A Study of Finding Choice Model for Class-Wise Railway Passenger Demand for Sri Lanka Railways

P.D.S.B. Chandrasena[1] and G.L.D.I. De Silva [2]

Abstract

Calculating passenger demand in the public transport is very important. In the railway service, passenger demand calculating is very important, because it is a mass transport mode. Passenger demand calculation is very useful when making decisions for existing railway lanes, changing number of train trips, opening new stations, changing capacity of stations and trains etc. Passenger demand calculation is much needed in finding requirements for introducing new railway lines, planning railway tracks and stations, planning train sets. Categorising service to different classes in public transport sector by facilities is crucial. In here same trip, especially same vehicle provides different facility. Different class passengers get same travel time, same distance same waiting time and only difference is the facility.

Mainly in train and airplane provide class facility in the transport sector. In airplane there are mainly two classes as business and economy. In railways 1st 2nd and 3rdclasses are available. In Sri Lankan Railway there are three classes, namely,1st 2nd and 3rd. Among them 1st class is always available for reservation. Both 2nd and 3rdclasses can be reserved on availability. When starting new train trips (in existing line or in a new line) identifying passenger choice is very important and useful. Then authority can arrange train with mixed classes according to the passenger demand. If a choice model is available, it can be applied for the area and can find community choice patterns. It is useful for designing train set or order train set. By this way, railway can provide a better passenger required service.

In this research, tried out to build a model for passenger choice when travelling by train on passengers' choice on what kind of travelling class they need according to their need of comfort. So many passenger choice models were built for calculating rail passenger demand and many researches were done for identifying many attributes affecting passenger demand. This research initially takes that attributes to the model. Then analyses geographical, socio - economic, human facts for discovering attributes which affects passenger choice model for choosing different classes. Then construct passenger choice model for different classes in train travel.

It can calculate which fraction of passengers like to travel in 2nd and 3rdclass in the railway station. While passenger demand can be calculated by using earlier passenger demand model,

this model can show how many passengers come to station for seeking 2nd class facility or 3rd class facility.

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Author Details

1. Postgraduate Student, Department of Civil Engineering, Faculty of Engineering, University of Moratuwa.
2. Senior Lecturer, Department of Civil Engineering, Faculty of Engineering, University of Moratuwa. dds@hbaspecto.com