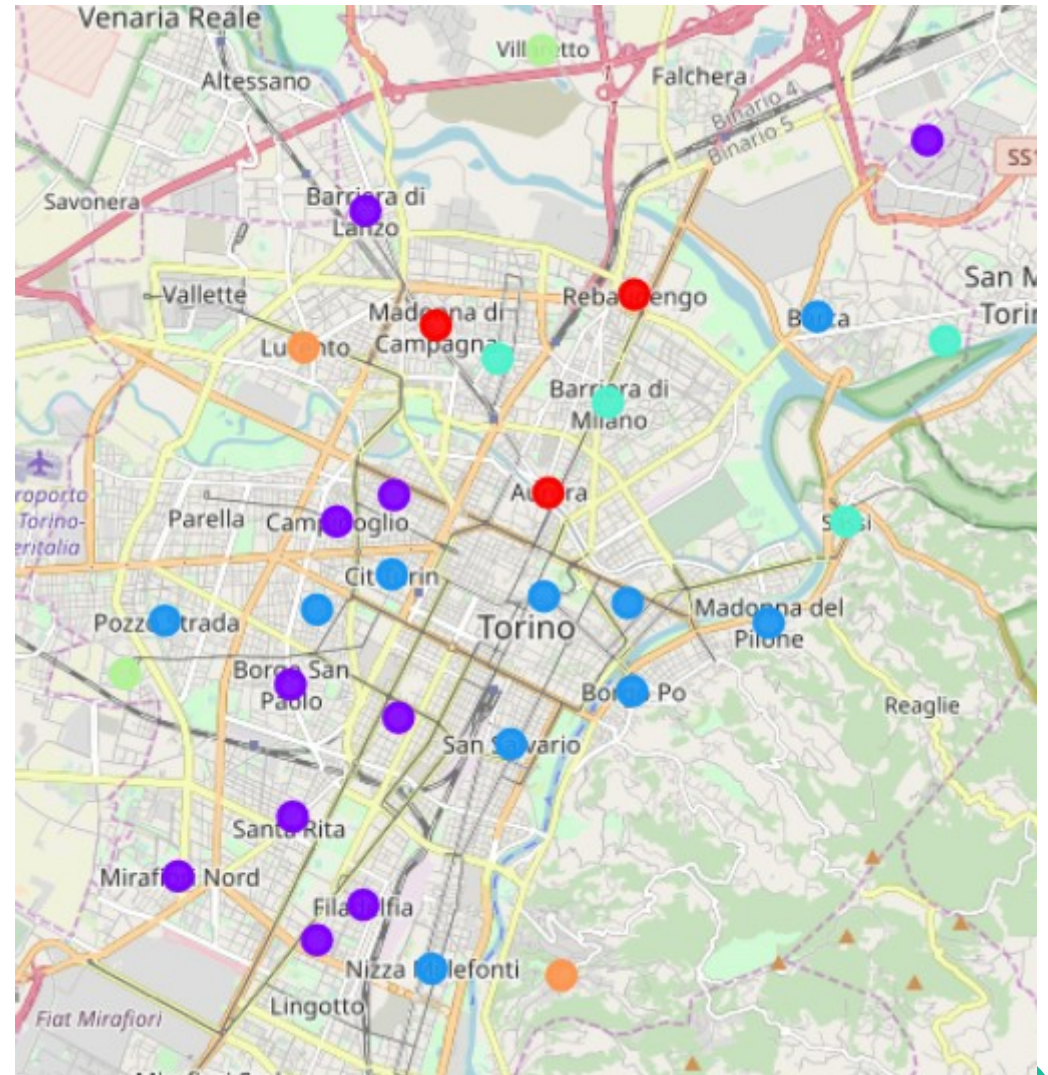


Green: increase in foreigners between 2018 and 2020

Red: decrease in foreigners between 2018 and 2020

Result: Neighborhood Clustering

