

IBM Applied Data Science Capstone

Moving to Berlin

A Neighbourhood Guide for Newcomers to Berlin



Joshua Gladwin

14 February 2020

Introduction

Berlin is one of the fastest growing tech hubs in Europe. With Brexit uncertainty threatening London's place as the tech capital of Europe, many in the tech industry are looking to relocate to Berlin. The city is noted for its high quality of life and, in comparison to London, low cost of living. Berlin is an international city, with a growing international community. The city is famed for its open and friendly attitude towards women and LGBT people.

Business Problem/Target Audience

Berlin's tech companies are often hiring from other cities, such as London and San Francisco, to make sure that they have the best employees with the right skills for their needs. This often requires a relocation process, to aid the new employees move to and settle into Berlin. The aim of this project is to provide newcomers to Berlin with a guide to the various neighbourhoods in Berlin. Many people may have visited Berlin at some point before relocation, but the experience of a tourist is much different to that of someone who lives in Berlin. It is important that a company helps its employees settle into their new city as quickly as possible. If there are problems finding the right neighbourhood to live in, this may have a negative impact on the employee's performance at work in the crucial early stages of the role. An employee may have to relocate once they have started in the role causing much unnecessary stress. In the worst-case scenario, new recruit may decide to return back to their previous location. It is therefore important that the company does its utmost to ensure that there is a seamless transition from one city to another.

Data

There are three data sources that are required to solve this task:

- List of the neighbourhoods in Berlin. This forms the backbone of the analysis, providing the main data points to be analysed.
- Latitude and longitude coordinates of the neighbourhoods. This allows the neighbourhoods to be plotted on a map, to better visualise the neighbourhood clusters
- Venue data for each of the neighbourhoods. This provides the information needed to cluster the neighbourhood data.

Firstly, the neighbourhood data is gathered from Wikipedia. Here we can find a list of the 96 *Ortsteile*, the 96 official neighbourhoods within the city-state of Berlin, as designated by the Berlin State government.

Next, using the Geocoder Python package, we can obtain the latitude and longitude of each of the neighbourhoods. With the coordinates of the neighbourhoods, we can now plot the geographic location of each of the neighbourhoods using the mapping library Folium.

Finally, using the Foursquare Venues API, we can get a list of the venues found in each of the neighbourhoods. The venues data can then be used to compare the similarities between each of the neighbourhoods, using K-Means clustering, to group the neighbourhoods into distinct clusters.

