



Image credit: <https://www.iamexpat.de/lifestyle/german-cities/berlin-city-guide>

Expanding business within Berlin

Similarity analysis of Berlin's neighbourhoods

elvijsm

Berlin

- Capital of the Federal Republic of Germany
- 3.8 million inhabitants
- A city of global economic and political importance
- Administratively divided into 12 districts (boroughs, *Bezirke*) and 96 localities (neighbourhoods, *Orsteile*)



Similarity analysis of Berlin's localities

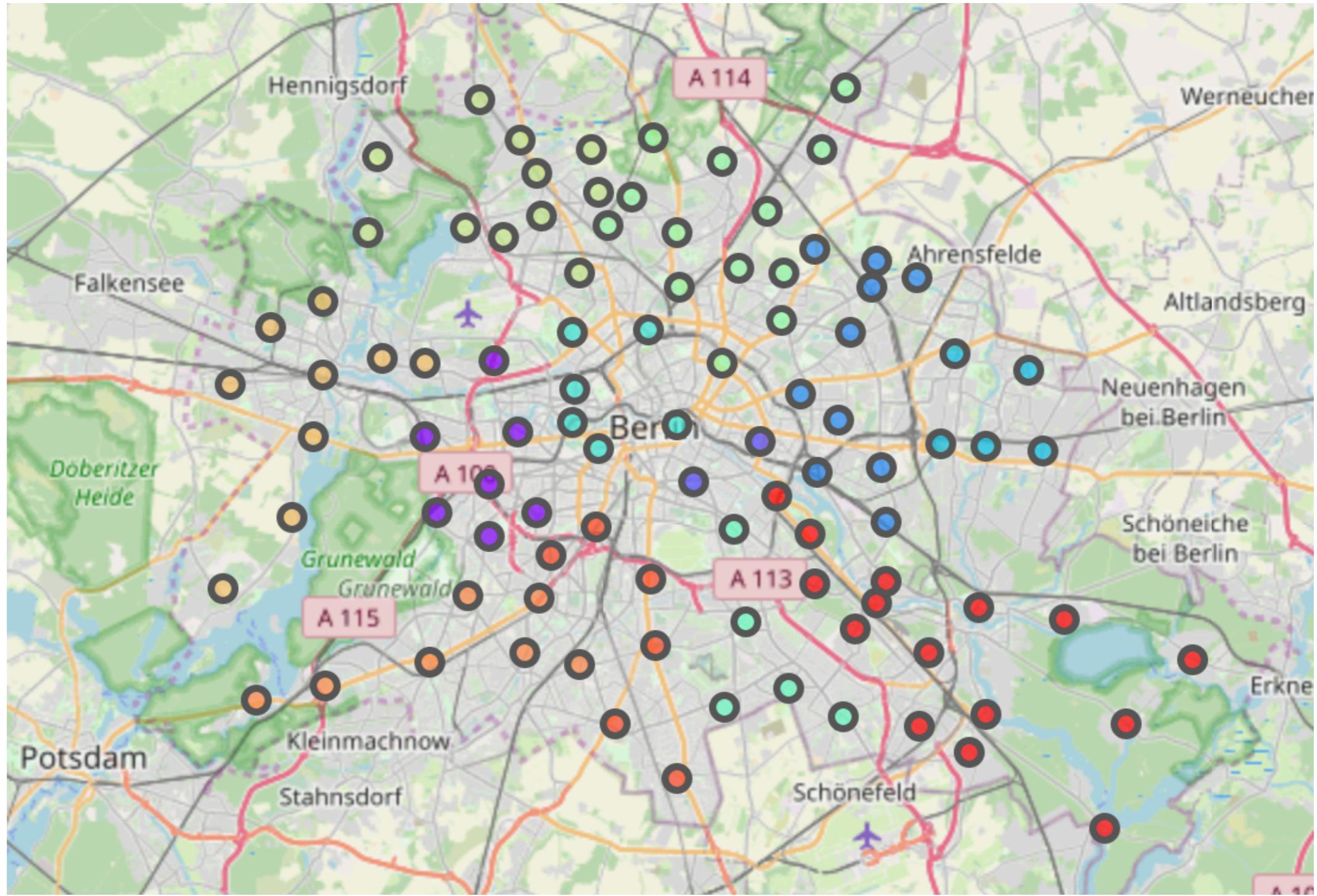
Target audience

- Owners of small and medium-sized businesses
- People considering a change of residence

