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Pricing of MRT Yellow Line

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ABSTRACT

The development of public transportation systems, especially the rail transit in Bangkok and its metropolitan area, is a crucial issue in an era marked by population growth and increasingly complex traffic problems. An efficient and cost-effective public transportation system plays a key role in reducing congestion and facilitating access to services in a sustainable manner for passengers. Therefore, setting appropriate fare rates is essential to ensure fairness and maximize benefits for users in terms of both cost and accessibility. Moreover, this study provides in-depth insights into the feasibility of designing fare structures that meet the long-term needs of both passengers and public transportation systems. This research article aims to study the appropriate distance-based fare pricing for the MRT Yellow Line and to compare the utility of passengers between the newly determined distance-based fare and a flat-rate fare of 20 baht for the entire line. The line consists of 23 stations, running from Lat Phrao Station to Samrong Station. The analysis was conducted using a simulation model that compares utility outcomes under different fare structures, employing 1,000 distinct travel scenarios as case examples. This study found that the flat fare of 20 Baht offers higher utility to MRT Yellow Line passengers compared to the newly proposed distance-based fare structure. The analysis also revealed that travel time has a greater impact on passenger utility than fare rates, particularly when comparing electric trains with other modes of public transport such as buses and taxis. These findings highlight the critical role of fare structures in shaping passenger behavior, promoting accessibility, and achieving public transportation policy objectives.

Keywords: Flat-Rate Fare, Distance-Based Fare, Elasticity of Demand, Utility for Passengers