MasArchBridges

Improving assessment, optimisation of maintenance and development of database for masonry arch bridges

Funding: International
Duration: Unknown - Ongoing
Status: Ongoing

Background & policy context:
The project aim is to collect and develop tools that help optimising life-cycle management of masonry arch bridges, help reducing the maintenance costs and promote an effective exchange of good practice between the railways.

Objectives:
Project has following goals:

- finding the optimal solutions for minimising maintenance costs of masonry arch bridges while keeping operation reliability and structural safety at an acceptable level,
- implementing new technologies,
- promoting innovations in order to reduce maintenance demands,
- expanding the life-span of masonry bridges,
- optimising maintenance processes through improved understanding of the structural behaviour.

Finally the project is to revise and extend the existing leaflet UIC Code 778-3R “Recommendations for the assessment of the load carrying capacity of existing masonry and mass-concrete arch bridges”.

Methodology:
Following areas were investigated:

- structure and behaviour of masonry arch bridges,
- inspection, monitoring and condition appraisal of masonry arch bridges,
- assessment of masonry arch bridges,
- maintenance and repair of masonry arch bridges.

Parent Programmes:
UIC - International Union of Railways (various projects)

Institute type: Non-profit organisation
Institute name: UIC - Union Internationale des Chemins de fer
Funding type: Industry

Partners:
International Union of Railways (UIC)

Organisation: UIC

Key Results:
• International guidelines for assessment and inspection of masonry arch bridges;
• Economical solutions to upgrade old bridges to new standards and requirements;
• International consulting and competency sharing platform (expansive database).
• Updated laflet UIC Code 778-3.

Technical Implications

These guidelines are a tool for bridge stock managers, bridge assessors and designers. The Database is available to infrastructure managers.

This leaflet provides railway infrastructure owners, maintenance managers, bridge inspectors and consulting engineers with guidance on the inspection, assessment and maintenance of masonry arch bridges.

Leaflet can be downloaded for a fee here:


STRIA Roadmaps: Infrastructure
Transport mode: Rail transport