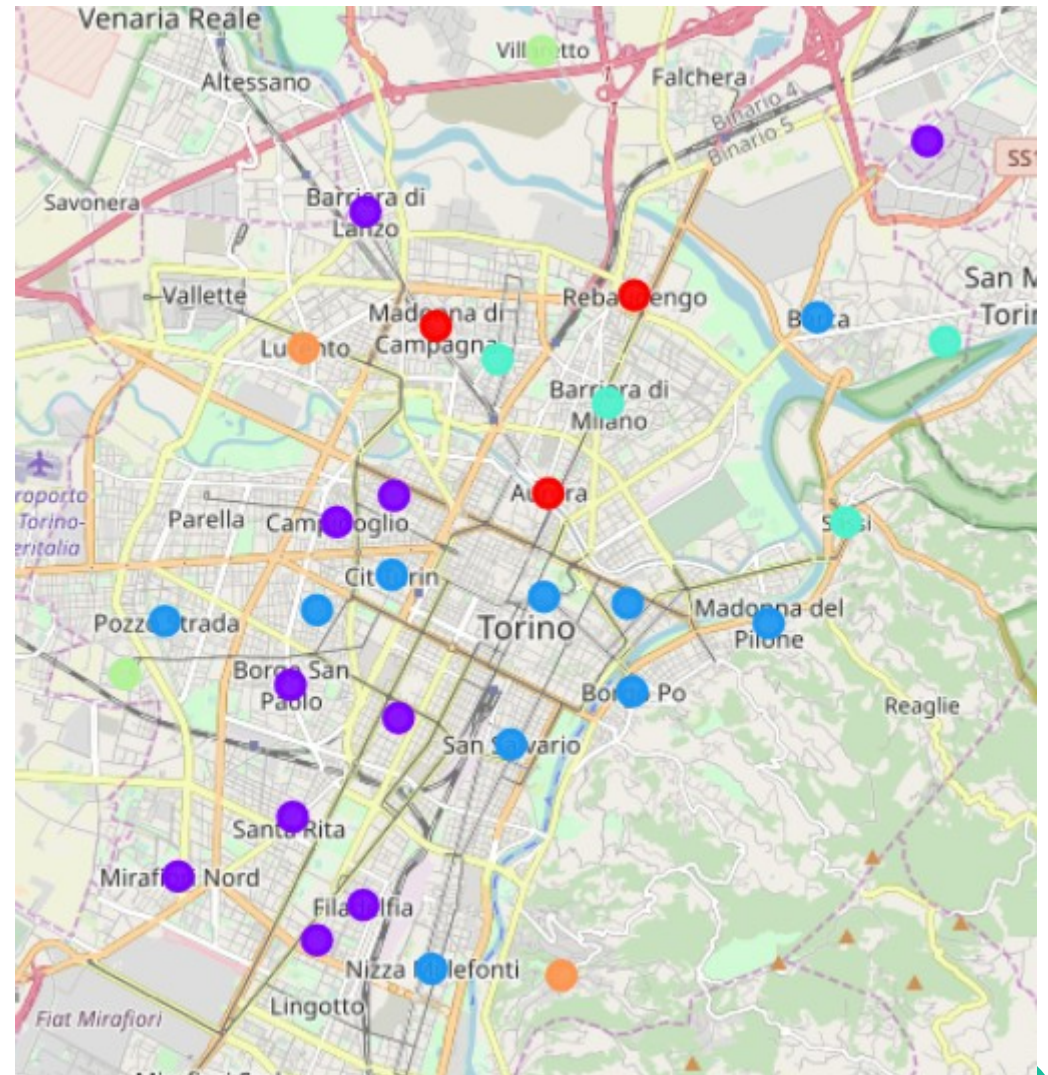
According to the data model, 6 different clusters were identified. More detail for each cluster in the next slides



Results: Cluster 0 (in red in the map)