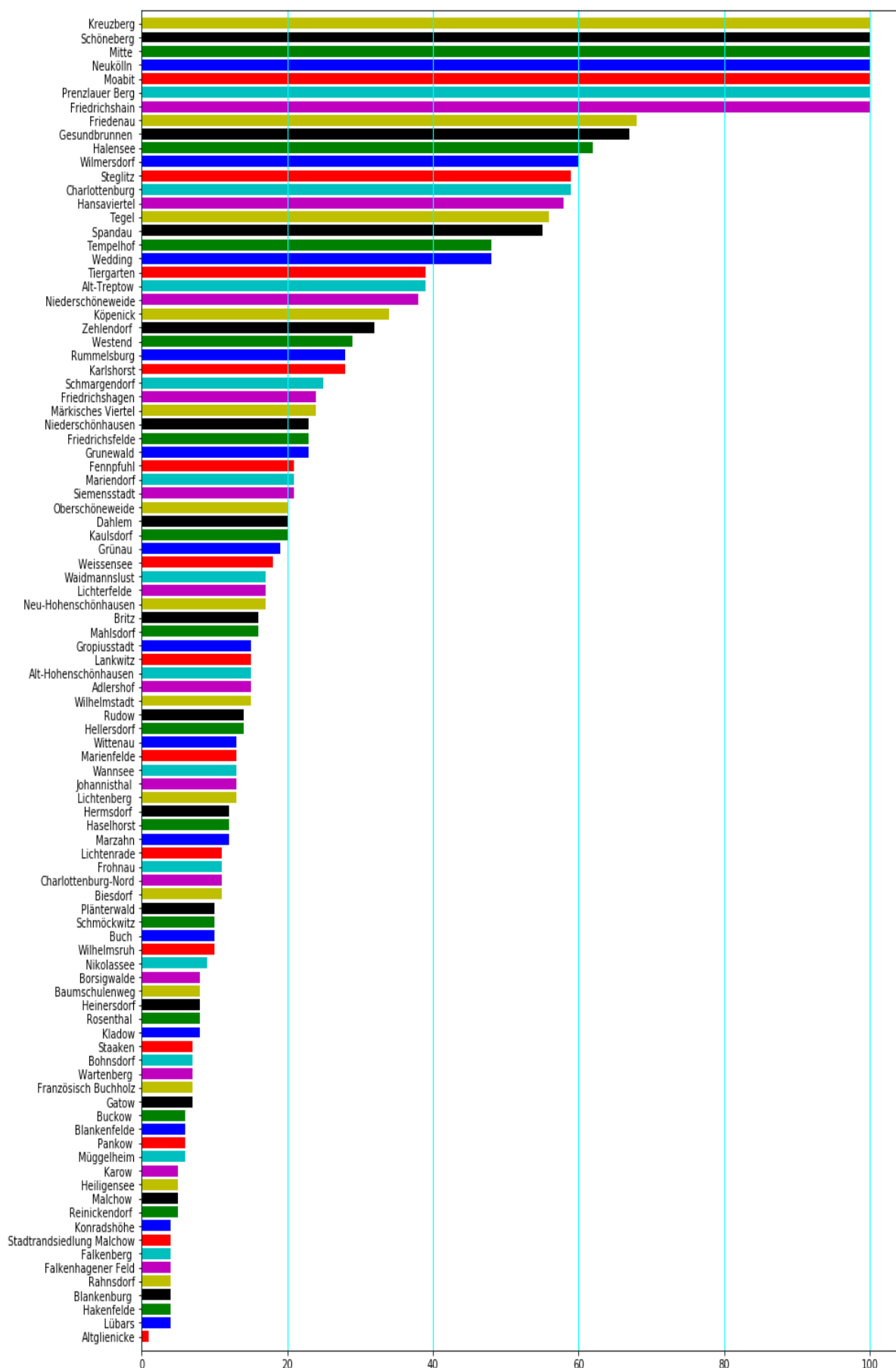
Methodology

To begin with, the list of neighbourhood names is imported into a Jupyter notebook. The CSV file with the neighbourhood consists of a single column, containing only the names of the neighbourhoods. The rest of the data needed for this project still needs to be obtained.

In order to use the Foursquare API later, first we need to acquire the geographic coordinates of each of the neighbourhoods. This can easily be accomplished by using the Geocoder library. Using Geocoder, we can submit the neighbourhoods and Geocoder will return the latitude and longitude coordinates for each of neighbourhood. However, we must be careful that each returns the correct location. To do this, we append "Berlin, DE" to each of the neighbourhoods. This ensures that Geocoder will return the correct location, a location in Berlin, rather than the first example of each neighbourhood name that it finds in its database.

