

A Linear Programming Approach for Wide-body Two- aisle Aircraft Boarding Strategy



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This paper examines the interferences among the passengers that cause delays in boarding times for large wide-body aircraft. An integer linear programming model is introduced which attempts to assign coach/economy class passengers to zones/groups in an effort to minimize the total number of passenger interferences subject to operational and side constraints. The model provides the flexibility to board families/passengers flying in groups together. We apply this mathematical model to a Boeing 767. The recommended boarding patterns provide a significantly lower number of interferences than back-to-front, a common boarding process adopted by many airlines for wide body aircraft.

Keywords: Air Transport, Integer Programming, Aircraft Boarding Strategy