

## Guidance mechanisms for parallel cooperative metaheuristic search for VRP

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This paper presents a parallel Tabu search algorithm that utilizes several different neighborhood structures for solving capacitated vehicle routing problems. Single neighborhood or neighborhood combinations are encapsulated in Tabu search threads and they cooperate through a solution pool for the purpose of exploiting their joint power. The computational experiments on 32 large scale benchmark instances show that the proposed method is highly effective and competitive, providing new best solutions to four instances while the average deviation of all best solutions found from the collective best results reported in the literature is about 0.22%. We are also able to associate the beneficial use of special neighborhoods with test instance characteristics and uncover the source of the collective power of multi-neighborhood cooperation.