World Academy of Science, Engineering and Technology
International Journal of Transport and Vehicle Engineering
Vol:11, No:07, 2017

A Study of Mode Choice Model Improvement Considering Age Grouping

Authors : Young-Hyun Seo, Hyunwoo Park, Dong-Kyu Kim, Seung-Young Kho

Abstract : The purpose of this study is providing an improved mode choice model considering parameters including age grouping of prime-aged and old age. In this study, 2010 Household Travel Survey data were used and improper samples were removed through the analysis. Chosen alternative, date of birth, mode, origin code, destination code, departure time, and arrival time are considered from Household Travel Survey. By preprocessing data, travel time, travel cost, mode, and ratio of people aged 45 to 55 years, 55 to 65 years and over 65 years were calculated. After the manipulation, the mode choice model was constructed using LIMDEP by maximum likelihood estimation. A significance test was conducted for nine parameters, three age groups for three modes. Then the test was conducted again for the mode choice model with significant parameters, travel cost variable and travel time variable. As a result of the model estimation, as the age increases, the preference for the car decreases and the preference for the bus increases. This study is meaningful in that the individual and households characteristics are applied to the aggregate model.

Keywords : age grouping, aging, mode choice model, multinomial logit model
Conference Title : ICTSP 2017 : International Conference on Transportation Studies and Planning
Conference Location : Prague, Czechia
Conference Dates : July 09-10, 2017