Abstract

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Index-based Decision-Support Tool for Transit Stop Planning under Uncertainties.

This paper introduced a transit stop planning tool for evaluating the spacing, location, and design of existing/new transit stop(s) using a transit stop rating index. The rating index accounts for various transit stop planning factors along with their interdependencies and the uncertainty associated with their ranges. As opposed to pure mathematical fundamentals and concepts, the principles of Fuzzy Set Theory (FST) were used. To account for the variability in service planning standards and guidelines among different transit agencies, the developed tool provides transit planners with the flexibility to Select relevant factors and change their ranges from a set of recommended default values. For illustration, a random transit stop was evaluated using the developed tool to demonstrate the applicability of tool in practical situations. However, the factor values used for this illustrative example is only assumption based and does not show the real data. Further, the socio-economic and demographic data and ridership data is confidential and is not used in this paper.