

APPLIED DATA SCIENCE CAPSTONE

# **Warsaw according to the attractiveness of each district**

Presented by Iwona Czech

# THE MAIN QUESTIONS

Which district of Warsaw is the most expensive?

Which district has the most venues to offer?

Is there any correlation between these factors (price, number of venues)?

Which district would be an optimal choice?



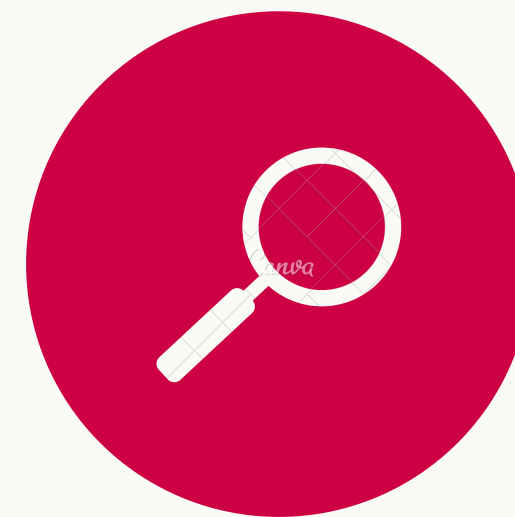
# DATA



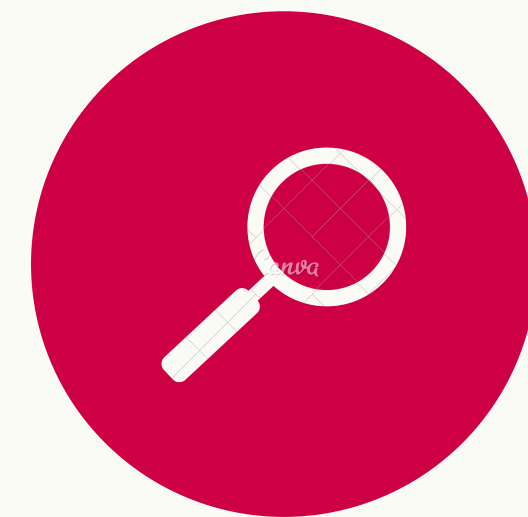
Wikipedia



geoJSON file of  
Warsaw districts



Foursquare API



local website with  
apartment listings

# DATA DETAILS

## Apartment Data

size, district, and price of an apartments in each district in Warsaw

## District Data

Wikipedia - name, population, area size

## geoJSON

each district boundries details

## Venues Data

The collection of the closest venues (supermarket, restaurant, park, etc.)

# METHODOLOGY

## JUPYTER NOTEBOOK

& main libraries:

