International Journal of Engineering and Advanced Technology (IJEAT)
ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019

A Critical Appraisal of Mode Choice Model of Work Trips

Faizi Ahmad Javeed, Juremalani Jayeshn.R., Bagadia Sanket, Juremalani Dharmesh

Abstract: ***In the present scenario in world, many mode choice models have been developed to predict the travelers mode choice in the available modes of transportation system .The mode choice model is one of a very significantcomponent in the urban transportation planning and policies,specifically in countries that are toward development and urbanization, likeSouth Asian countries(India, Bangladesh, Nepal,etc.)the increasing horizontal spread of cities that led to increased travel demand.The aim of this review is to study the developing of mode choice model for various transportation modes .The developed models cover different modes of transportation currently employed in cities,which are Private car,Taxi,Publicbus,Auto-rickshaw,Motorcycles,Shared car,Bicycles,Walking.They have been tried to be estimated for work, education,shopping and other trips .There are some factors that considerablyinfluence the choice of transport modes are:Socio economics variables such as age,gender, car ownership,and family monthly income.Network variables are such as travel time,travel cost,comfort,reliability, employment, driving licenseweather,and dust &noise. The data was collected for eachof the alternative modes through questionnaire by face to face interview or by using Google form. There are different methods that can be applied for the developing a mode choice model,multinomial logitmodel is the easiest method with simple mathematical calculations; this method was also used by many authors for analysis and for checking the validation the likelihood ration test .the application of mode choice model is significant to mode user to have best choice, and also such models can assist in the alleviation of traffic congestion and air pollution in the city.***

Keywords:logit models,mode choice, transportation planning,utility function

I. INTRODUCTION

Basically these are four basic steps (1) trip generation, (2) trip distribution, (3) mode choice, and (4) traffic assignment. Trip generation determines the total number of trips produced from given origins and the total number of trips attracted by given destinations, while trip distribution estimates the trips between different transport zones [8].

The mode choice modeling is important for predicting the travelers' behavior for mode choice and determining the factors affecting the selection of a particular modes [6].Finally traffic assignment designates trips to the transportation network and estimates the traffic volumes on differentlinks of the transportation network [8]. This paper aim is to review some articles of mode choice modeling to select the suitable model for a city and the factors affect the mode modeling. The mode choice modelingapproaches can be divided into aggregate and disaggregate behavioral modeling approaches. Aggregate modeling primarily focuses on the mode choices made by average individuals for trips, while disaggregate approach is based on the individual choice of the characteristics of available alternatives. Disaggregate mode choice models can be classified into three main models, namely: logit models, probit models and extreme value models [6].Logit models are popular among the discrete models because it's simple mathematical framework. This can be classified into two main categories: (1) binary and (2) multinomial logit models. Binary choice models can be used in the individuals have only two alternatives to select from ,while the multinomial logit models can be used in case of more than