Abstract

Public transit forms an important mode of travel in any large city. In order to add or modify transit routes or to improve services, it is necessary to understand and analyze user behaviour in a transit network. One of the key inputs for such an analysis would be how users choose a route out of the alternatives available in a transit network. The route choice process in a public transit network can be looked as an outcome of the individual choice processes of users at a disaggregate level. In this thesis an attempt is made to develop a random utility based discrete choice model, specifically a logit model, which expresses a user's route choice behaviour in a unimodal public transit network in a large city. The study is based on users who commute using the bus transit network in Mumbai, India. A multinomial logit model is proposed and calibrated based on revealed preference data collected from the bus transit users. It is found out that the number of transfers involved, the walking (access and egress) distance, the in-vehicle travel time and the waiting time are the major determinants of a user's route choice.

Keywords: Logit model, Bus transit, Route choice