Data sources

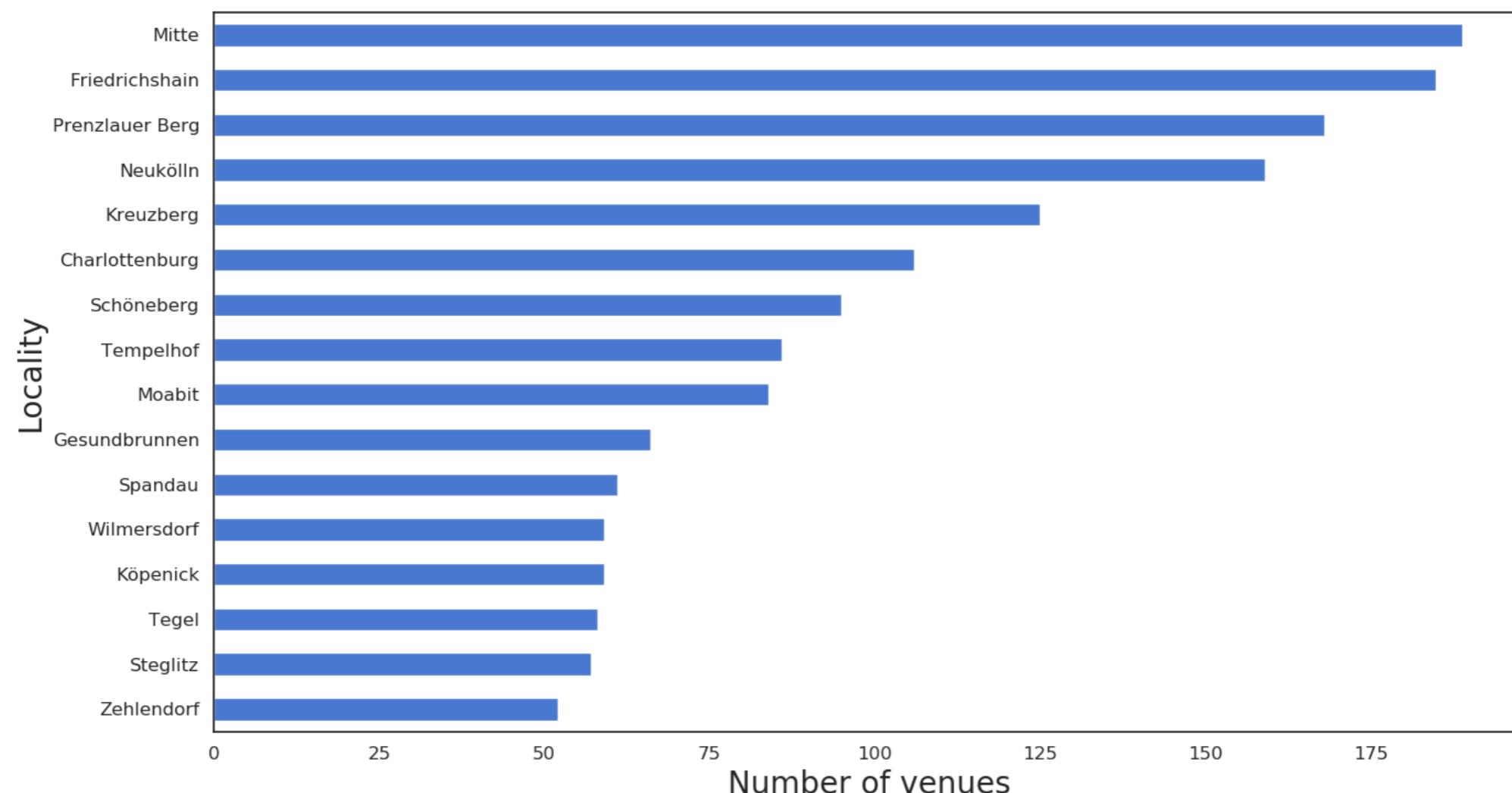
- List of localities with geographical coordinates
 - Wikipedia: Administrative division of Berlin
 - https://de.wikipedia.org/w/index.php?title=Verwaltungsgliederung_Berlins
- Social venues
 - Foursquare API
 - <https://developer.foursquare.com/>
- Demographic data
 - Amt für Statistik Berlin-Brandenburg
 - <https://www.statistik-berlin-brandenburg.de>

