

# Neighborhood analysis of Frankfurt (GER)

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Capstone Project  
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# Background and introduction into the research problem

- Frankfurt am Main is the fifth largest city in Germany, located in the centre of the country.
- With its vibrant city-life, a wide range of employers and renewed universities, the city is highly attractive for new citizens.
- Throughout the past decade, the city witnessed a steady increase in inhabitants leading to in higher demand of apartments and houses in all neighbourhoods.



This research will focus on the analysis of neighbourhoods in Frankfurt. The aim is to analyse the attractiveness of each neighbourhood based on the possibilities for going-out.

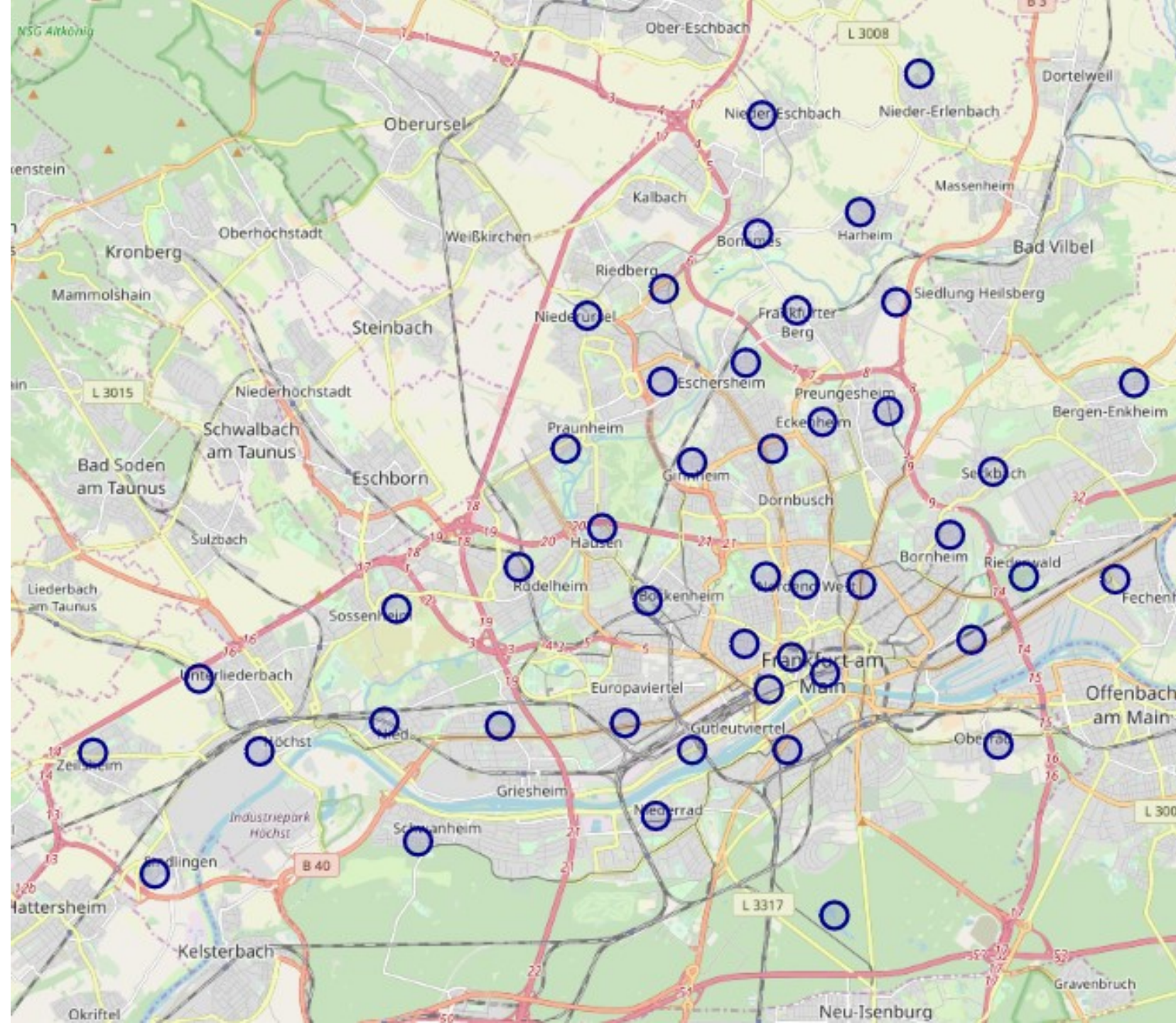
# Table with the first 12 neighbourhoods in Frankfurt including data for geographical coordinates

