



PLANNING THE CONSTRUCTION OF CAR-SHARING PARKING AREAS IN MILAN

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Coursera Capstone Project
08/10/2020

Background

Milan is broadly located at the center of the Po valley

- One of the most polluted areas in Europe
- Around 1 million vehicles enter the city everyday

Possible solutions?

Car Sharing!



Problem statement

Analysis of car-sharing parking areas in Milan

- Studying their position in the city
- Provide suggestions for eventual new areas



Data acquisition

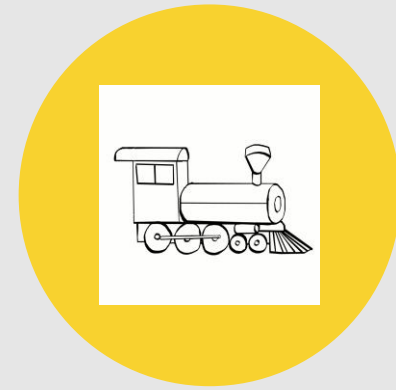
Available for free



geojson data of the 9 zones
of the city

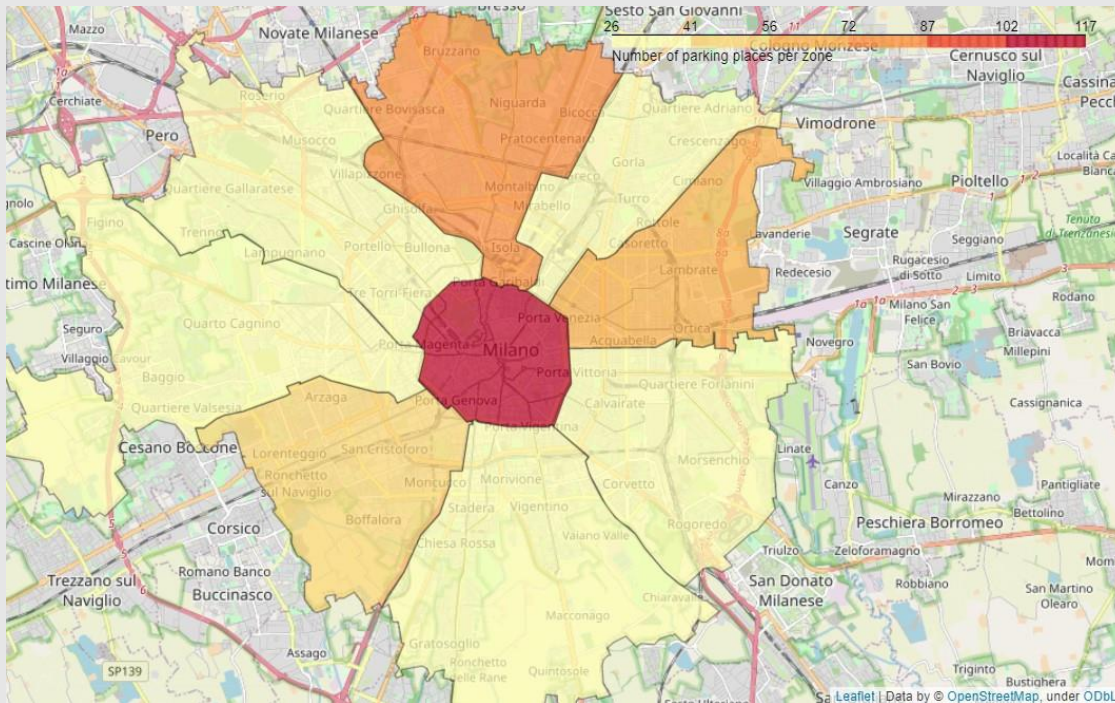


Coordinates of the car-
sharing parking areas



Positions of train and subway
stations for a deeper analysis

Data exploration

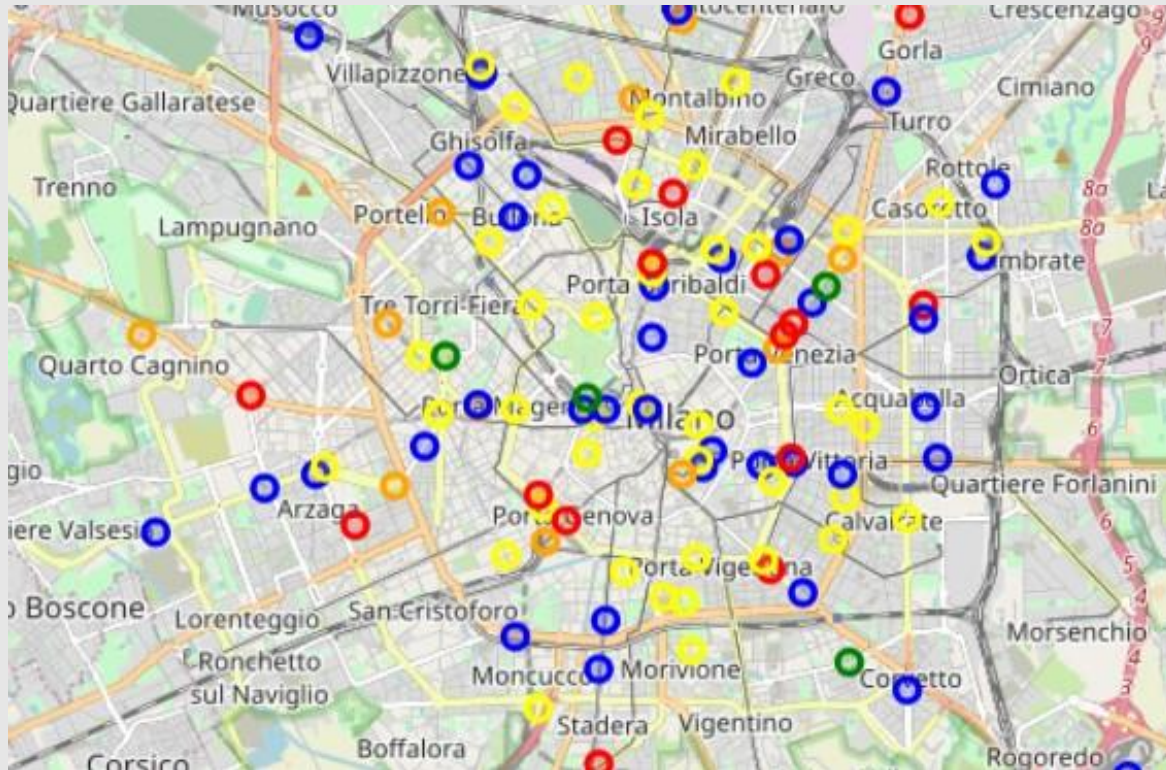


444 Parking places

- Most of them are located in the city center
- 2 zones have less than 30 parking places

New parking places are definitively needed in the north-west and south-east parts of the city