Localities of Berlin

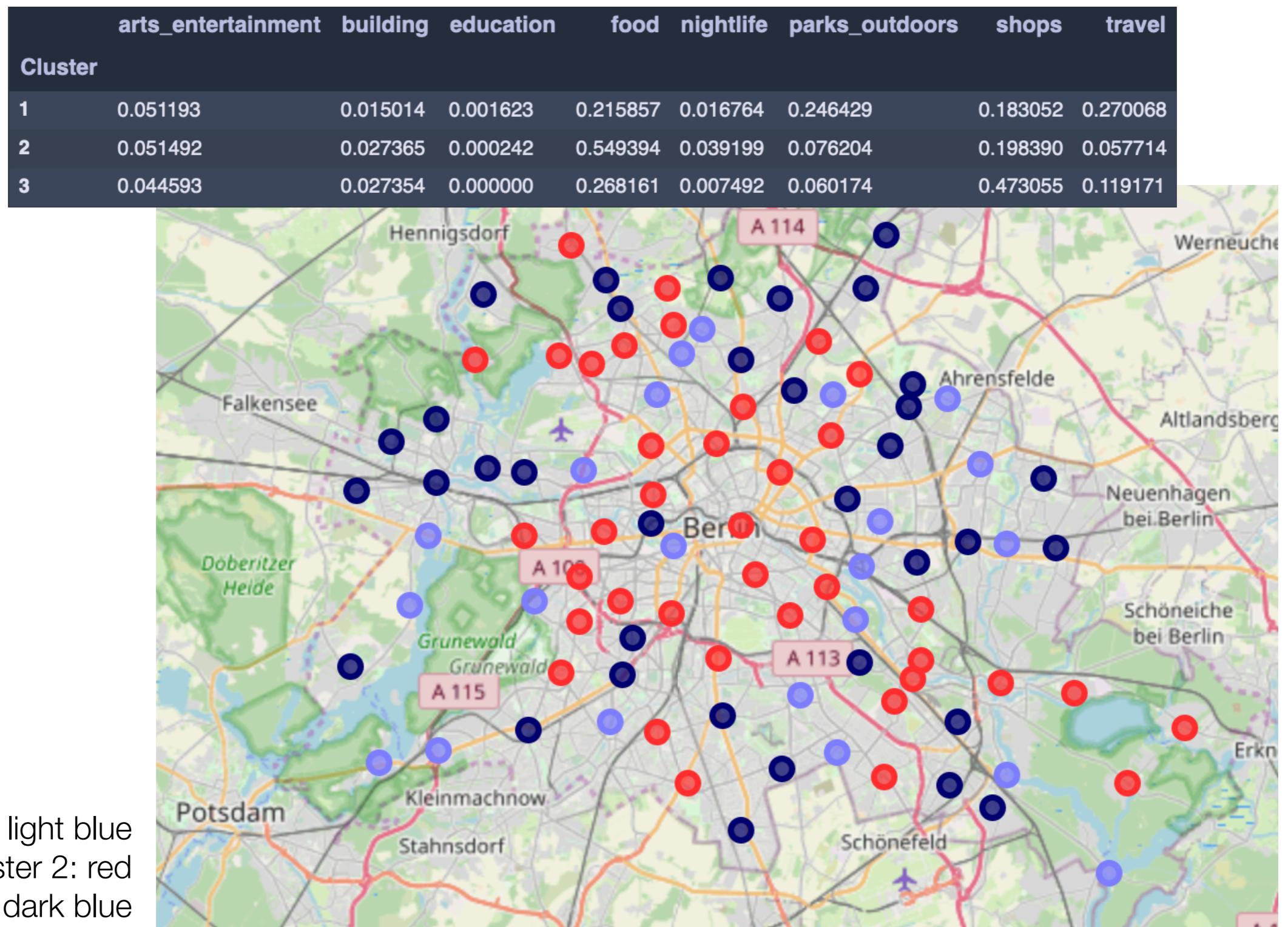


Social venues of Berlin

- 2852 venues in total
- Most popular venue categories: grocery shops, coffee shops, Italian food

