## 1. Optimal terminal configuration for minimizing passengers' waiting time

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**Abstract:** Irrespective of the friction arrangement for a given terminal size, there will be a geometry that will be optimum with respect to passenger waiting. Quantitative methodology is used to select a suitable terminal configuration with frictions for a pier-type airport terminal. Passenger waiting time at a terminal depends on several factors: service and arrival behavior of service centers, the manner of placing frictions in between service centers, number of gates, the manner of placing frictions (washroom, food cabin, shops, etc.). in between gates, percentage of passengers going through the different frictions, processing time for frictions and gates, number of piers and gate spacing. Probability of passengers' arrival at frictions and passengers' arrival from one friction to another friction, total passenger arrival rate to the piers and arrival rates and service rates of the frictions are considered to place proper frictions in between the gates at the pier. This paper presents a methodology to determine the optimal terminal configuration that minimizes the passengers' delays at gates by placing proper frictions in between gates. The optimum terminal configuration appeared to be the terminal with three piers holding an unequal number of gates. © 2017 IEEE. (20 refs)

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