Cluster 0 has a particular concentration of Chinese Restaurants

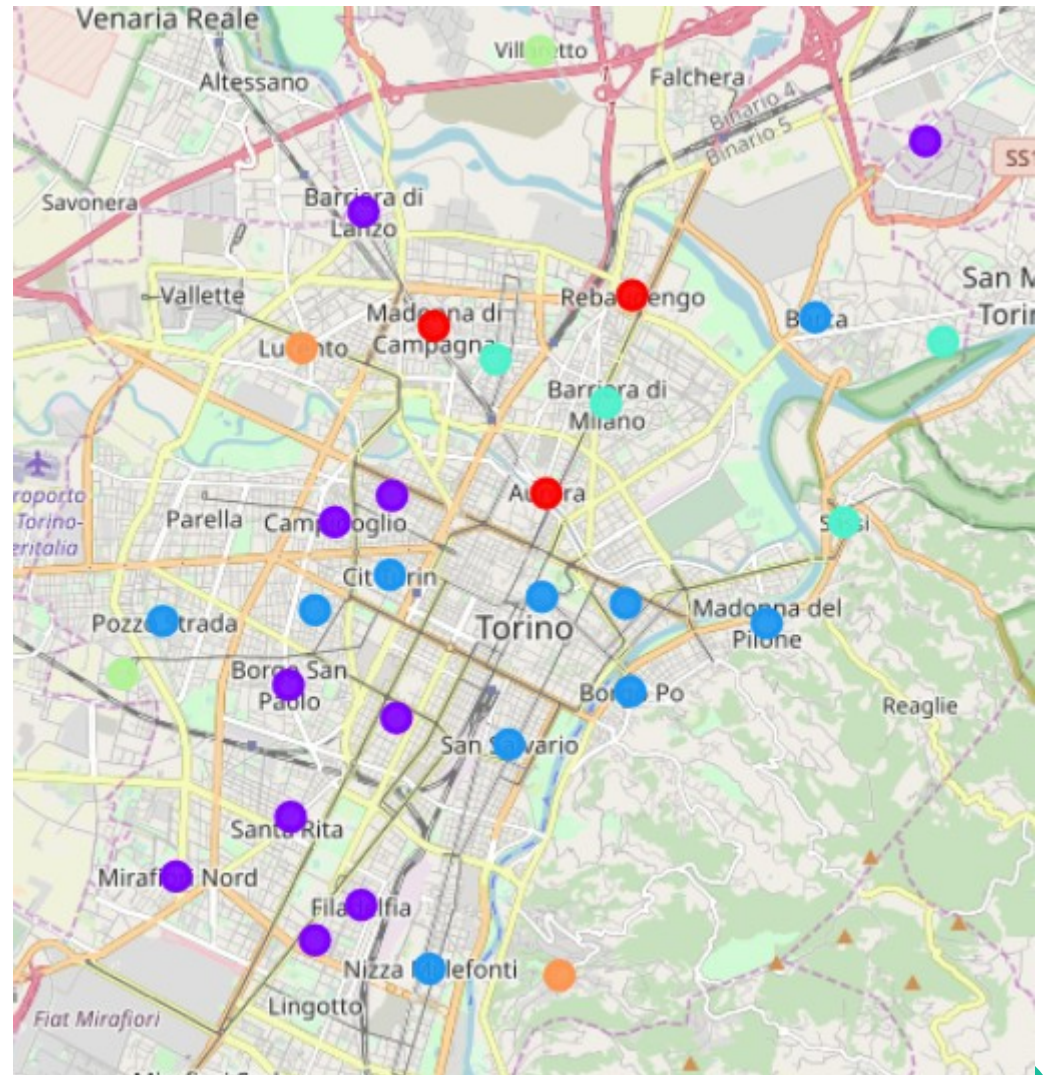
1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Chinese Restaurant	Italian Restaurant	Restaurant	Piedmontese Restaurant
Chinese Restaurant	Pizza Place	Italian Restaurant	Abruzzo Restaurant
Chinese Restaurant	Vegetarian / Vegan Restaurant	Indian Restaurant	American Restaurant



Results: Cluster 1 (in purple in the map)

Cluster 1 has as highest concentration the Pizza restaurants, followed by mainly Italian cuisine