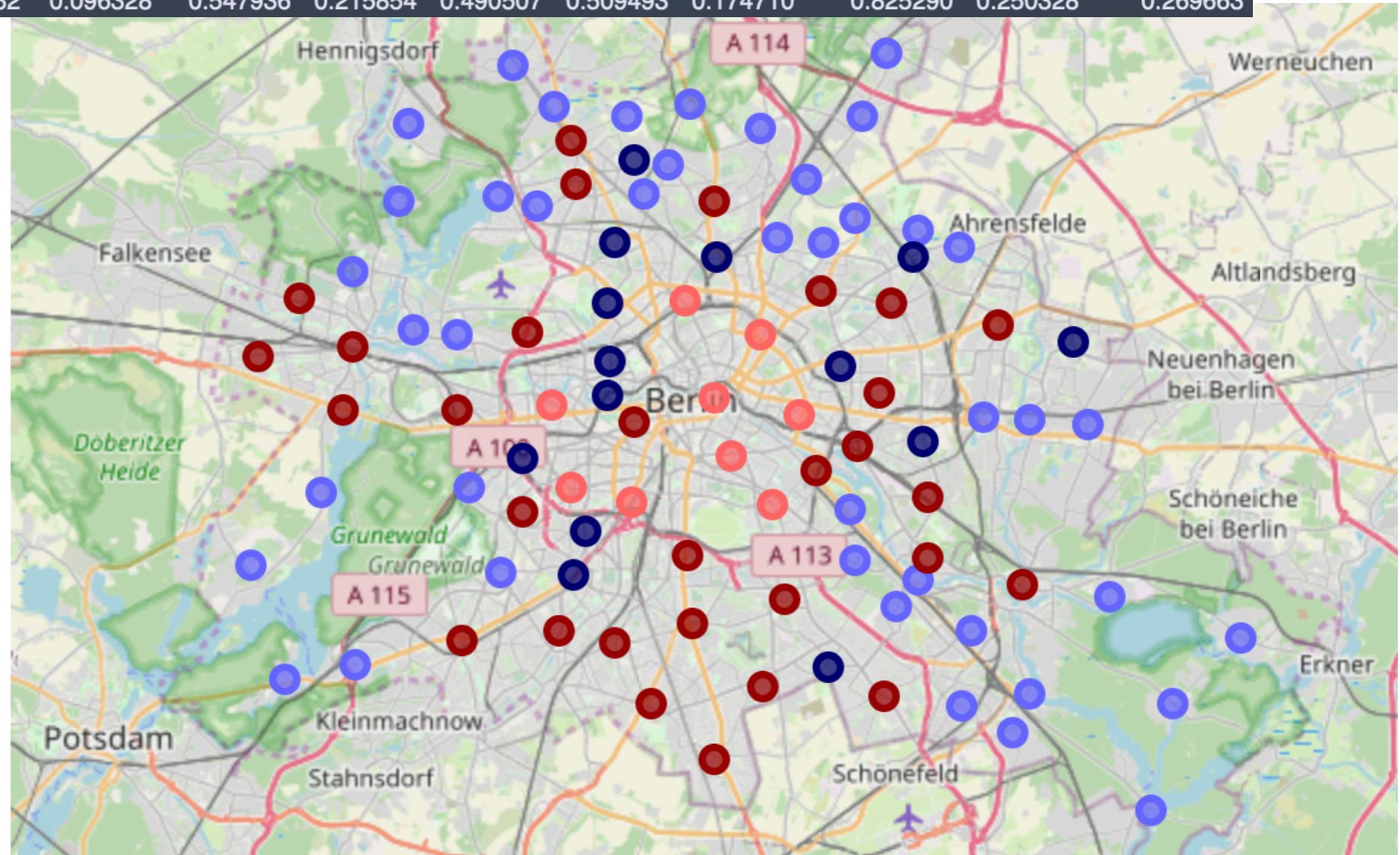


K-means clustering of social venues



K-means clustering of demographics

Cluster	children	students	adults	seniors	men	women	foreigners	citizens	population	density
1	0.134015	0.100210	0.565230	0.200545	0.491465	0.508535	0.214015	0.785985	0.316882	0.680146
2	0.136134	0.085367	0.540726	0.237774	0.495925	0.504075	0.096325	0.903675	0.080748	0.105068
3	0.130668	0.093817	0.636547	0.138968	0.505625	0.494375	0.284216	0.715784	0.779866	0.782274
4	0.139882	0.096328	0.547936	0.215854	0.490507	0.509493	0.174710	0.825290	0.250328	0.269663



Cluster 1: dark blue

Cluster 2: light blue

Cluster 3: orange

Cluster 4: brown

Most similar localities

	Count	Similar Localities
Lichtenrade	8	Alt-Hohenschönhausen, Buckow, Falkenhagener Feld, Mariendorf, Niederschönhausen, Rudow, Tempelhof, Zehlendorf
Mariendorf	7	Alt-Hohenschönhausen, Buckow, Falkenhagener Feld, Lichtenrade, Spandau, Tempelhof, Zehlendorf
Kreuzberg	7	Charlottenburg, Friedrichshain, Gesundbrunnen, Mitte, Neukölln, Prenzlauer Berg, Schöneberg
Heinersdorf	6	Altglienicke, Buch, Französisch Buchholz, Heiligensee, Siemensstadt, Waidmannslust
Nikolassee	6	Charlottenburg-Nord, Gatow, Grunewald, Grünau, Schmöckwitz, Wannsee
Niederschönhausen	6	Baumschulenweg, Karlshorst, Karow, Marienfelde, Staaken, Weißensee