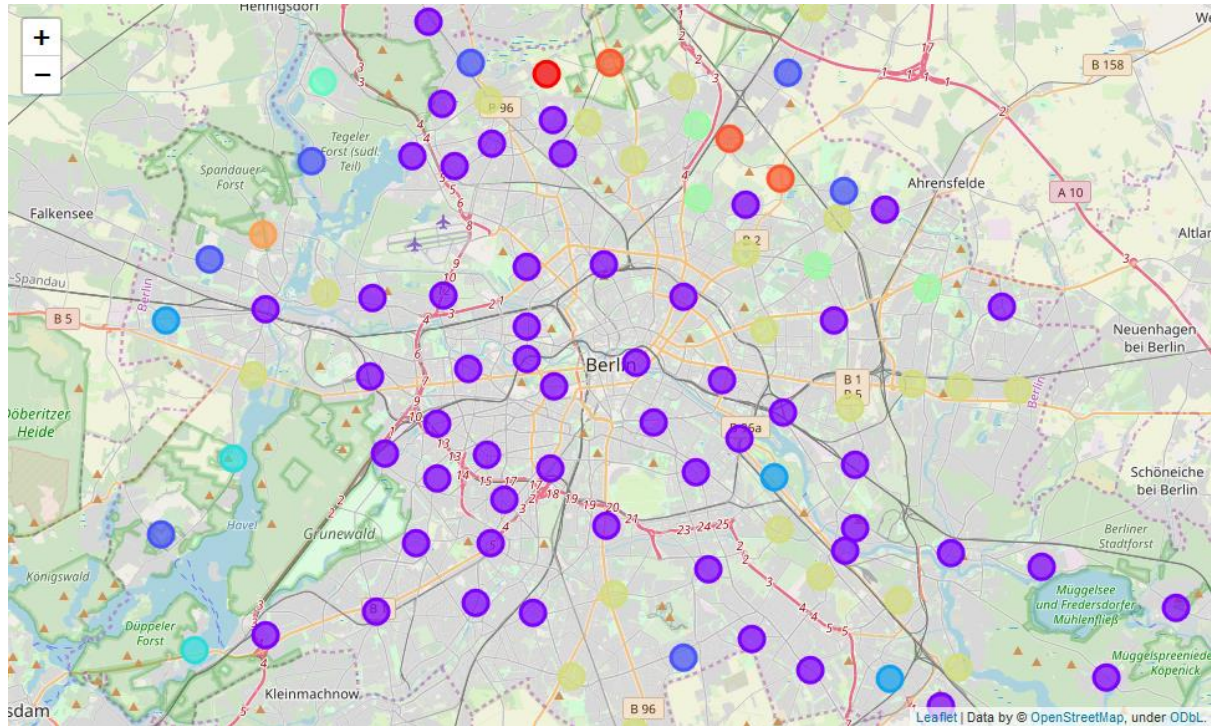
Now that we have the coordinates of each neighbourhood, we can start to retrieve venue information using the Foursquare API. Using the coordinates from Geocoder, we can set this as the centre of each neighbourhood. From this centre, we retrieve up to 75 venues for each neighbourhood, within a radius of 750m. Beyond computational reasons, the limits are placed on the API calls for several reasons. Firstly, not all neighbourhoods are equidistant across the city; some neighbourhoods are closer to each than others. It is important that we set a radius that allows for the greatest range within which we can search for venues in each neighbourhood, without resulting in too much overlap between neighbourhoods. If there is too much overlap, neighbourhoods will end up "sharing" venues and this will cause problems in the clustering later. Secondly, within the stated radius, not every neighbourhood has the same number of venues in it. Only six neighbourhoods in the centre of Berlin have ≥ 100 venues within 750m. Increasing the limit above 75 venues does little to improve the data quality for the other 90 remaining neighbourhoods, so this seemed like an appropriate point to stop. [See Figure 1]

Figure 1: The Number of Venues in each Neighbourhood in descending order



Finally, we can begin to cluster the venue data. To do this, we are using a K-Means clustering algorithm to group together the neighbourhoods, based on the similarities of their venues and their frequency in the neighbourhood. The neighbourhoods were sorted into 10 different clusters. To illustrate the clustering, the neighbourhoods were then plotted onto a map, coloured by cluster.

Figure 3: Map Showing the Berlin Neighbourhoods, Clustered According to Colour



Results

Below is a summary of the results of the clustering:

[For full list, see Appendix]

Cluster	Number of Neighbourhoods
Cluster 1	1
Cluster 2	52
Cluster 3	7
Cluster 4	3
Cluster 5	3
Cluster 6	1
Cluster 7	4
Cluster 8	21
Cluster 9	1
Cluster 10	3

Overall, the neighbourhoods have been clustered in two different ways – Large clusters (2,8) and the small clusters (3-5, 7, 10) and individual clusters (1,6,9).

The largest cluster, Cluster 2, contains over half of the neighbourhoods. Geographically, they are spread across a large area, mainly western and central Berlin, but also the main transport arteries, such as the motorways and metro lines. The cluster contains a higher concentration of restaurants, cafés and bars when compared to the other clusters.

The next largest cluster, Cluster 8, shows a slightly more sedate picture. These neighbourhoods tend towards the outskirts of the city, towards the north, east and south. There are notably fewer bars and the type of restaurants is unspecified. [i.e. not Chinese or Italian]. Furthermore, the transport links in these neighbourhoods, favouring tram, light rail and train lines over metro lines and motorways.

[illegible][illegible]

Discussion

The clustering clearly shows that there are two distinct regions of Berlin – the lively centre and the quieter outskirts. The centre contains much of the Berlin nightlife, with many different types of bars, cafes, restaurants, as well as the more touristy attractions such as the monuments and museums. It also contains the greatest range of venues, with more unique venue categories than the outskirts. [Figure 4].

The outskirts, however, may have fewer venues overall, but the proportions are more even, with less dramatic differences between the venues. [Figure 5] This suggests that within the cluster, there are fewer differences between the neighbourhoods. However, this also suggests that, compared to the centre, there are fewer “interesting” unique venue categories in the outskirts, meaning a quieter, simpler life. Whether the “variety” of the centre or the “simplicity” of the outskirts is preferable, would be down to the newcomer to Berlin.

