

Risk Management for Projects

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Sweden is a country in the north of Europe with a population of 9 million. The climate consists of four seasons. Every season has its special condition for managing roads. The temperature varies from approx. 20-30 degrees Celsius during the summer to approx. -5 to -25 degrees Celsius during the winter. The natural hazards are for example snowstorms, windstorms, landslides, floods and fog.

The Swedish Road Administration's (SRA) overall goal is "...to ensure a socio-economically efficient transport system that is sustainable in the long term for individuals and the business community throughout the country."

The SRA's vision and organizational concept, that describes how we see our responsibilities to achieve this objective, is "**We make the good journey possible.**"

The Swedish road network comprises:

- 138,000 km road network comprises
- 75,000 km of private roads receiving state subsidies
- a very large number of private roads without state subsidies, most of which are forest roads
- 32,000 km of footpaths and pedestrian/cycle paths in the municipalities
- 14,500 bridges and 36 ferry routes on the state road network

Risk Management, and its toolbox, is important and useful to help the organization to achieve its goals as well as to help preventing hazards that could damage properties, environment or human life. The SRA in Sweden has successfully integrated the Risk Management techniques in the organization's decision making process relating to network management, projects, road administration, and crisis management.

This presentation will give an introduction to Risk Management for Projects.

Career Brief

Johan Hansen

M. Sc in Civil Engineering, Chalmers Technical University, 1992.

Swedish National Road Administration in different positions:

Research Engineer, 1992-1995, Head of maintenance analysis 1995-1998, Marketing Manager National Road Data 1997-2000.

Currently working as coordinating Risk Manager and also Sweden's representative in PIARC TC 3.2

Risk Management for Projects

A project must under a limited effort of time and resources result in a finished product. The goal of the project is normally analyzed out of the sensibility not to reach Time, Cost and Function.

Infrastructural construction project involves risks on all parties being involved in the project. Additionally parties indirectly involved in the mega project are often affected by mega project risks. The very nature of mega projects entails considerable risks for the owner of such a project. Often the project scope or ambition level will change during project development and implementation. Changes may be due to uncertainty at the early project stages on the level of ambition, the exact corridor, the technical standards, project interfaces, geotechnical- and environmental conditions, etc. Due to these uncertainties, there might be significant cost overrun and delay risks. Also, there is a potential for large scale accidents during the mega project work. Furthermore, for mega projects in inhabited areas there is a risk of damage to a range of third party persons and property. Finally, there is a risk that the problems which the mega project causes to the public will cause public protests and political reactions affecting the course of the project.

Traditionally, risks have been managed indirectly through the engineering decisions made during the project development. Unintentional risks often have been divided between the mega project parties. Each party then focused on risk of their primary interest which often resulted in a undefinable ownership of the joint risk. However, the complexity should not be a surprise to the experienced risk management coordinator as the occurrence of a certain number of unplanned events is the norm rather than the exception in mega projects.

To be successful, the organization should be committed to address the management of risk proactively and consistently throughout the project. This action involves identifying and describing risk, defining risk ownership and assigned responsibilities, response strategies and specific actions, symptoms-warning, fallback plans and contingency reserves of time and cost to provide for risk owners risk tolerance.

The use of risk management from the planning stages of a project, where major decisions such as choice of alignment and selection of construction methods can be influenced is essential. Deliveries between different stages of a project and also between different risk owners are also essential.

Use of risk management involves risk monitoring, risk assessment, controlling and choosing alternative strategies, executing a contingency or fallback plan, taking corrective action and modifying the project management plan.

Keywords

Project, risk monitoring, risk assessment, project management plan, risk management

