Task 2.2: Descriptive Analytics - Geographical Demand Patterns

To analyze the geographical distribution of the customers’ demand, it is necessary to aggregate the rides of 2017 and summarize them with regard to the start station, end station respectively. After determining the number of rides that started and ended at a certain station separately by grouping by the station IDs, the results are combined to get an overview of all station and the total number of rides related to each station, whether it was the start or the end station of a ride. The appendix contains extracts of the lists resulting from the analysis.

Among the most frequented stations are two stations near the Massachusetts Institute of Technology (“MIT at Mass Ave / Amherst St”, “MIT Stata Center at Vassar St / Main St”). Nearby is the station “Central Square at Mass Ave / Essex St” which is as the name already indicates a central position within the city. Furthermore, there are to find bus and subway stations at this place when looking at the area on Google Maps. The same holds more or less for the station “Kendall T”. It is close to the station “MIT Stata Center at Vassar / Main St” and according to Google Maps there is at least a subway station to find, too. The third most frequented station is “South Station - 700 Atlantic Ave” which is a bit distant from the others and seems to be right to a train station. Combining this information, it seems that many people, especially students, commute to and from the MIT and include the shared bikes to get there or back home. The bikes are probably used to get to the train station and then from the train station of their arrival to the MIT facilities or the city center / central square.

The least used station is “Four Corners - 157 Washington St” which quite far away to the south from the city center of Boston and there is at least one bus line stopping close by. Furthermore, there are to other Bluebikes stations very close and two more a bit more distant but still close by. An explanation for the low frequency could be the offer of alternative stations or services to use that bring more value to customers due to, e.g. convenience or lower distance to go and use. When searching the station “Faneuil St at Market St“ on BlueBikes’ website, it appeared that this station could not be found after searching for “Faneuil” in the names of start and end stations, there was listed “Faneuil Hall - Union St. at North St.” as a station as well. The assumption is that the station “Faneuil St at Market St” was not accessible over the whole year. As it was used on the 30st December for the last time, the station was probably not moved from “Faneuil St at Market St” to “Faneuil Hall - Union St. at North St.” (permanently). “Columbia Rd at Ceylon St” is close to “Four Corners - 157 Washington St”. The suggestion of alternative stations or services in the area of these two stations is strengthened by the low number of uses. This area seems to be a quieter part of the town. Looking at Google Maps it seems to be a residential area with residential buildings, some restaurants and shop as well as park, all reachable by foot. This reduces the need of taking a bike. The same aspects apply to the city part “Huron Ave. At Vassal Lane” is placed in. For the station “18 Dorrance Warehouse“ the look at Google Maps reveals that the surrounding area probably is an industrial park as there are especially companies located around the bike sharing station.



