

城市生命线运行风险评估方法研究现状与展望(PDF)

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Title: Review and prospect of risk assessment methods for urban lifeline operation

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关键词: [城市生命线](#); [风险评估方法](#); [分类](#); [生命线子系统](#); [风险诱因](#)

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摘要: 城市生命线运行风险评估是城市防灾减灾的重点和难点,已引起众多学者的关注并涌现出诸多原理各异的方法。为保证城市生命线运行实际操作层面风险评估方法遴选的科学性和有效性,采用分类法梳理和归纳了国内外相关研究成果,并剖析了各类研究中所涉及风险评估方法的方法论类型、原理和特点。结果表明:原理的不同导致各类风险评估方法在适用条件、应用复杂性和准确性等方面存在较大的差异,方法遴选应考虑具体问题中研究对象与背景的特点;同时,由于城市生命线运行风险评估问题的复杂性,选择单一方法往往无法避免其自身的局限性,将多种方法组合应用将更有利于解决问题并提高评估结果的准确性。此外还指出,关联情境下的城市生命线运行综合风险评估方法研究将成为该领域未来的方向之一。

Abstract: Risk assessment of urban lifeline operation is an important and complex issue in urban disaster reduction and mitigation. Many scholars have paid attention to this issue and proposed some different methods. To ensure the selection of risk assessment method for urban lifeline operation to be scientific and effective in practice, relevant studies were reviewed and induced by a classification method. Then, the methodology category, principle and feature of each risk assessment method mentioned in each kind of studies were analyzed in depth. The review shows that these methods are diverse in terms of application situation, complexity and accuracy due to the different principles, thus the features of research object and background should be considered in method selection. Furthermore, due to the complexity of risk assessment problem on urban lifeline operation, it is difficult to overcome the limitation if any single method is selected. Thus it is helpful to improve the accuracy of assessment results though the integration of multiple methods. In addition, it is pointed out that study on

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