عنوان مقاله:

(Assessment and Prioritizing the Risks of Urban Rail Transportation using Grey Analytical Hierarchy Process (GAHP

نویسنده:

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خلاصه مقاله:

Some incidents in urban railway systems affect the function of the subway's company adversely and they could disorder the services. These events may inflict irreparable damage to passengers, employees and equipment. By recognizing the hazards existing in this type of transportation system and evaluating and prioritizing risks, we can perform appropriate actions to reduce the probability and severity of them. In this paper, thirteen risks of rail transport system in Tehran subway have been identified and nine evaluation criteria and sub criteria are specified. Analytical Hierarchy Process (AHP) approach based on the grey number scores (GAHP) has been developed in terms of complete uncertainty and incomplete information and risks are prioritized based on subway system expert's opinion. The use of grey or interval numbers in AHP, in addition to more accurate assessment beside crisp numbers has lower computational complexity than fuzzy numbers. To calculate local and global weights for pairwise comparison matrices, a non linear and two linear optimization models are used. Injuring the passengers because of closing the doors of train is the important risk in Tehran subway system.

کلمات کلیدی:

Risk assessment, multi attribute decision making (MADM), grey analytical hierarchy process (GAHP), Grey number, subway transportation system

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