	Number	Neighborhood	Citizens per km <sup>2</sup>	Neighborhood since	Address	Latitude	Longitude
0	1	Altstadt	8204	1866	Altstadt, Frankfurt am Main, Germany	50.110442	8.682901
1	2	Innenstadt	4430	1866	Innenstadt, Frankfurt am Main, Germany	50.112993	8.674341
2	3	Bahnhofsviertel	6570	1866	Bahnhofsviertel, Frankfurt am Main, Germany	50.107741	8.668676
3	4	Westend-Süd	7538	1866	Westend-Süd, Frankfurt am Main, Germany	50.115245	8.662270
4	5	Westend-Nord	6249	1866	Westend-Nord, Frankfurt am Main, Germany	50.126356	8.667921
5	6	Nordend-West	9845	1866	Nordend-West, Frankfurt am Main, Germany	50.124914	8.677950
6	7	Nordend-Ost	15031	1866	Nordend-Ost, Frankfurt am Main, Germany	50.124920	8.692317
7	8	Ostend	5243	1866	Ostend, Frankfurt am Main, Germany	50.115935	8.720546
8	9	Bornheim	10959	1877	Bornheim, Frankfurt am Main, Germany	50.133056	8.714932
9	10	Gutleutviertel	3864	1866	Gutleutviertel, Frankfurt am Main, Germany	50.097925	8.648964
10	11	Gallus	8911	1866	Gallus, Frankfurt am Main, Germany	50.102309	8.631984
11	12	Bockenheim	5079	1895	Bockenheim, Frankfurt am Main, Germany	50.122361	8.637532

