

CSI for tunnels

Intro

Renovation of immersed or bored tunnels (no rock tunnels) is a huge challenge worldwide. Due to the large costs and the need for accessible infrastructure, choices need to be made as to which tunnel should be renovated first and which should follow and what should be the scope. Unfortunately we lack the knowledge to develop a proper asset management strategy. This problem of course applies to all infra-objects but for tunnels the situation is more serious for we have:

- a. little fundamental and practical knowledge about the actual state and residual life of the structure. There's a lack of ageing information and ageing models for concrete, joints, transitions and foundations.
- b. little fundamental and practical knowledge about the relationship between the physical environment of the tunnel (soil, groundwater, changing river depths and widths, construction other structures) and the expected residual life of the construction.
- c. little fundamental and practical knowledge about the relationship between changing traffic load, the densification of the network and the creep of the urban environment.
- d. put too little effort in establishing the relationship between these aspects and the identification of possible (as yet) unknown risks.

Small expert team to start

The ambition of the COB is to make a first step in clarifying the state of knowledge on these issues by developing a position paper. For this paper we are forming a group of experts to sketch the framework of the task at hand, make an overview of the ten key risk areas and the extent to which we have control over those risks. We will use the method of Forensic Engineering to look at tunnels and their surroundings as if a failure occurred and establishing how that might have happened. Based on our experience with previous projects we think that making the position paper is very feasible. **Are you in?**

Contact person

Karin de Haas

Project leader Internationalisation

Telephone: +31 6 5429 1940

E-mail: karin.dehaas@cob.nl

