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Title: Research on vehicle scheduling model and its algorithm for emergency during disaster period

作者: 邹亮[1]; 任爱珠[2]; 徐峰[2]; 罗元[2]

1. 中国城市规划设计研究院 工程规划设计所, 北京 100037;

2. 清华大学 土木工程系 防灾减灾研究所, 北京 100084

Author(s): ZOU Liang[1]; REN Aizhu[2]; XU Feng[2]; LUO Yuan[2]

1. Engineering Planning and Design Institute, China Academy of Urban Planning and Design, Beijing 100037, China;

2. Institute of Disaster Prevention and Mitigation, Department of Civil Engineering, Tsinghua University, Beijing 100084, China

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摘要: 在归纳一般的物流系统车辆调度模型的基础上,针对灾害时期车辆调度紧迫性的特点建立了紧急情况下的带时间窗约束的车辆应急调度模型。该模型考虑了最少用车量和最快完成任务两种调度目标。针对车辆调度模型用常规解法求解困难的情况,讨论了提高求解效率并适合于计算机程序实现的启发式求解方法,提出了两种基于C—W节约算法的启发式算法,并结合具体案例进行了分析。实例研究表明两种算法均可取得满意的结果。

Abstract: In this paper, a vehicle scheduling model for emergency with time windows was created based on models for general logistic system, in consideration of the urgent and emergent characteristics of vehicle scheduling during the period of disasters. Two scheduling goals, minimum demand of vehicle and minimum time expense, were discussed in this model. Because general solution is hard to be obtained for this case, heuristic algorithm which could improve efficiency of solving and is applicable for computer program was discussed herein. Two heuristic algorithms based on C-W algorithm were proposed and tested with an example. The example shows that these two heuristic algorithms could get satisfactory results.

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