Simulation of Pedestrian Service Time at Different Delay Times

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Abstract : Pedestrian service time reflects the performance of the facility, and it's a key parameter to analyze the capability of facilities provided to serve pedestrians. The level of service of pedestrians (LOS) mainly depends on pedestrian time and safety. The pedestrian time utilized by taking a service is mainly influenced by the number of available services and the time utilized by each pedestrian in receiving a service; that is called a delay time. In this paper, we analyzed the simulated pedestrian service time with different delay times. A simulation is performed in AnyLogic by developing a model that reflects the real scenario of pedestrian services such as ticket machine gates at rail stations, airports, shopping malls, and cinema halls. The simulated pedestrian time is determined for various delay values. The simulated result shows how pedestrian time changes with the delay pattern. The histogram and time plot graph of a model gives the mean, maximum and minimum values of the pedestrian time. This study helps us to check the behavior of pedestrian time at various services such as subway stations, airports, shopping malls, and cinema halls.

Keywords : agent-based simulation, anylogic model, pedestrian behavior, time delay

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