**Capacitated Vehicle Routing Problem for Logistic Planning**

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**Abstract**

With the rapid developments of wireless communication technologies and mobile smart devices, people can not only conveniently search the goods information they want but also buy those goods anytime anywhere. The change of shopping behavior leads to a large number of goods need to be transported and grows up the revenue of logistics. It is a challenge to logistics to keep service quality when a large number of goods need to be distributed. B. Tunjongsirigul et al. adopted a Genetic Algorithm (GA) for solving the logistic problem. GA an evaluation algorithm can calculate an acceptable solution, after many waves of improvement. The experimental results show that GA is more suitable for this problem than the Nearest Neighbor (NN) algorithm. R.-M. Chen et al. proposed another evaluation algorithm based on Ant Colony Optimization (ACO) to find initial solution by Greedy Randomizes Adaptive Search Procedure (GRASP) and then use ACO and NEH to improve the solution. The results show that ACO and NEH can greatly improve the solution of GRASP. However, these two papers only considered how to distribute goods to customers with the capacity constraint of vehicle. There are more constraints need to be considered in reality. To satisfy the real requirement in logistics, I will try to design a suitable method for solving the logistic planning.