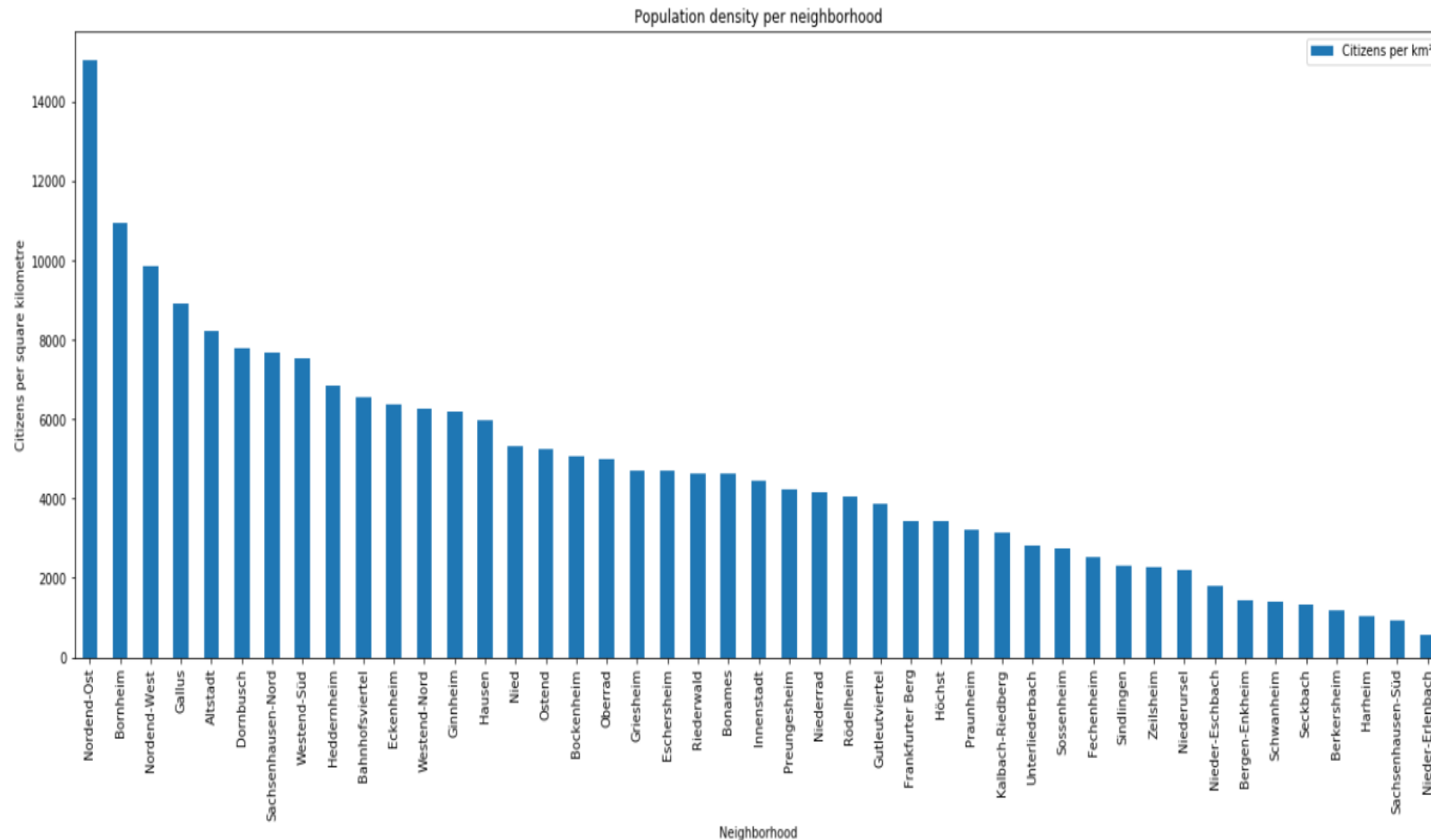


# Neighbourhoods in Frankfurt (GER)

- Frankfurt am Main has 45 neighbourhoods in total
- In the centre of the city, neighbourhoods are in general smaller and more aggregated