However, these two designations only account for two of the ten clusters. The remaining clusters suffer from a great lack of available data from the Foursquare API. Many of the neighbourhoods have less than 20 venues available in the search radius, some less than 10. One neighbourhood, Altglienicke, seems to only contain a single bus stop. Increasing this radius did not necessarily increase the number of venues found in these neighbourhoods, while increasing the processing capacity needed for the more bountiful neighbourhoods. What little data there is, does inform the grouping of some of the clusters. For example, each neighbourhood in cluster 5 contains a *Harbour/Marina* and the most common venue in each neighbourhood in Cluster 7 is a *Tram Station*. With so few venues available, it’s difficult to be able to categorise the neighbourhoods in any way useful to the original problem. How can we ascertain what sort of location Altglienicke is when all we have to go on is a bus stop?

With the lack of venues to act as data points, many of these smaller clusters are bound together not by what they have in common, but what they *lack* in common. Some of the “most common” venue categories in these neighbourhood clusters, for example Cluster 3, include *Zoo Exhibit*, *Flea Market*, *Flower Shop*, *Food & Drink Shop*, *Food Court*, *Football Stadium*. [See Appendix] However, the frequency of these venues in these neighbourhoods is 0, making up 0% of the venues in the neighbourhood. But to the K-Means clustering algorithm, seeing this lack of venues as informative as the presence of a venue, and with very little other data available, these neighbourhoods are clustered together.

Conclusion

In this project, we have examined the neighbourhoods of Berlin. We have identified the geographic coordinates of each neighbourhood and then, using the Foursquare API, retrieved a list of venues for each neighbourhood. Then, using a K-Means clustering algorithm, we clustered the neighbourhoods. This produced a broad separation of Berlin into two main areas, the Western/Centre of Berlin and the Eastern/Outskirts.

In future, it would be interesting to see what results we could find with a more complete dataset of venue data, especially for outside of the inner city. Further, while the Foursquare API gives us specific venue categories, it would be better to find a way to show the interconnected relationship between these venue types. *Restaurant*, *Japanese Restaurant*, and *Sushi Restaurant*, for example, all appear as venue categories. However, at present, a *Sushi Restaurant* has no relationship in the data as a type of the *Restaurant* category, though clearly one is a subset of a larger set. Finding some way to show the venue types as sets would allow for a better clustering of the neighbourhoods.

Bibliography

NomadList, 2019. *Cost of Living in Berlin*. [Online]

Available at: <https://nomadlist.com/berlin>

[Accessed 22 01 2020].

Wikipedia, 2019. *Boroughs and neighborhoods of Berlin - Wikipedia*. [Online]

Available at: https://en.wikipedia.org/wiki/Boroughs_and_neighborhoods_of_Berlin

[Accessed 22 01 2020].

Appendix

Cluster 1

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
50	Lübars	Restaurant	Stables	Comfort Food Restaurant	Ice Cream Shop	Zoo Exhibit	Football Stadium	Fish Market	Flea Market	Flower Shop	Food & Drink Shop

Cluster 2

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
2	Alt-Treptow	Nightclub	Café	Bakery	ATM	Tapas Restaurant	Bar	Park	Beer Garden	Big Box Store	Outdoor Sculpture
8	Bohnsdorf	Home Service	Italian Restaurant	Insurance Office	Soccer Field	Doner Restaurant	Park	Football Stadium	Fish Market	Flea Market	Flower Shop

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
9	Borsigwalde	Motorcycle Shop	Fast Food Restaurant	Athletics & Sports	Toy / Game Store	Go Kart Track	Flower Shop	Food & Drink Shop	Food Court	Football Stadium	Forest
10	Britz	Metro Station	Eastern European Restaurant	German Restaurant	Mini Golf	Historic Site	History Museum	Bakery	Park	Palace	Lake
13	Charlottenburg	Supermarket	Café	Chinese Restaurant	Taverna	Italian Restaurant	Drugstore	Asian Restaurant	Gourmet Shop	Bank	Bakery
14	Charlottenburg-Nord	Building	Rock Climbing Spot	Metro Station	Mexican Restaurant	Beer Garden	Miscellaneous Shop	Soccer Field	Park	Plaza	Supermarket
15	Dahlem	German Restaurant	Museum	Café	Burger Joint	Chinese Restaurant	Fast Food Restaurant	Bookstore	Coffee Shop	Indie Movie Theater	Gym
16	Falkenberg	Animal Shelter	Coffee Shop	Mountain	Park	Zoo Exhibit	Fountain	Flower Shop	Food & Drink Shop	Food Court	Football Stadium
20	Friedenau	Café	Supermarket	Italian Restaurant	Vietnamese Restaurant	Bakery	Organic Grocery	Korean Restaurant	Hookah Bar	Greek Restaurant	Bistro
22	Friedrichshagen	Organic Grocery	Café	Ice Cream Shop	Beach	Japanese Restaurant	Trattoria/Osteria	Plaza	Drugstore	Park	Brewery