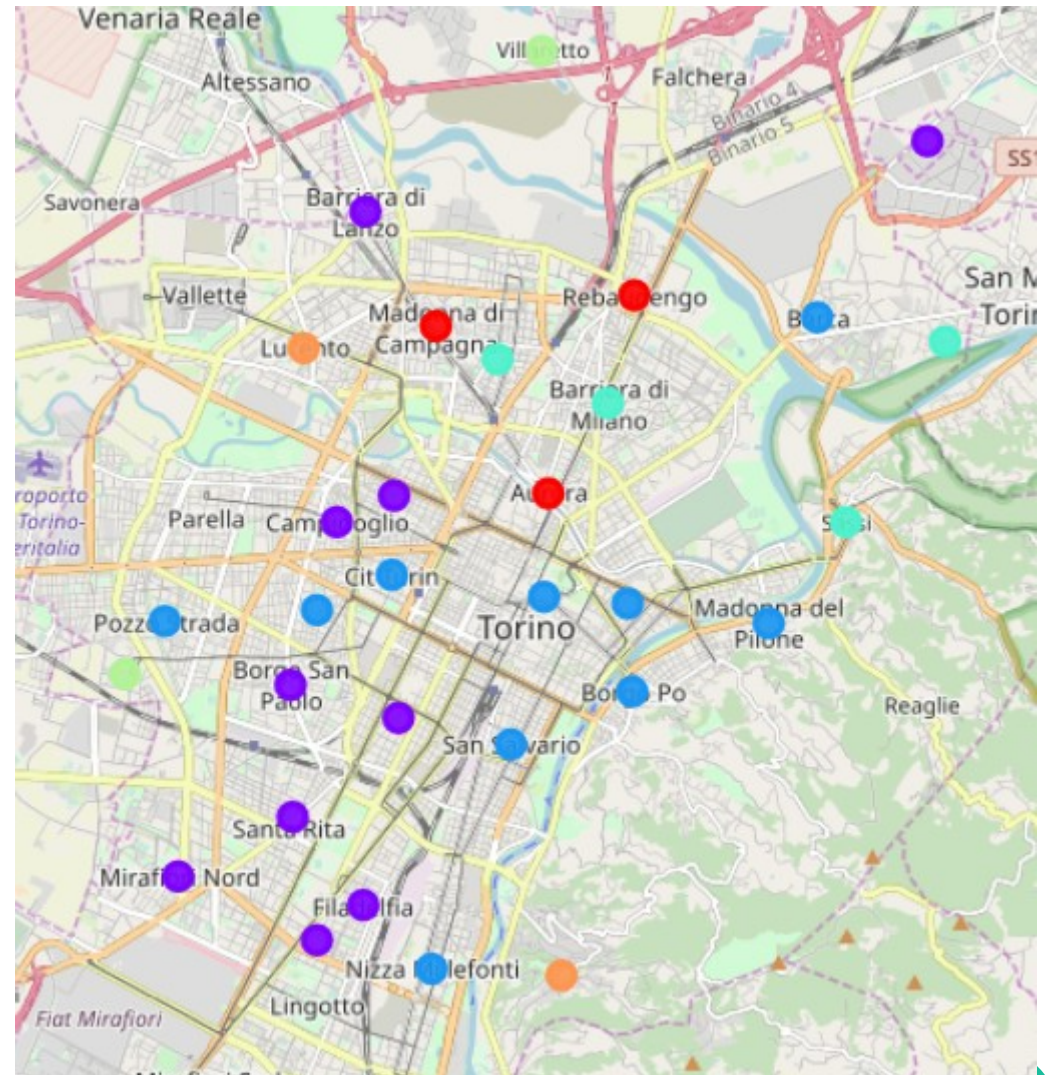
1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Pizza Place	Restaurant	Italian Restaurant	Sushi Restaurant
Pizza Place	Japanese Restaurant	Vegetarian / Vegan Restaurant	Chinese Restaurant
Pizza Place	Mediterranean Restaurant	Sicilian Restaurant	Roman Restaurant
Pizza Place	Italian Restaurant	Piedmontese Restaurant	Fast Food Restaurant



Results: Cluster 2 (in blue in the map)

Cluster 2 has mainly italian and Japanese cuisine.