# Population density per neighbourhood

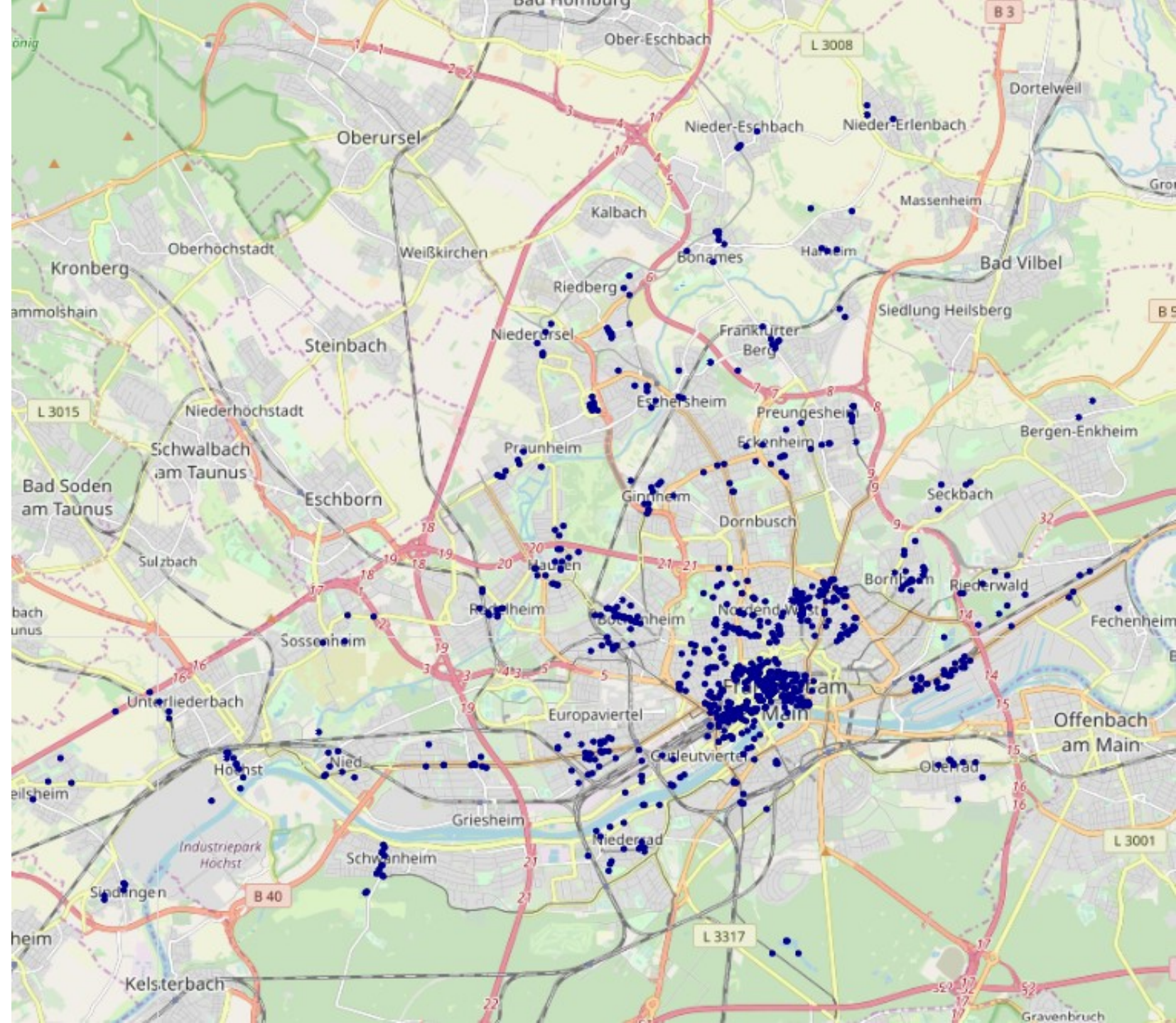


- With 15.031 citizens per square kilometre, Bornheim-Ost is the most dense neighbourhood
- Nieder-Erlenbach has the lowest density with 564 citizens per square kilometre
- The average population per square metre is 4711