Folium

Pandas

Numpy

Geojson

seaborn

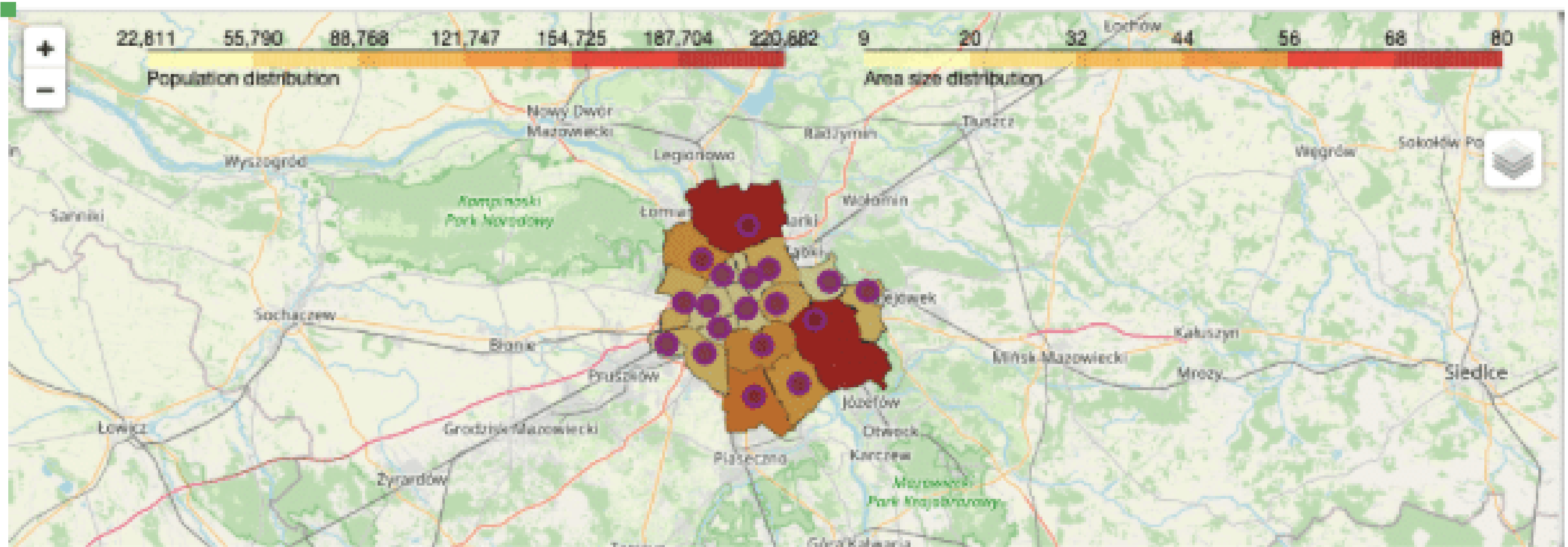
sklearn

BeautifulSoup

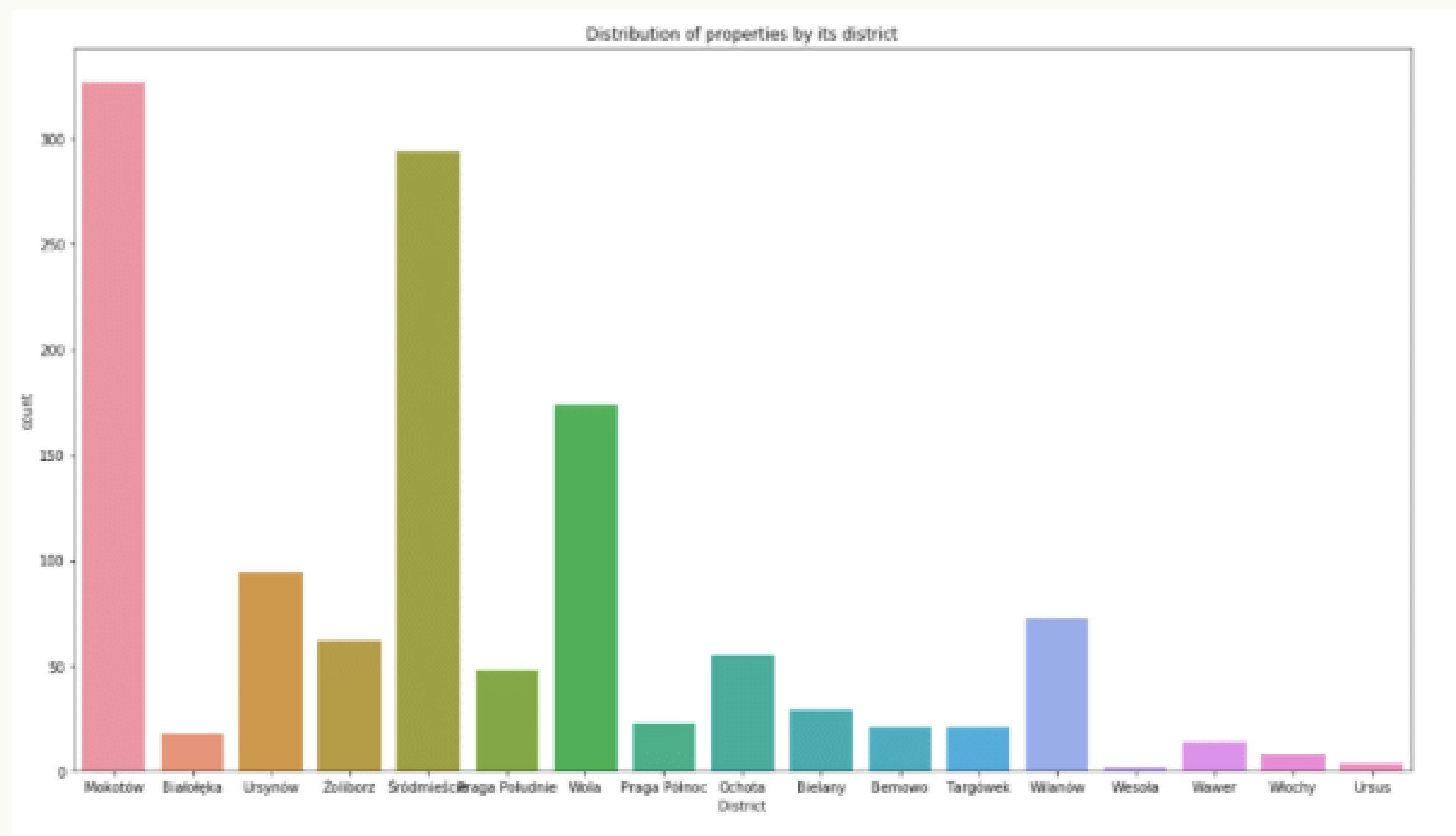


# RESULTS

# Visualization all of the districts of Warsaw by its location

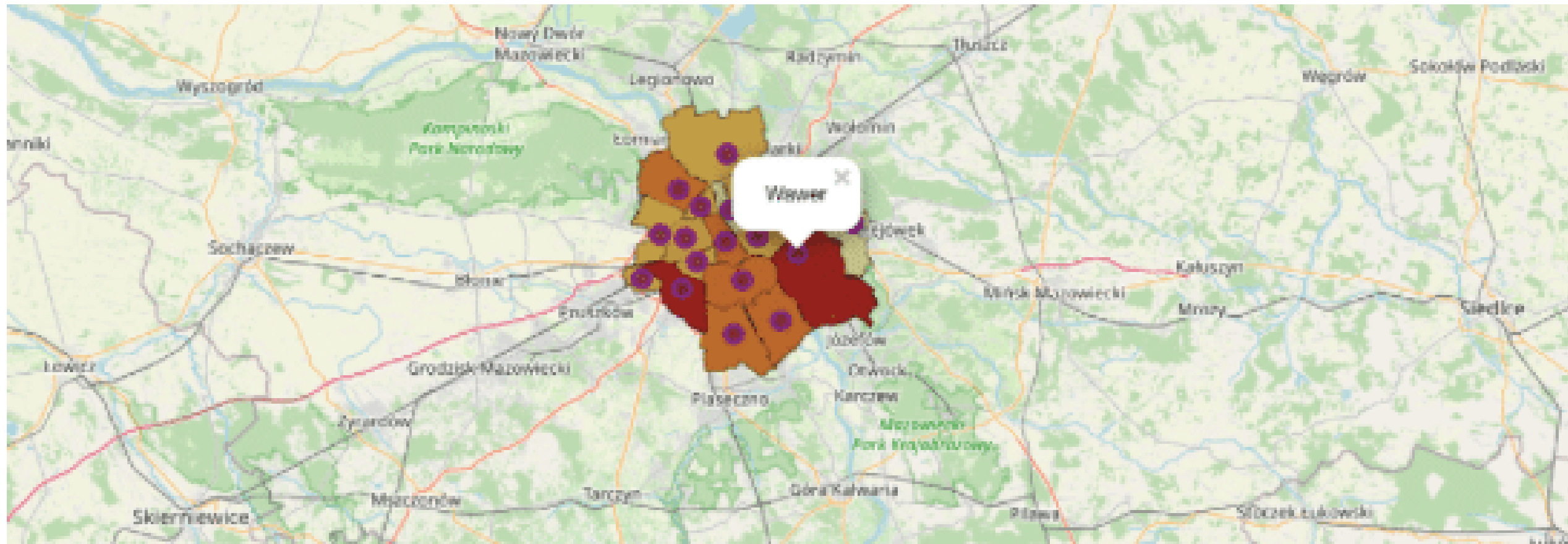


# DISTRIBUTION OF PROPERTIES BY ITS DISTRICT

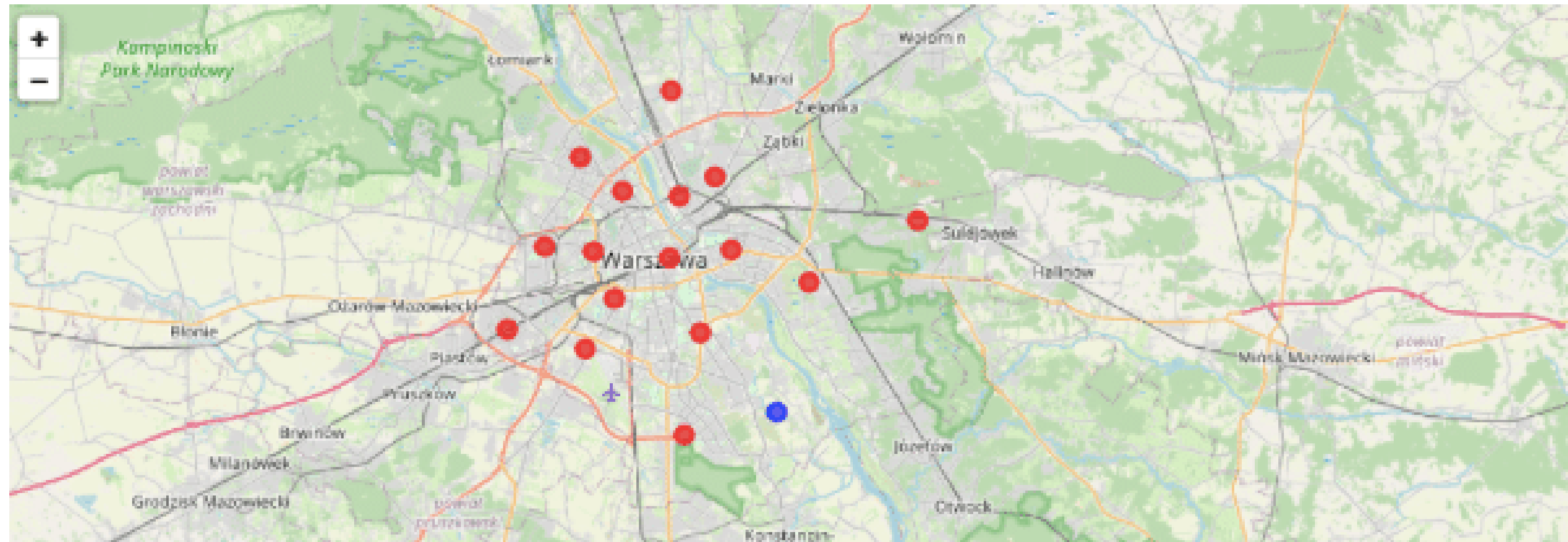




# VISUALIZATION OF THE AVERAGE PRICE



# DISTRICTS CLUSTERED INTO 2 GROUPS



# CONCLUSIONS



WHICH DISTRICT OF  
WARSAW IS THE  
MOST EXPENSIVE?

Śródmieście

WHICH DISTRICT  
HAS THE MOST  
VENUES TO OFFER?

Śródmieście

**IS THERE ANY  
CORRELATION  
BETWEEN THESE  
FACTORS (PRICE,  
NUMBER OF  
VENUES)?**

Yes, the more venues in the district area, the more we need to pay for an apartment.

**WHICH DISTRICT  
WOULD BE AN  
OPTIMAL  
CHOICE?**

Śródmieście is the most attractive district to live because of its number of venues. Unfortunately it's also the most expensive one, that's why a person who wants to rent a flat should consider one of the district from CLUSTER 2, it will be cheaper but still attractive.



**THANK YOU!**