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
23	Friedrichshain	Café	Coffee Shop	Vegetarian / Vegan Restaurant	Bar	Nightclub	Cocktail Bar	Pizza Place	Middle Eastern Restaurant	Bagel Shop	Thai Restaurant
24	Frohnau	Supermarket	Italian Restaurant	Bar	Bakery	Miscellaneous Shop	Coffee Shop	Pizza Place	Ice Cream Shop	Café	Doner Restaurant
26	Gesundbrunnen	Café	Bar	Drugstore	Turkish Restaurant	Ice Cream Shop	Bookstore	Trail	Platform	Hotel	Italian Restaurant
27	Gropiusstadt	Metro Station	Supermarket	Trail	Football Stadium	Farmers Market	Gym / Fitness Center	Gym	Grocery Store	Tennis Stadium	Café
29	Grunewald	German Restaurant	Italian Restaurant	Lake	Café	Supermarket	Bus Stop	Platform	Tennis Stadium	Historic Site	Trail
31	Halensee	Plaza	Hotel	Supermarket	Italian Restaurant	Café	Gym / Fitness Center	Indian Restaurant	Bakery	Drugstore	German Restaurant
32	Hansaviertel	Bakery	Café	Restaurant	Hotel	Outdoor Sculpture	Park	Light Rail Station	Gastropub	Gym / Fitness Center	Bistro
36	Hellersdorf	Metro Station	Gym / Fitness Center	Supermarket	Ice Cream Shop	Multiplex	German Restaurant	Big Box Store	Bus Stop	Bank	Bakery

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
39	Karlshorst	Supermarket	Bakery	Playground	Organic Grocery	Light Rail Station	Greek Restaurant	German Restaurant	Sushi Restaurant	Café	Italian Restaurant
44	Köpenick	Soccer Stadium	Clothing Store	Café	Bakery	Drugstore	Gym / Fitness Center	River	German Restaurant	Bar	Trail
45	Kreuzberg	Bar	Coffee Shop	Café	Turkish Restaurant	Bakery	Cocktail Bar	German Restaurant	Dance Studio	Lounge	Indie Movie Theater
46	Lankwitz	Bakery	Drugstore	Italian Restaurant	Ice Cream Shop	Supermarket	Movie Theater	German Restaurant	Soccer Field	Park	Fast Food Restaurant
47	Lichtenberg	Furniture / Home Store	Tram Station	Hotel	Miscellaneous Shop	Bakery	Pool Hall	Indoor Play Area	Cafeteria	Café	Hardware Store
49	Lichterfelde	Bus Stop	Bakery	Italian Restaurant	Track Stadium	Chinese Restaurant	Pool	Supermarket	Plaza	Bank	Eastern European Restaurant
55	Märkisches Viertel	Italian Restaurant	Hotel	Athletics & Sports	Fast Food Restaurant	Miscellaneous Shop	Baseball Field	Bank	Gift Shop	Electronics Store	Gym / Fitness Center
57	Mitte	Hotel	Café	History Museum	Museum	Art Museum	Ice Cream Shop	Art Gallery	Restaurant	Plaza	German Restaurant

