



**How is maintenance considered in infrastructure investments? Summary
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Summary

How is maintenance considered in infrastructure investments?

The Swedish Transport Administration is responsible for long-term infrastructure planning for all transport modes and for the design, construction, and maintenance of state-owned roads and railroads. That means that the Administration is responsible for both the development and maintenance of state-owned infrastructure. Development, which is carried out through planning and investment, affects the maintenance conditions, that is, the kinds of maintenance and reinvestments necessary, how often and at what cost.

Considering the future maintenance of an investment is usually said to require application of a life-cycle perspective. Applying a life-cycle perspective entails considering the total costs of all parts of the infrastructure over its entire lifetime, from the planning and early concept stages to liquidation. The purpose of this perspective is to find the solutions that deliver the most benefits at the lowest possible cost for the infrastructure as a whole throughout its life cycle. The investment costs must therefore be weighed against the costs arising in the other phases of the life cycle, such as the maintenance and reinvestment phases. If a life-cycle perspective is not adopted, low investment costs could result in increased long-term maintenance and reinvestment costs, ultimately increasing the total cost.

Main purpose

The main purpose of this report is to examine how investment and future maintenance are coordinated and balanced when it comes to infrastructure investments, and how this affects the need for maintenance in the long term.

The report aims to answer the following questions:

- How does the Swedish Transport Administration take account of future maintenance before and during ongoing infrastructure investments?
- What documents and procedures incorporating a life-cycle perspective are there in the Swedish Transport Administration?
- How is future maintenance considered in practice?
- What is the relationship between investment and long-term maintenance costs? How are these taken into account when deciding on investments?
- What are the consequences of the working procedures used for long-term maintenance needs?
- Are there reasons to alter the working procedures in any way?

Method

To provide theoretical background to the study, the research literature in the field was reviewed. To identify and describe how the Swedish Transport Administration is supposed to take future maintenance into account when investing, selected parts of the Administration's management system were scrutinized. To deepen our knowledge of how the Administration takes account of the future maintenance of infrastructure investments, individual interviews were conducted with performance managers in the departments of Planning, Investment, Major Projects, and Maintenance, as well as in the Finance and Control function. In

addition, group interviews were conducted with employees in each area to investigate how work is done in practice.

Result

This report demonstrates that the Swedish Transport Administration lacks a complete description of how maintenance aspects are to be considered in the management system. This means that there are large differences between projects concerning whether, when, and how maintenance aspects are to be considered. The governing documents set the overall direction of the work, but lack specific instructions for how it is to be carried out. The working procedures thus differ between various parts of the organization.

The Administration lacks a clear vision of how the life-cycle perspective and maintenance issues should be considered in infrastructure investment decisions. This means that the main focus is on the targets of time, cost, and content – the so-called TKI targets.

The Swedish Transport Administration has initiated efforts to systematically consider issues related to maintenance and operations when handing over new infrastructure from the Investment to Maintenance departments. However, there is potential for improvement when it comes to using a life-cycle perspective in the early stages of planning and investment.



Transport Analysis is a Swedish agency for transport policy analysis. We analyse and evaluate proposed and implemented measures within the sphere of transport policy. We are also responsible for official statistics in the transport and communication sectors. Transport Analysis was established in April 2010 with its head office in Stockholm and a branch office in Östersund.