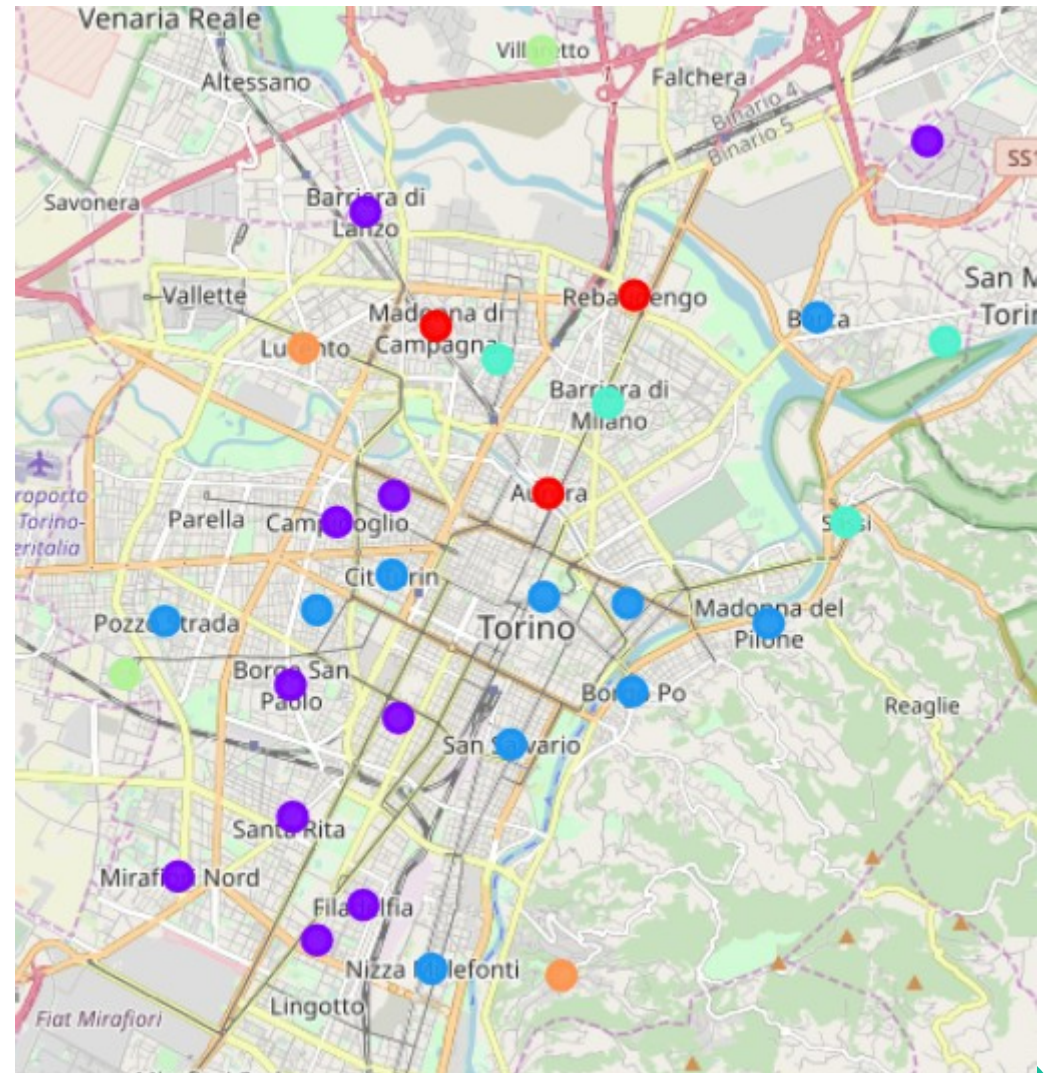
1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Italian Restaurant	Pizza Place	Piedmontese Restaurant	Japanese Restaurant
Pizza Place	Italian Restaurant	French Restaurant	Seafood Restaurant
Italian Restaurant	Sushi Restaurant	Asian Restaurant	Japanese Restaurant
Italian Restaurant	Peruvian Restaurant	Emilia Restaurant	Japanese Restaurant



Results: Cluster 3 (in green-water in the map)

Cluster 3 has mainly pizza place followed by restaurants with foreign cuisine.