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
58	Moabit	Gym / Fitness Center	German Restaurant	Burger Joint	Cocktail Bar	Supermarket	Bar	Café	Doner Restaurant	Italian Restaurant	Hotel
59	Müggelheim	Gym	American Restaurant	Supermarket	Harbor / Marina	German Restaurant	IT Services	Café	Zoo Exhibit	Flower Shop	Food & Drink Shop
61	Neukölln	Bar	Coffee Shop	Café	Cocktail Bar	Italian Restaurant	Turkish Restaurant	Bistro	Dive Bar	Middle Eastern Restaurant	Lebanese Restaurant
62	Niederschöneweide	Supermarket	Café	Bakery	History Museum	Indian Restaurant	Falafel Restaurant	Juice Bar	Furniture / Home Store	Motel	Movie Theater
64	Nikolassee	Trail	Park	Intersection	Supermarket	Coffee Shop	Lake	Asian Restaurant	Light Rail Station	Fish Market	Flea Market
65	Oberschöneweide	Supermarket	Burger Joint	Café	Movie Theater	Pizza Place	Gym / Fitness Center	History Museum	Forest	Bakery	Laundry Service
68	Prenzlauer Berg	Café	Vietnamese Restaurant	Bakery	Gourmet Shop	Coffee Shop	Italian Restaurant	Beer Bar	Bar	Cocktail Bar	Falafel Restaurant

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
69	Rahnsdorf	Indian Restaurant	River	German Restaurant	Ice Cream Shop	Athletics & Sports	Zoo Exhibit	Fish Market	Flea Market	Flower Shop	Food & Drink Shop
70	Reinickendorf	Gastropub	Nature Preserve	Hostel	Liquor Store	Ice Cream Shop	Forest	Flea Market	Flower Shop	Food & Drink Shop	Food Court
72	Rudow	Ice Cream Shop	Italian Restaurant	Doner Restaurant	Miscellaneous Shop	Bank	Drugstore	Metro Station	Supermarket	Department Store	Bus Stop
73	Rummelsburg	Café	German Restaurant	Lake	Restaurant	Soccer Field	Bus Stop	Boarding House	Supermarket	Beer Garden	Theme Park Ride / Attraction
74	Schmargendorf	Gym	Italian Restaurant	Ice Cream Shop	Sports Club	Café	Chinese Restaurant	Tennis Court	Bookstore	Bus Stop	Restaurant
76	Schöneberg	Italian Restaurant	Café	Bistro	Grocery Store	Supermarket	Restaurant	Pizza Place	Coffee Shop	Ice Cream Shop	German Restaurant
77	Siemensstadt	Metro Station	Furniture / Home Store	Supermarket	Pizza Place	Fast Food Restaurant	Hardware Store	Sandwich Place	German Restaurant	Baby Store	Hotel
78	Spandau	Clothing Store	Ice Cream Shop	Drugstore	Bakery	Fast Food Restaurant	Restaurant	Pub	Sushi Restaurant	Mobile Phone Shop	Italian Restaurant

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
80	Stadtrandsiedlung Malchow	Restaurant	Indoor Play Area	Automotive Shop	Athletics & Sports	Zoo Exhibit	Forest	Fish Market	Flea Market	Flower Shop	Food & Drink Shop
81	Steglitz	Sushi Restaurant	Gym / Fitness Center	Trattoria/Osteria	Martial Arts Dojo	Clothing Store	Toy / Game Store	Bus Stop	Café	Pub	Italian Restaurant
82	Tegel	Café	Clothing Store	Restaurant	Drugstore	Mediterranean Restaurant	Sandwich Place	Thai Restaurant	Italian Restaurant	Shopping Mall	Indian Restaurant
83	Tempelhof	Supermarket	Café	Doner Restaurant	Italian Restaurant	Park	Fried Chicken Joint	Drugstore	Bakery	Indian Restaurant	Breakfast Spot
84	Tiergarten	Hotel	Art Museum	Plaza	Breakfast Spot	German Restaurant	Hotel Bar	Lounge	Park	Sculpture Garden	Cocktail Bar
88	Wedding	Café	Bar	Burger Joint	Chinese Restaurant	Middle Eastern Restaurant	Supermarket	Big Box Store	Park	Ice Cream Shop	Tennis Court
90	Westend	Café	Gas Station	Park	Metro Station	Italian Restaurant	Plaza	Bakery	Ice Cream Shop	Bus Stop	Flower Shop
91	Wilhelmsruh	Music Venue	Discount Store	Bus Stop	Mexican Restaurant	Pharmacy	Restaurant	Distillery	Flea Market	Garden	Gaming Cafe

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
93	Wilmerdorf	Bakery	German Restaurant	Doner Restaurant	Café	Burger Joint	Bus Stop	Organic Grocery	Supermarket	Drugstore	Vietnamese Restaurant
94	Wittenau	Park	Italian Restaurant	Supermarket	German Restaurant	Concert Hall	Mediterranean Restaurant	Post Office	Restaurant	Metro Station	Trattoria/Osteria
95	Zehlendorf	Café	Italian Restaurant	Doner Restaurant	Drugstore	Bank	Steakhouse	Gym / Fitness Center	Big Box Store	Gourmet Shop	Sushi Restaurant

