

عنوان مقاله:

Multi-objective Optimization of Multi-vehicle Relief Logistics Considering Satisfaction Levels under Uncertainty

محل انتشار:

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خلاصه مقاله:

Today, there is a high number of injuries and various wastes and debris produced during natural and unnatural events. This study aims to investigate the reverse logistics planning problem in the response and reaction phases as well as improvement and reconstruction in earthquake conditions by using a real case study. Regarding the high complexity of this type of optimization problem, a multi-objective model as a multi-vehicle relief logistic problem considering satisfaction levels, is developed concerning the environmental conditions paying attention to uncertainty. To address the problem, an exact solver by using epsilon constraint method is conducted to validate the model. To solve the model optimality, a well-established non-dominated sorting genetic algorithm is tuned and compared with multi-objective particle swarm optimization algorithm to solve the model. Having a conclusion about the main finding of this research, the use of the reverse logistics in the response and the recovery phases has been approved by the results of this paper. Most broadly, the application of the proposed model is validated by using a real case in Tehran, .Iran to show the managerial insights of this research

کلمات کلیدی:

Disaster Relief Location, Routing Problem Multi, objective Optimization Response Phase Reverse Logistics

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