

To start, a list of Zip Codes of Makati is needed. A complete list of the Zip Codes of Philippine cities appears on Wikipedia ([https://en.wikipedia.org/wiki/List\\_of\\_ZIP\\_codes\\_in\\_the\\_Philippines](https://en.wikipedia.org/wiki/List_of_ZIP_codes_in_the_Philippines)). Using Makati's Neighborhood Zip Codes, we can lookup their corresponding geo coordinates.

With these, nearby venues can be gathered from Foursquare.com.

Grouping these by Neighborhood and getting the frequency of each venue type gives the following table which can be used for K-Means clustering.

[illegible]

To add Subway proximity as a factor, we need the subway stations identified on this page (<https://businessmirror.com.ph/2019/10/30/makati-subway-project-gets-additional-332-million-initial-funding/>). Their geo coordinates can be obtained using Google Maps.

	Station	Latitude	Longitude
0	EDSA-Ayala	14.55093	121.02883
1	Ayala Triangle	14.55671	121.02281
2	Makati Central Park	14.56215	121.01494
3	Police Headquarters	14.56356	121.01524
4	Circuit City	14.57305	121.01946
5	Makati City Hall	14.57081	121.02728
6	Rockwell	14.56324	121.03580
7	Guadalupe	14.56741	121.04542
8	University of Makati	14.56397	121.05575
9	Ospital ng Makati	14.54681	121.06176

Using these coordinates, we can compute the shortest distances of each neighborhood to any of the stations to get this:

Neighborhood	Distance
<b>Makati CPO (Inc, Buendia Up To</b>	67.475320
<b>San Antonio Village (Inc. Malu)</b>	280.839332
<b>La Paz-Singkamas-Tejeros</b>	904.242772
<b>Sta. Cruz</b>	432.163349
<b>Kasilawan</b>	650.561473

Adding the Distance as a column to the frequency table produced earlier, a second clustering can be generated and compared to the previous one.