Cluster 3

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
12	Buckow	Supermarket	Indian Restaurant	Discount Store	German Restaurant	Fast Food Restaurant	Flea Market	Flower Shop	Food & Drink Shop	Food Court	Football Stadium
17	Falkenhagener Feld	Drugstore	Supermarket	Snack Place	Soccer Field	Zoo Exhibit	Flea Market	Flower Shop	Food & Drink Shop	Food Court	Football Stadium

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
37	Hermsdorf	Supermarket	Italian Restaurant	Bakery	Drugstore	Organic Grocery	Sushi Restaurant	Lake	Wine Shop	Seafood Restaurant	Frozen Yogurt Shop
40	Karow	Supermarket	Mattress Store	Italian Restaurant	German Restaurant	Zoo Exhibit	Forest	Flea Market	Flower Shop	Food & Drink Shop	Food Court
42	Kladow	Supermarket	Pharmacy	Organic Grocery	Bus Stop	Liquor Store	Pier	Food Court	Fish Market	Flea Market	Flower Shop
43	Konradshöhe	Supermarket	Diner	Bus Stop	Fountain	Flea Market	Flower Shop	Food & Drink Shop	Food Court	Football Stadium	Forest
87	Wartenberg	Supermarket	Discount Store	Soccer Field	Business Service	Gym / Fitness Center	Zoo Exhibit	Forest	Flower Shop	Food & Drink Shop	Food Court

Cluster 4

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
3	Altglienicke	Bus Stop	Zoo Exhibit	Fountain	Flea Market	Flower Shop	Food & Drink Shop	Food Court	Football Stadium	Forest	French Restaurant
67	Plänterwald	Bus Stop	Playground	Supermarket	Liquor Store	Lake	Light Rail Station	Zoo Exhibit	Football Stadium	Flea Market	Flower Shop
79	Staaken	Bus Stop	Restaurant	Italian Restaurant	Zoo Exhibit	Forest	Fish Market	Flea Market	Flower Shop	Food & Drink Shop	Food Court

Cluster 5

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
25	Gatow	Farmers Market	Italian Restaurant	Supermarket	Harbor / Marina	Bus Stop	Trattoria/Osteria	Hotel	Food Court	Fish Market	Flea Market
75	Schmöckwitz	Harbor / Marina	Supermarket	Miscellaneous Shop	Tram Station	Hotel	German Restaurant	Ice Cream Shop	Gas Station	Italian Restaurant	French Restaurant

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
86	Wannsee	Harbor / Marina	Supermarket	Austrian Restaurant	Post Office	Chinese Restaurant	Bank	Bakery	Lake	Indian Restaurant	Liquor Store

Cluster 6

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
34	Heiligensee	Insurance Office	Photography Studio	Forest	Fast Food Restaurant	Fish Market	Flea Market	Flower Shop	Food & Drink Shop	Food Court	Football Stadium

Cluster 7

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
1	Alt-Hohenschönhausen	Tram Station	Discount Store	Ice Cream Shop	Soccer Field	Post Office	Supermarket	Greek Restaurant	Drugstore	Asian Restaurant	Indian Restaurant
35	Heinersdorf	Tram Station	Discount Store	Chinese Restaurant	Supermarket	Fish Market	Fried Chicken Joint	Football Stadium	Flea Market	Flower Shop	Food & Drink Shop
56	Marzahn	Tram Station	Plaza	Italian Restaurant	Bus Stop	Windmill	Cultural Center	German Restaurant	Asian Restaurant	Ice Cream Shop	Football Stadium
66	Pankow	Tram Station	Supermarket	Asian Restaurant	Fountain	Flea Market	Flower Shop	Food & Drink Shop	Food Court	Football Stadium	Forest

Cluster 8

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Adlershof	Supermarket	Steakhouse	Tram Station	Pet Store	German Restaurant	Bank	Athletics & Sports	Greek Restaurant	Trattoria/Osteria	Bus Stop

