

Optimizing Passenger and Baggage Flow in an Airport Terminal

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Air travel is very important mode of transport, especially for long distance travel. It opens up greater horizons for exploration for many people, permitting modern citizens to become significantly well-traveled than their predecessors. But considering air travels, passengers sometimes have to move through complicated airline terminals and negotiate crowded hallways during peak hours. They must drag along heavy baggage and perhaps travel up and down stairs to reach their gate or board their plane. They must reach their desired gate by a certain deadline or miss their flight, resulting in a loss of time and money. This situation is very complicated because it is compounded by connecting flights, travelers must reach another gate in an airport in a shorter time frame and also an airport is totally unfamiliar to them.

According to airport records, in Sri Lankan airports passengers must spend around 3 hours at the terminals and also spend around 1- 1 ½ hours at the boarding gate. Normally they walk around 800m from the entrance to the plane and they walk around 400m with baggage. Minimizing time spent and distance walk through airport terminal will help improving the capacity while providing a level of service to the users.

There is a need to study and understand overall flow movement of passengers and baggage through airport terminals. Many attempts have been made to model airport operations, passenger/baggage flow through specific terminal facility such as ticket counters, immigration etc. and or model specific terminal configuration situation.

This paper presents an overview of exiting literature on passenger or baggage flow in airport terminal and proposes a methodology to develop a mathematical model to study the overall passenger/baggage flow through an airport terminal.

Keywords: terminal configuration, mathematical model

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