Construction Management and Economics ›
Volume 28, 2010 - Issue 12

PAPERS

Risk identification and assessment in subway projects: case study of Nanjing Subway Line 2

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Pages 1219-1238 | Received 18 Aug 2009, Accepted 25 Aug 2010, Published online: 13 Dec 2010

Cite this article https://doi.org/10.1080/01446193.2010.519781

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Abstract

Underground subways are constructed in major cities across China to overcome the transportation problems in the urbanization process. The aim is to develop a comprehensive risk checklist associated with subway projects and a methodology to assess the risks at the early stage of a project. Based on the analysis of accidents that have happened in previous projects, a review of current literature and the results of interviews, a comprehensive risk checklist was developed, followed by proposing a risk analysis methodology using fuzzy analytical hierarchy process (AHP). Then the Nanjing Subway Line 2 project was analysed using the proposed risk checklist and fuzzy AHP method. The data were obtained through interviews and two rounds of questionnaire surveys with the personnel directly involved in the Nanjing Subway Line 2 project. The results of risk identification and assessment are presented and their managerial

implications are discussed. The information presented here should be relevant to both academics and practitioners in the field of subway project management.

Keywords:

Subway project | risk identification | risk checklist | risk assessment | fuzzy analytical hierarchy process