

## **Factors Affecting Willingness to Use Transfer-Based Public Transport Network**

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### **Abstract**

Urban public bus transport systems, especially direct routes, face challenges of inefficiency and a limited capacity to meet passengers' needs. In response, transfer-based solutions are being explored to enhance service quality. However, passengers often perceive transfers as inconvenient, posing a barrier to acceptance. Understanding passenger preferences and willingness is crucial for the success of any public transportation system, especially in the context of transfer-based networks. Willingness to use signifies a person's readiness to adopt a specific mode or transportation system, considering factors like accessibility, availability, and alignment with their preferences. It recognized a significant research gap in the current knowledge and a lack of understanding regarding passenger priority expectations when utilizing such networks. Understanding the factors that influence passengers' willingness to use transfer-based public transport networks is vital for optimizing transportation systems. It allows for tailored improvements to enhance the user experience, increase acceptance, and allocate resources effectively. An extensive and detailed literature review is conducted to look into current studies, articles, and academic journals connected to public transportation systems. This thorough review enables us to recognize and bring out the important factors that are crucial in determining the efficiency and user experience of these systems.

These considerations include features like accessibility, dependability, and price that are relevant to both transfer-based and direct routes. Aspects that are specific to transfer-based networks are identified, such as issues with interchange locations, wait durations, and information accessibility. The preferences of the passengers for the identified factors are collected by the questionnaire surveys to get a quantitative judgment. The pilot survey serves as an initial exploration, providing valuable insights into the potential preferences of the factors and the socio-economic values. In this study, including multi-criteria decision-making procedures is an important methodological advancement. This method enables us to assess and weigh various factors affecting passengers' preferences to use transfer-based public transport networks. It entails using mathematical models and analytical tools to evaluate all of these factors objectively, following specified standards. The results of this study are essential for developing and enhancing public transport systems that satisfy the needs and preferences of users. Our study starts the process of really understanding and addressing these objectives by conducting a comprehensive study. This project attempts to produce transit options that complement the concept of sustainable urban travel while also operating more easily and being more appealing.

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