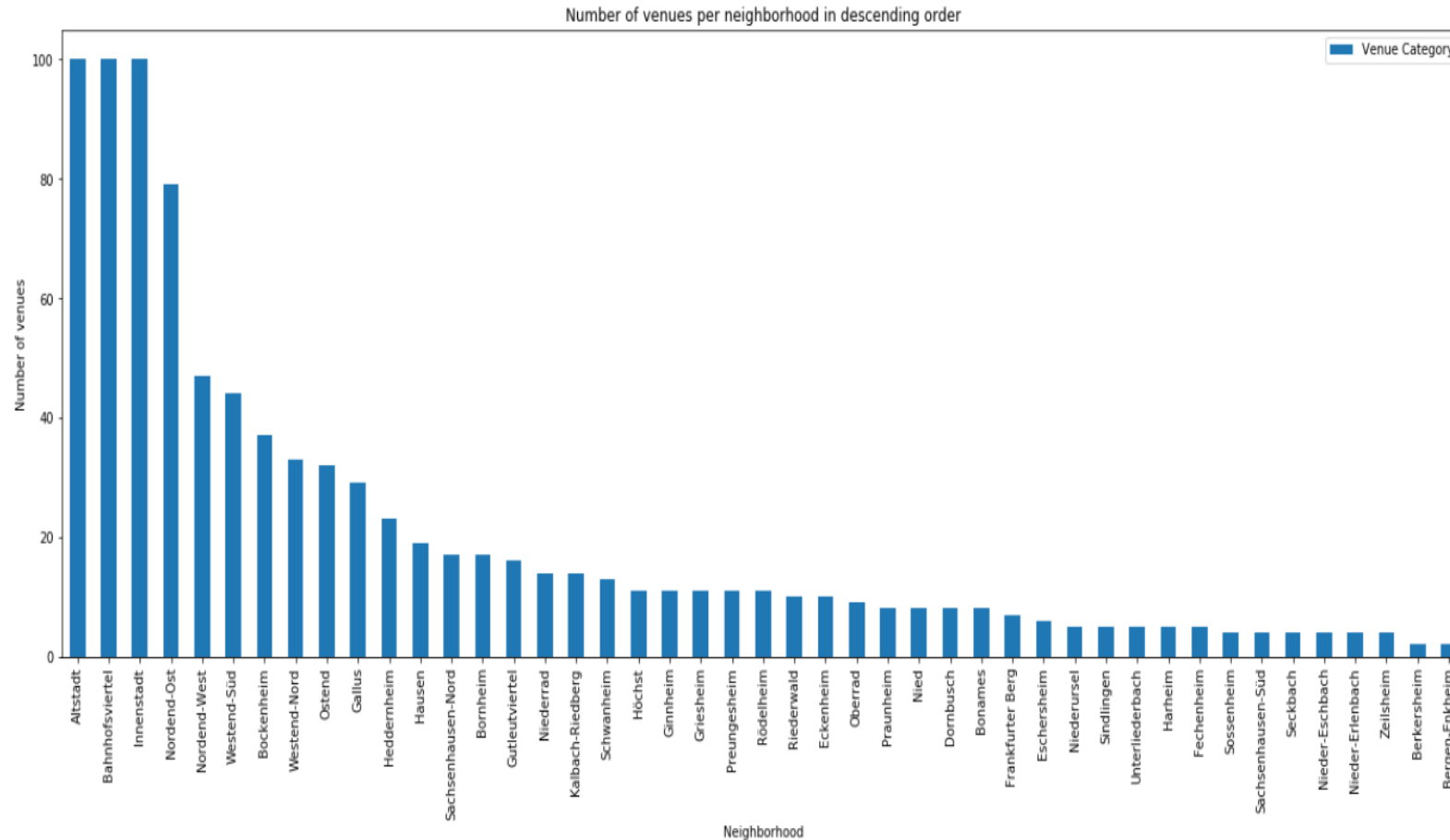


# Venues of all neighbourhood

- All venues per neighbourhood within a radius of 600 metres displayed in a map
- The number of venues increases the closer the neighbourhood is located to the city centre



