

عنوان مقاله:

Routing Hazardous Materials Transports Using Dynamic Programming and MADM Methods

محل انتشار:

اولین کنفرانس حمل و نقل مواد خطرناک و اثرات زیست محیطی آن (سال: 1387)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

The purpose of this paper is to study the routing problem for transportation of hazardous materials. Hazardous materials refer to those materials that seriously endanger human lives and/or the environment. This problem is different from usual routing problems. First, according to the type of the shipment, the safety of the route must be considered in addition to the distance and therefore the problem is multi- objective in nature. Second, the safety of a route is evaluated using a risk function which is not additive respect to the attributes of the route links of road networks and hence the usual shortest path algorithms can not be used. Moreover, risk is multi- dimensional in nature and this must be considered too. In this paper, the dynamic programming (DP) method is used. DP can produce multiple paths between an origin and a destination. This feature makes it possible for decision maker to evaluate different paths and choose the best one. In this paper, a MADM method is proposed for facilitating the evaluation process. At the end, the decision making process is demonstrated using a case study

کلمات کلیدی:

Optimization; Transportation; Modeling; Routing Problem; MADM methods

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