Metaheuristic approaches for urban transit scheduling problem: a review

ABSTRACT

Urban Transit Network Design Problem (UTNDP) focuses on deriving useful set of routes, manageable timetabling for each transit route and transit scheduling based on available resources. UTNDP is commonly subdivided into Urban Transit Routing Problem (UTRP) and Urban Transit Scheduling Problem (UTSP), respectively. There are various approaches applied to solve the UTSP. The aim of this paper is to give a comprehensive list of studies on UTSP that deals with metaheuristic approaches such as Tabu Search, Simulated Annealing, Genetic Algorithm and their hybrid methods. This review also addressed possible gaps of the approaches and the limitations of the overall problem. It can be concluded that only some of the metaheuristic approaches and sub-problems are highly studied in UTSP. This review will be useful for researchers who are interested in expanding their knowledge and conduct research in UTSP using metaheuristic approaches.