ABSTRACT

The Semarang-Bawen corridor has experienced rapid economic development that is triggered by the manufacturing sector. The development has triggered urban sprawl and socio-economic changes in the corridor. These changes also trigger a change in the travel pattern within the region and its surroundings, addressing mobility challenges. To tackle this problem, the government has provided public transport service named Trans Jateng. A previous study has measured that the current occupancy measured by the load factor is low with a number of 0,75. The existence of Trans Jateng operation has not been supported by the feeder service. The feeder is important to extend the coverage of Trans Jateng service as it connects low-demand areas to the main public transport line. This research is aimed to formulate feeder service scheme as an alternative feeder service. In this research, the feeder service is formulated by clustering Trans Jateng transit points, travel patterns, and user preferences toward alternative feeder service.

This research utilized hierarchical clustering, cross-tabulation, and descriptive statistics method with SPSS to formulate the alternative feeder service. The analysis started with clustering to group multiple transit points into clusters based on the similarity, then a travel pattern analysis using cross tabulation and user preferences descriptive statistics is conducted using primary data obtained from each cluster based on the transit points clusters formed. Based on the clustering process using 9 types of variables, there are 3 transit points clusters formed. Cluster 1 is characterized by the location that is spread on both Semarang City and Regency, Cluster 2 is characterized by the industrial activity as all of the cluster does exist industrial activity, and cluster 3 is characterized by the high connectivity to other public transport network as the cluster transit points served by more than two public transport line. Based on the mobility and the user preference that is obtained, cluster 1 is compatible with flexible route transit, cluster 2 is compatible with demand-responsive transit, and cluster 3 is compatible with fixed route transit. The implementation of the formulated feeder service scheme will act as a support to the mobility system within the growing Semarang-Bawen corridor.

Keywords: BRT, Feeder Service, Transit Points, Typologies