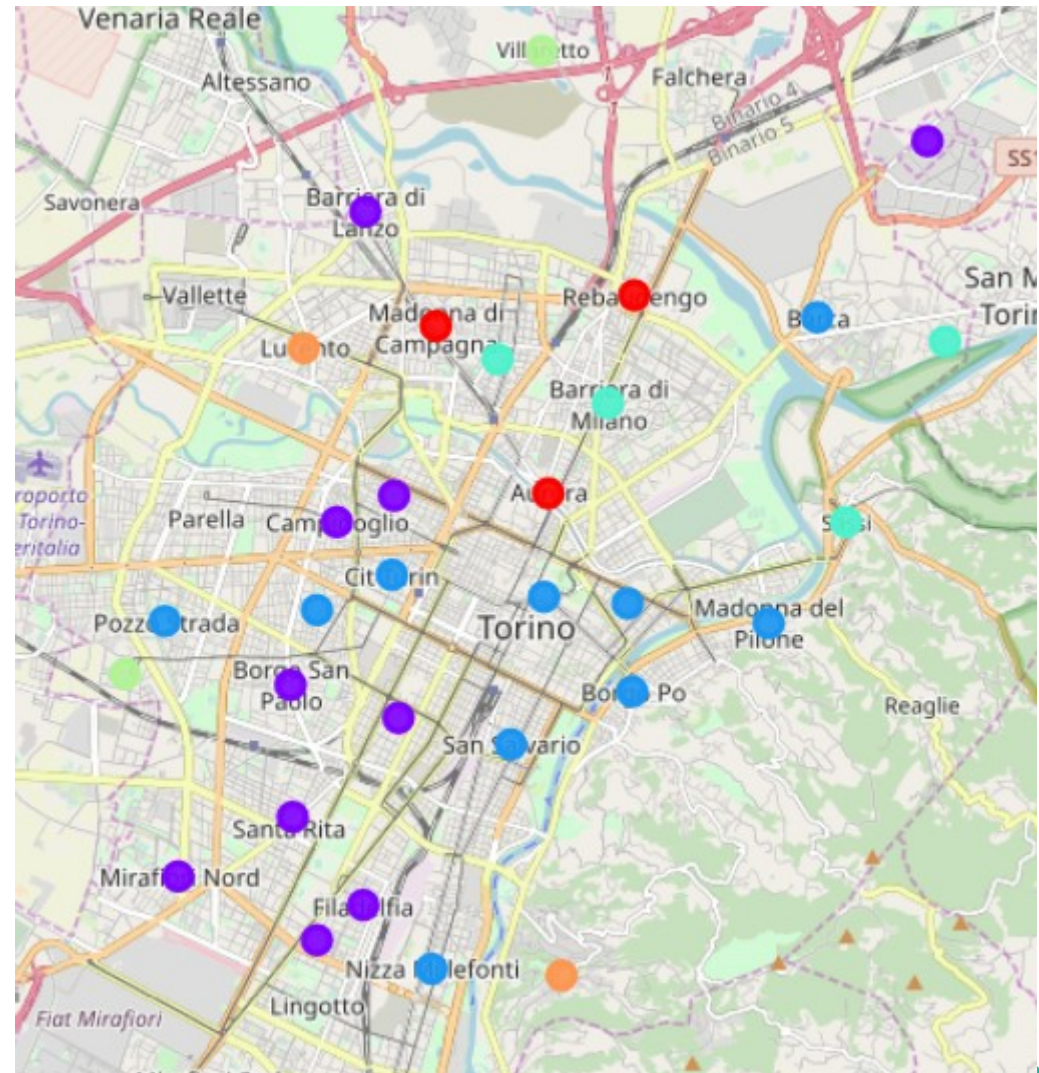
1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Pizza Place	Vegetarian / Vegan Restaurant	Indian Restaurant	American Restaurant
Pizza Place	Vegetarian / Vegan Restaurant	Indian Restaurant	American Restaurant
Pizza Place	Vegetarian / Vegan Restaurant	Indian Restaurant	American Restaurant
Pizza Place	Mexican Restaurant	Vegetarian / Vegan Restaurant	Greek Restaurant



Results: Cluster 4 (in light green in the map)

Cluster 4 was excluded by this study. Unfortunately several restaurants have only the category “Restaurant” this does not allow to cluster correctly the Neighborhood. Cluster 4 has as 1st most common venue the category restaurant, however it is not specified the kind of restaurant that is present in this area.