Frohnau	6	Blankenburg, Borsigwalde, Friedrichshagen, Konradshöhe, Lübars, Müggelheim
Friedrichshagen	6	Blankenburg, Frohnau, Konradshöhe, Müggelheim, Rahnsdorf, Tegel
Alt-Hohenschönhausen	6	Buckow, Falkenhagener Feld, Lichtenrade, Mariendorf, Spandau, Staaken
Friedrichshain	6	Charlottenburg, Gesundbrunnen, Kreuzberg, Neukölln, Prenzlauer Berg, Schöneberg
Hellersdorf	5	Friedrichsfelde, Marzahn, Neu-Hohenschönhausen, Reinickendorf, Steglitz
Adlershof	5	Baumschulenweg, Biesdorf, Bohnsdorf, Hermsdorf, Waidmannslust
Dahlem	5	Johannisthal, Lübars, Niederschöneweide, Oberschöneweide, Wittenau
Wittenau	5	Dahlem, Lankwitz, Niederschöneweide, Oberschöneweide, Westend
Grünau	5	Gatow, Kladow, Nikolassee, Schmöckwitz, Wannsee
Gatow	5	Grunewald, Kaulsdorf, Nikolassee, Schmöckwitz, Wilhelmsruh
Altglienicke	5	Französisch Buchholz, Heiligensee, Heinersdorf, Mahlsdorf, Siemensstadt

Localities most like other localities

Conclusions

- Clustering localities
 - 3 social venue clusters: parks & outdoors / food / shops
 - 4 demographic clusters: low population (density), older, citizens / high population (density), younger, immigrants
- Extensions/Improvements:
 - Smarter aggregation of venue categories
 - Add venue likes and/or ratings
 - Add more data sources: median income, rent prices, crime statistics...

