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## The Effect of restricted Budgets for Road Maintenance

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### Abstract

In connection with the world wide economic pressure severe reductions of the states' budgets take place. Drastic savings are forced from all sectors of the public households and thus from the road sector as well.

Therefore the responsible road operators and administrations really need good arguments for discussions with the politicians to make sure that enough money is available for the road maintenance sector, even in competition with other sectors like e.g. social matters.

A basic study funded within the ERANET Road project was finished in 2009. This study was attributed to a Europe wide survey of the definition and the use of maintenance backlog of the road asset in a representative sample of European road administrations.

Following this study a comprehensive investigation on the effects of restricted budgets for maintenance (strengthening, rehabilitation, replacement) on the condition of the pavements of state road network in Austria was conducted using available PMS-data. The results of the study are showing

- the increase of sections with a condition backlog until 2020 if only the actual budget is available
- the need of additional money to keep the actual (often not satisfying) condition until 2020 and to fulfill even lower trigger values of backlog
- the reduction of the value of the pavement asset until 2020 if only the actual budget is available.

It is expected that this study could support the road administrations in their efforts for sufficient financial means to fulfill their tasks in sustainable way.

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## 1. Introduction

Many road administrations worldwide are facing big problems to receive enough money for the maintenance of their road network because of common pressure for saving public financial means. The road administrations are in severe competition with other public sectors like social departments and public transport etc. Therefore it is important and necessary to provide a clear picture of the consequences which have to be envisaged if not enough money is available for the road infrastructure.

It is necessary to develop clear figures which can be easily understood by the political decision level and can be presented in an impressive way.

An important basis for this procedure is the definition how this actual condition of the road net can be described by a simple number and how this indicator will change by time in relation to the available maintenance budget. This simple indicator is called “maintenance backlog” and was investigated in depth in an ERA-NET Road project, which is shortly described in chapter 2.

Based on this study an extensive investigation was made in Austria for the effect of budget reductions on the state road network. Although using detailed results from PMS-analysis as input finally single clear figures could be derived expressing the increase of deterioration if the budget is kept at the actual level and the need for additional budget to fulfill higher requirements (see chapter 3).

## 2. ERA-NET ROAD Project “Maintenance Backlog – Estimation and Use”

The objective of ERA-NET ROAD (ENR) is to coordinate and mutually open up road research in Europe and to implement a trans-national road research program that is strategically planned and trans-nationally funded. Within this framework of ERA-NET ROAD besides others the trans-national project entitled "Maintenance Backlog – Estimation and Use" [ERA-NET ROAD (ENR) (2009), Weninger-Vycudil, et.al. (2010)] was initiated. The countries funding the project (Austria, Denmark, Finland, Norway, Sweden, Switzerland and the UK) have formed a project team (Project Executive Board - PEB) for coordination of the project led by the Swedish Road Administration (SRA). Following an invited bidding and selection procedure an international consortium led by PMS-Consult (Austria) and the Institute for Transport Planning and Systems (ETH Zurich, Switzerland) was charged to conduct the study.

Maintenance backlog can be used as a common and comparable denominator of road maintenance results for different types of road sub-assets and for different management tasks. The objective of the project was to prepare recommendations for the comprehensive implementation and use of maintenance backlog indicators (“best practice”). The project covered the following sub-assets of the road infrastructure:

- Pavements (trafficked and non-trafficked areas)
- Engineering structures (bridges, tunnels, walls and other engineering structures)
- Road furniture (signs, guardrails, lights, etc.)

To achieve the objectives of the project the work was based on structured interviews with the participating agencies and some additional road administrations preceded by the necessary preparation based on existing documents and background information. These interviews were performed at visits at the respective agencies by the same two persons from the consortium.

The results of the interviews were summarized and finally implemented into a database. The investigations were limited to the type of road network within the responsibility of the respective central road administration. Thus a big variety of road categories are covered by the interviews, with a main focus on high level roads. In parallel to the interviews related information was collected and analysed from a limited investigation from literature, current projects and experiences within the team. It could be seen,

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