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
4	Baumschulenweg	Supermarket	Vietnamese Restaurant	Café	Bakery	Bus Stop	Drugstore	Eastern European Restaurant	Asian Restaurant	Food Court	Football Stadium
5	Biesdorf	Supermarket	Athletics & Sports	Palace	Furniture / Home Store	Pharmacy	Plaza	Drugstore	Bakery	Shipping Store	Light Rail Station
11	Buch	Light Rail Station	Bus Stop	Italian Restaurant	Supermarket	Art Gallery	Drugstore	Big Box Store	Asian Restaurant	Bakery	Zoo Exhibit
18	Fennpfuhl	Supermarket	Drugstore	Tram Station	Soccer Field	Department Store	Park	Shipping Store	Shopping Mall	Café	Pharmacy
19	Französisch Buchholz	Supermarket	Rest Area	Flower Shop	Tram Station	Hardware Store	Drugstore	Garden Center	Fried Chicken Joint	French Restaurant	Fountain
21	Friedrichsfelde	Supermarket	Drugstore	Zoo Exhibit	Gastropub	Zoo	Tunnel	Café	Shopping Mall	Palace	Mobile Phone Shop
28	Grünau	Supermarket	Hotel	Tram Station	Light Rail Station	Electronics Store	Historic Site	Café	Drugstore	Boat or Ferry	River
33	Haselhorst	Supermarket	Bus Stop	Electronics Store	Beer Store	Miscellaneous Shop	Bank	Gym / Fitness Center	Automotive Shop	Athletics & Sports	Ice Cream Shop

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
38	Johannisthal	Supermarket	Movie Theater	Hotel	Burger Joint	Pub	Bus Stop	Sushi Restaurant	Taverna	Soccer Field	Miscellaneous Shop
41	Kaulsdorf	Supermarket	Hotel	Light Rail Station	ATM	Pet Store	Park	Bus Stop	Gas Station	German Restaurant	Trail
48	Lichtenrade	Supermarket	Soccer Field	Department Store	Restaurant	German Restaurant	Doner Restaurant	Bus Stop	Football Stadium	Flea Market	Flower Shop
51	Mahlsdorf	Tram Station	Automotive Shop	Supermarket	Greek Restaurant	Athletics & Sports	Fast Food Restaurant	Bakery	Gym / Fitness Center	Light Rail Station	History Museum
53	Mariendorf	Supermarket	Steakhouse	Bakery	Climbing Gym	Ice Cream Shop	Food & Drink Shop	Park	Greek Restaurant	Motorcycle Shop	Chinese Restaurant
54	Marienfelde	Supermarket	Farmers Market	Tennis Court	Chinese Restaurant	Bakery	Shopping Mall	Park	Pizza Place	Restaurant	Bus Stop
60	Neu-Hohenschönhausen	Supermarket	Department Store	Cosmetics Shop	Seafood Restaurant	Fast Food Restaurant	Miscellaneous Shop	Tram Station	Café	Movie Theater	Electronics Store
63	Niederschönhausen	Supermarket	Italian Restaurant	Thai Restaurant	Dessert Shop	Park	Shipping Store	Tram Station	Trattoria/Osteria	Café	Pharmacy

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
71	Rosenthal	Tram Station	Supermarket	German Restaurant	Automotive Shop	Hotel	Athletics & Sports	Garden Center	Furniture / Home Store	Frozen Yogurt Shop	Fried Chicken Joint
85	Waidmannslust	Supermarket	Italian Restaurant	Gym / Fitness Center	Shopping Mall	Fast Food Restaurant	Business Service	Clothing Store	Drugstore	Hardware Store	Electronics Store
89	Weissensee	Supermarket	German Restaurant	Diner	Hotel	Bus Stop	Bistro	Park	Flower Shop	Beach	Bakery
92	Wilhelmstadt	Bus Stop	Supermarket	Boat or Ferry	Harbor / Marina	Gastropub	Argentinian Restaurant	Pool	Lake	Fried Chicken Joint	Park

Cluster 9

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
30	Hakenfelde	German Restaurant	Bus Stop	Pool	Zoo Exhibit	Fountain	Flea Market	Flower Shop	Food & Drink Shop	Food Court	Football Stadium

Cluster 10

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
6	Blankenburg	Bakery	Bus Stop	Greek Restaurant	Café	French Restaurant	Flower Shop	Food & Drink Shop	Food Court	Football Stadium	Forest
7	Blankenfelde	Café	Clothing Store	Stables	Bus Stop	Miscellaneous Shop	Zoo Exhibit	Fountain	Food & Drink Shop	Food Court	Football Stadium
52	Malchow	Café	Nature Preserve	German Restaurant	Bus Stop	Zoo Exhibit	Flower Shop	Food & Drink Shop	Food Court	Football Stadium	Forest