Cluster analysis



Getting information on the venues close to the parking areas

- Where do car-sharing users go?
- Can be parking areas grouped in meaningful ways?
- Are critical places like stations and schools near parking areas?

K-means

5 clusters

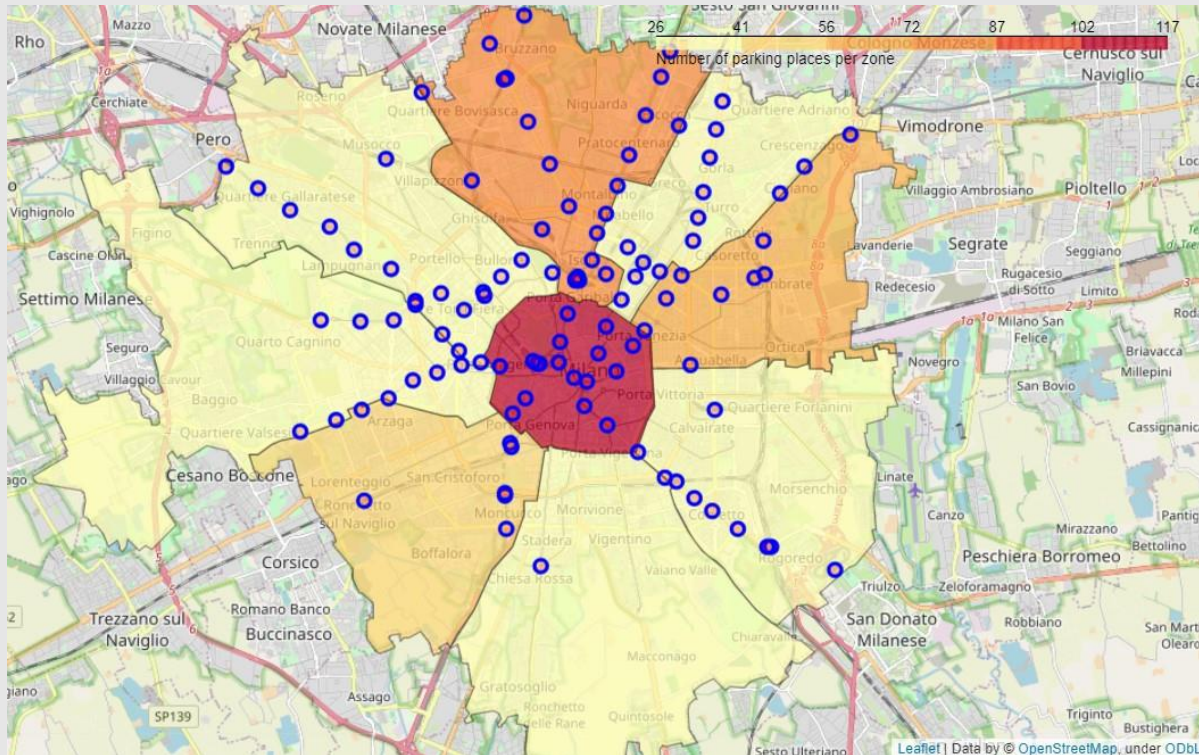
top 10 most common venues

Cluster analysis

Cluster	Label	Number of elements
1	Pizza places	15
2	Free time	43
3	Tram stations	4
4	Restaurants	13
5	Tourism	38

Subway stations, hospitals, and schools are missing.
Are they far from car-sharing parking areas?

Subway stations as case study



Many stations located in zones having a low number of parking areas!

Conclusions and future perspectives

- The number of parking places is highly insufficient
- The north-west and south-east zones are identified as possible target for the construction of new areas
- Public transportation stations are too far from car-sharing areas
- Other venues like schools and hospitals should be analyzed, and their distance from the parking areas measured