# Number of venues per neighbourhood in descending order

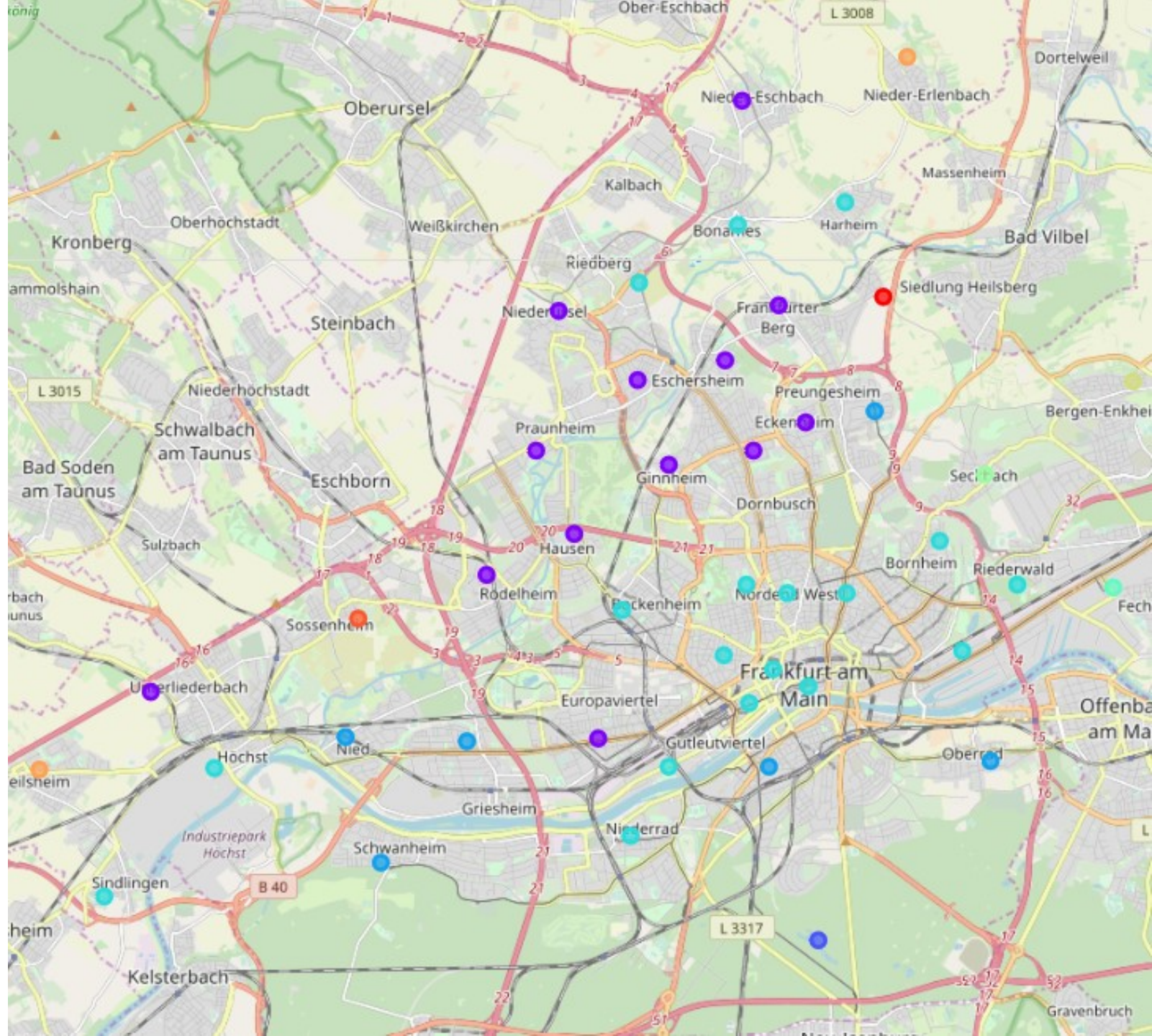


- Average of 20 venues per neighbourhood within a radius of 600 metres
- The three neighbourhoods Altstadt, Bahnhofsviertel and Innenstadt reach the maximum of 100 venues that can be requested via Foursquare



# Neighbourhood clustering

- Neighbourhoods have been clustered into 10 clusters
- Cluster number 1 (purple) and 4 (turquoise) are the clusters that have the most neighbourhoods
- Cluster 1 has 13 neighbourhoods and is characterized by supermarkets, restaurants and public transport
- Cluster 4 has 18 neighbourhoods and is characterized by cafés, restaurants and bars





# Conclusions

- Only two neighborhoods (Ostend-Ost and Bornheim) have a population density of 10.000 citizens per square kilometer
- The density of venues increases the closer a neighborhood is located to the city centre
- Three neighborhoods (Altstadt, Bahnhofsviertel and Innenstadt) have at least 100 venues within a radius of 600 metres
- Neighborhoods that fall into the cluster 4 are highly attractive for living especially for students and young professionals, as those neighborhoods are characterized by café's, restaurants and bars

