

## ViA15 - A paradigm switch for bridge design

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### Abstract

Designing new highway infrastructure creates accessibility and improve traffic situations, however, on the direct environment, a positive impact is less evident. This paper discusses the project vision and the bridge design of the new highway infrastructure over the Pannerdensch Kanaal and its surrounding Natura-2000 area. The project is part of the extension of the A15 and connection to the A12 in Gelderland, The Netherlands. When designing new highway infrastructure, the car is the biggest winner. The others unfortunately tend to lose. The others are, what we like to call, “The local habitat”: local population, cyclists and pedestrians, but as well the flora and fauna. A paradigm switch is needed and lays at the basis of this nature-inclusive infrastructure, with the longest covered cycle bridge in the world.

**Keywords:** Bridge design; infrastructure; architecture; engineering; cycling bridge; footbridge.

## 1 Context

### 1.1 The ViA15 project

“ViA15” is an infrastructure project in the region around Arnhem and Nijmegen in the Netherlands. It comprises a 12 km extension of the A15 highway and a widening of the existing A12 and A15 highways for a total of 23 km. With this project, Rijkswaterstaat, together with the province of Gelderland, is tackling the congestion problems in this area. By extending the A15, so that it connects with the A12, a direct connection between the Port of Rotterdam and Germany is created. ViA15 improves accessibility and regional traffic flow. As a result, road users travel faster between Nijmegen, Arnhem, the Liemers and the Achterhoek. This benefits the regional economy and employment. [1]

This paper will focuses on the project vision and the architectural design of this bridge. More papers will

follow in the near future tackling the engineering and the structural concepts of this bridge.

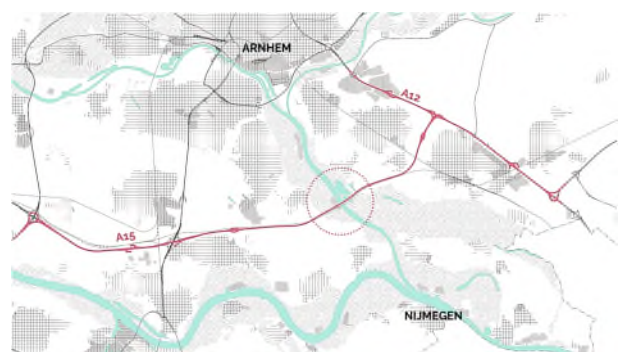


Figure 1. The ViA15 project area

### 1.2 A complex of bridges

Centrally in the ViA15 project lies the biggest challenge: over a length of over 2,5 kilometres, the new A15 is crossing different natural and infrastructural obstacles. From west to east, these are: