

The Routing Choice Strategy Effects and Subsidy Differentiation in a
Paratransit Duopoly

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Abstract

Impaired people in Taiwan need a barrier-free transport. Although some protection laws are announced, public and private bus operations still did not obtain reasonable profit and some impaired people did not receive good transportation service. In this paper, we investigate a paratransit duopoly market by the spatial competition model which combines the types of Demand Responsive Transport Service (DRTS), service quality and subsidy strategies. Two DRTS routing types, few-to-few and many-to-few, compete with respect to both adapted riders service quality and subsidy strategies. Our results show that the sub-game perfect Nash equilibrium (SPNE) of location choice exists. Furthermore, we discuss the relationship between routing choice strategies and the service quality for users.

Keyword : Demand Responsive Transport Service; Routing Types; Fu-Kang Bus Service; Service Quality; Subsidy.