



A Greedy Multiple-Knapsack Heuristic for Solving Air Mobility Command's Intratheater Airlift Problem

By Air Force Institute of Technology (U. S.). Graduate School of Engineering and Management

Biblioscholar Sep 2012, 2012. Taschenbuch. Book Condition: Neu. 246x189x4 mm. This item is printed on demand - Print on Demand Neuware - This research develops a methodology using a greedy heuristic to solve Air Mobility Command's intratheater airlift scenario as a multiple knapsack problem. The objective is to maximize throughput in a theater given a vehicle mixture and assignment scheme. The model allows for a heterogeneous, user defined vehicle mix in a theater consisting of up to five bed down locations and up to seven forward operating locations. First, we preprocess routes, eliminating the large number of unattractive route choices in the problem. Then using a greedy heuristic, we select routes and assign them to aircraft located at any or all of the bed down locations. The model is tested by measuring the utilization rate of the vehicles as well as the maximum throughput of the scenario and the equality of distribution to the receiving bases. 60 pp. Englisch.



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