Estimating Destinations of Bus Passengers Using Smart Card Data

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Abstract : Nowadays, automatic fare collection (AFC) system is widely used in many countries. However, smart card data from many of cities does not contain alighting information which is necessary to build OD matrices. Therefore, in order to utilize smart card data, destinations of passengers should be estimated. In this paper, kernel density estimation was used to forecast probabilities of alighting stations of bus passengers and applied to smart card data in Seoul, Korea which contains boarding and alighting information. This method was also validated with actual data. In some cases, stochastic method was more accurate than deterministic method. Therefore, it is sufficiently accurate to be used to build OD matrices.