**Maintenance, Pavement-Management of Road Infrastructure; Project management and Controlling (VSS2004/710)**

*Massnahmenplanung Fahrbahnen im Erhaltungsmanagement von Strassenverkehrs anlagen; Gesamtprojektleitung*

**Funding:** National (Switzerland)

**Duration:** Aug 2004 - Jul 2009

**Status:** Complete with results

**Background & policy context:**

Systematic action planning is a central and crucial process within the management of road maintenance. It demonstrates for a given observation period at what time which interventions for road maintenance are to be performed in order to attain the best cost-benefit ratio. The fundamentals for this planning and optimizing task have been compiled for Switzerland within the research package VSS 2004/710 – 716.

**Objectives:**

The main objective of this project is project-management which includes:

- Start-guidance of the five single projects
- Coordination of the five single projects
- Controlling (research and finances)
- Representation of findings and conclusions.

**Methodology:**

Following steps will be provided during the project:

- To carry out the research package measures planning roadways in conservation management independent of the project team project manager is used for the temporal and substantive coordination task and the control of accounting.
- The technical support of the research package (FP) and the individual research projects (EP) is carried out by the expert commission of VSS Commission 7, conservation management.

**Related Projects:**

Research organisation: Swiss Federal Roads Office; Research Roads-Bridges-Tunnels

Project number **VSS2004/714**

Project title Gesamtnutzen - Nutzen-Kosten-Verhältnis von standardisierten Massnahmen der Fahrbahnerhaltung Project title (in English) Total benefit - Benefit-cost-ratio of standard interventions for road Maintenance

Research organisation: Swiss Federal Roads Office; Research Roads-Bridges-Tunnels

Project number **VSS2004/715**

Project title Einzelprojekt 5: Zusatzkosten infolge Vor- und Aufschub von Erhaltungsmassnahmen Project title (in English) project 5: additional costs caused by bringing forward or delaying rehabilitation procedures

Research organisation: Swiss Federal Roads Office; Research Roads-Bridges-Tunnels

Project number **VSS2004/711**

Project title Forschungspaket Massnahmenplanung im EM von Fahrbahnen Einzelprojekt 1, Standardisierte Erhaltungsmassnahmen

Research organisation: Swiss Federal Roads Office; Research Roads-Bridges-Tunnels

Project number **VSS2004/712**

Project title Schadensprozesse und Zustandsverläufe Project title (in English) Pavement damage processes and performance curves
**Key Results:**

The synthesis report is composed of two major parts:

- Description of main results
- Findings, conclusions and recommendations.

The report deals in detail with the subject of the performance of pavements from two different points of view. A first approach covers the description of different damage processes in dependence both from the design of the pavement and from different other causes; this includes also the discussion of early damage appearances due to poor quality of the materials used or to poor quality of construction work (spreading and compacting).

The second and main approach relates to the development of different sets of performance curve for asphalt pavements for communal, cantonal and national roads by means of an empirical solution. The development of performance models creates an important part of the report. It covers the different main damage groups ("damage families") evaluated by means of visual distress surveys, and the measured values for roughness, rutting, skid resistance and bearing capacity.

Doubts had already been expressed before the beginning of the studies about the practical possibility to be able to show a time dependent development of bearing capacity and these doubts have been confirmed by the results of the analysed data.

For all the other condition indicators models have been developed primarily as a function of design traffic categories and additionally – where clear evidence of a correspondent dependency was given and when the data set was sufficiently large - of structural properties (determined by bearing capacity).

**Other results**

The technical support of the research package.
STRIA Roadmaps: Network and traffic management systems, Infrastructure
Transport mode: Road transport
Transport sectors: Passenger transport, Freight transport
Geo-spatial type: Other