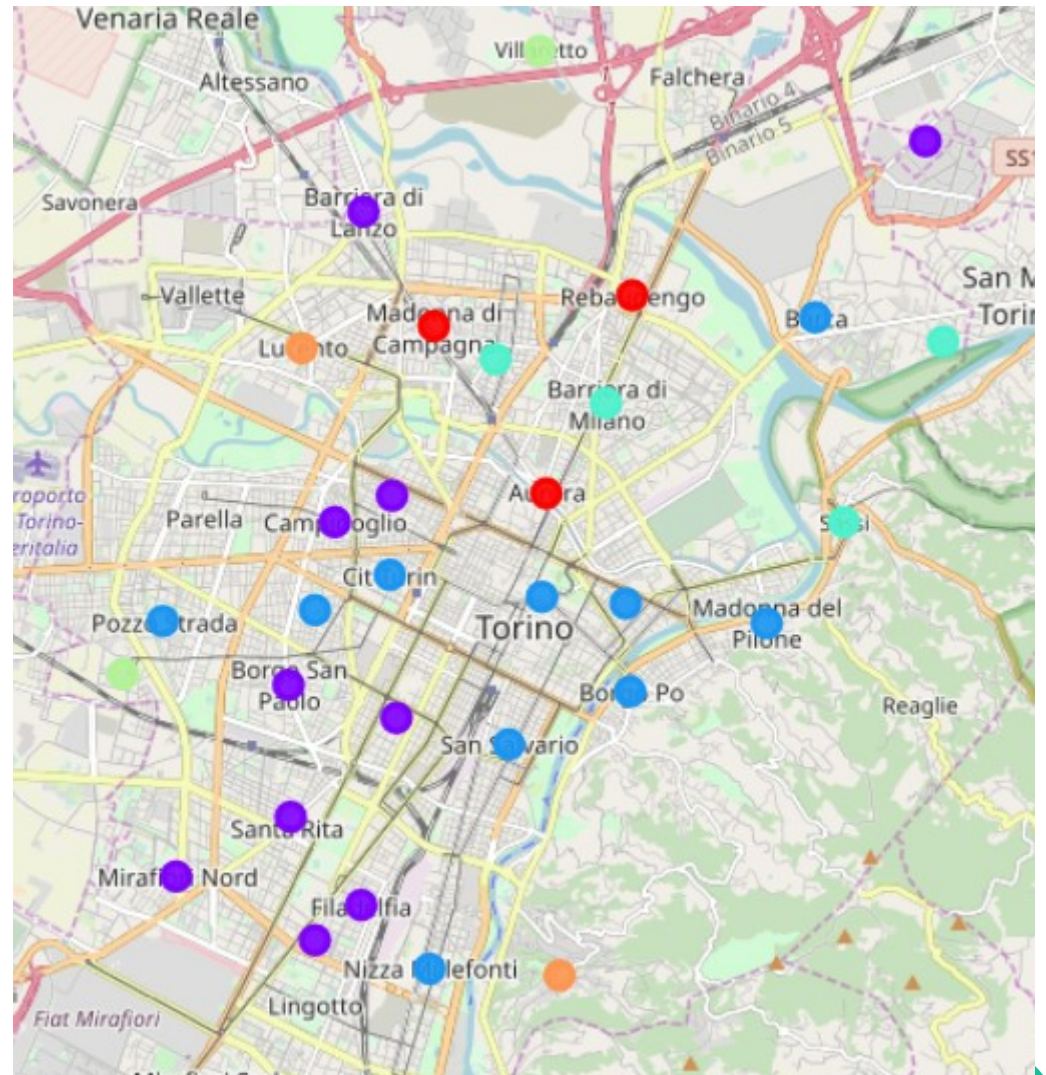
1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Restaurant	Kebab Restaurant	Vegetarian / Vegan Restaurant	Greek Restaurant
Restaurant	Vegetarian / Vegan Restaurant	Indian Restaurant	American Restaurant



Results: Cluster 5 (in orange in the map)

Cluster 5 has mainly italian restaurants followed by international cuisine.

1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Italian Restaurant	Indian Restaurant	American Restaurant	Argentinian Restaurant
Italian Restaurant	Indian Restaurant	American Restaurant	Argentinian Restaurant



Conclusion

Considering the clustering results obtained we can see that:

- The best place to open a new italian resturant (based on the fact that the concentration of italian restaurat today is low) is cluster 0 and cluster 3
- The best place to open a new restaurant with non-italian cuisine (based on the fact that the concentration of italian restaurat today is high) is cluster 5, cluster 1 and cluster 2

If integrate this data with the one obtained with the demographic studies, it looks like that if we want to open a new restaurant it is better to open it in the center of the city. Unfortunately, from cluster analysis, it looks like that these were the area were it is not convenient to open a new italian restaurant, for this reason the population study does not help us to understand the conveniency to open a new restaurant.

If we consider instead the a non cuisine kitchen, and imagine that this can be preferred by foreigners we have several places that can be good to open a new restaurant. In particular all the area around the downtown.