

Data

As mentioned in the introduction, a number of data sets is necessary to fully explore given problem. For the case of travelling to Istanbul datasets as follows was used:

- List of districts of Istanbul with simple statistics such as population, area and population density obtained from https://en.wikipedia.org/wiki/List_of_districts_of_Istanbul
- Geospatial data of the borders of Istanbul districts for visualization, obtained from <https://gadm.org/>
- Average rent prices for districts of Istanbul obtained from <https://www.realtygroup.com.tr/average-rent-price-in-istanbul-is-1486-tl/>. Because of lack of free API or data sets for short time accommodation prices such as hotels, hostels or Airbnb, an assumption was made that apartment rental for district is positively correlated with short term accommodation prices in that district.
- Number of crimes reported per district obtained from “Ergun, N., & Yirmibeşoğlu, F. (2007). *Distribution of Crime Rates in Different Districts in Istanbul. Turkish Studies*, 8(3), 435–455. doi:10.1080/14683840701489324”. Crime data was used to calculate a crime index for each neighbourhood, based on crime numbers, population and weighted by seriousness of the crime. Described more in methodology section.
- Top attractions in Istanbul together with their score and location coordinates were obtained from Triposo API. This data was used to calculate district-attraction score, based on distance from district to attraction and weighted by the inverse score for the attraction. Described more in methodology section.
- Top eating-out places in Istanbul together with their score and location coordinates were obtained from Triposo API. This data was used to calculate district-food score, based on distance from district to eating-out place and weighted by the inverse score for the place. Described more in methodology section.

*NOTE: for attractions and eating-out places Triposo API was used instead of Foursquare API. Foursquare API doesn't have option to explore sightseeing places ('tourist sight', 'Popular with visitors' or similar searches return tourist information, hotels, restaurants all mixed) and getting ratings of restaurants required separate request for each place which is a premium call (limited use for free accounts). According to response from staff in the discussion forum for week 4, use of other API instead of Foursquare is allowed.