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Risk management at existing level crossings

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ABSTRACT

In the framework of the present dissertation the general principles of risk management at existing level crossings are described, the problems hindering the creation of an integrated risk management system are identified and analyzed and a decision making methodology - based on risk assessment and cost-benefit analysis - along with a relevant risk matrix are proposed for the specification of measures to be applied in order to increase the level crossings safety. It is stated that the proposed methodology focuses on the possibility of taking preventive rather than repressive measures, since a significant percentage of researchers and designers believe that in the "ideal" risk management the preventive measures are characterized by greater importance compared to the repressive ones. Besides, a set of parameters based on which an algorithm for risk assessment at existing level crossings could be developed is proposed. Furthermore, the impact of specific measures and other parameters on the safety at level crossings is examined. The objective of the present dissertation, apart from the contribution to the development of a risk management methodology, is to identify possible weaknesses and to highlight fields that need further investigation in order to establish an integrated risk management system for level crossings.

KEYWORDS

Level crossings, risk management, safety measures, decision making, risk matrix