Abstract

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Modelling the Impact of Transit Fare Change on Passengers’ Accessibility.

Accessibility "to" and "through" public transit has been one key transit planning indicator that reflects service quality. Occasionally, transit agencies may consider a fare change to maintain operations to attract more passengers. However, transit agencies do not usually consider the effect of such fare change on passengers’ accessibility. This paper investigates that effect. A multinomial logit mode choice model is developed to measure the monetary value of transit users’ travel time. Then, the cumulative opportunity measure of accessibility is used to examine the change in job accessibility after a recent transit fare increase in the city of Kelowna, British Columbia, Canada. The results show that the loss in job accessibility resulting from transit fare increase is inversely proportional to the length of the trip, given a flat fare structure. The findings of this paper should be kept in mind before a transit agency rethinks transit fare structures. For example, a transit agency could consider applying a zone-based fare structure as opposed to a flat fare structure to ensure better equity for all transit users.