

A Generic Model of Infrastructure Maintenance Management.

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Infrastructure exists for the interest of the society and is mostly financed with the help of public taxes. In most of the industrialised countries question of new construction of infrastructure is diminishing. The effectiveness in the rehabilitation and routine maintenance, however, is sought by the infrastructure management authorities. A generic model is developed to analyse different rehabilitation and maintenance strategies over the life span of the infrastructure system. The simulation model can help authorities to understand the complexities of infrastructure system by providing several what-if types of solutions.

The empirical section of this paper consists of a single case study conducted in order to develop a conceptual model of the road infrastructure system in the western region of Swedish National Road Administration (SNRA). The conceptual model is then successively developed to a formal simulation model with a simple user interface. The model is validated and simulated for several combinations of maintenance policies.

It is possible to expand the model developed in several ways, such as: from regional to national model, from a single road class to a multiple road class model, from a simple simulation model to a decision support system with all possible control panels as user interface, and last but not least, from a decision support tool to an interactive learning environment.