



## Transitions in railways

### Monitoring results

RESEARCH SCHOOL  
INTEGRAL DESIGN OF STRUCTURES

#### Subject

The transition between the free track and fixed structures, like bridges and culverts, is one of the main sources for excessive maintenance at the Dutch railway network. This extra maintenance not only increases the exploration costs, but also causes circulation delays.

#### Goal

The research purpose is to get more insight about the behaviour of transition zones.

#### Expected Results

At the end is expected to have a better understanding of transition zones behaviour, which will lead to a better design of new transitions, and to a quality increase in maintenance of old one's.

#### Location overview



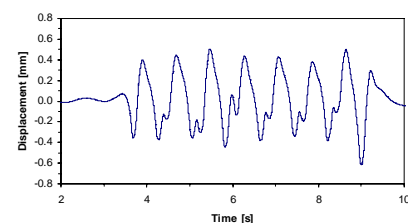
#### Monitoring



#### Installation



#### Results



## **Transitions in railways Monitoring results**

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### **Subject**

The transition between the free track and fixed structures, like bridges and culverts, is one of the main sources for excessive maintenance at the Dutch railway network. This extra maintenance not only increases the exploration costs, but also causes circulation delays.

### **Goals**

The research purpose is to get more insight about the behaviour of transition zones.

### **Research Question**

What is happening that causes such high maintenance costs.

### **Strategy**

First, a monitoring programme is defined in order to understand the physical mechanisms that are playing a role.

Secondly, lab tests will be performed. The goal is to get a more fundamental study on soil behaviour submitted to dynamic loading.

Finally, a numerical implementation that can give a better prediction about the behaviour of such structures will be developed.

### **Expected Results**

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### **Sponsors**

Delft Cluster.

### **Prime Publication**

The results will be published in journals and conferences.

### **Research Period**

2007 - 2010.