



## Bridges along highway ring road of Wrocław

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## Summary

Highway ring road of Wrocław is a very important part of an urban communication network which is now under modernization work. It will connect the existing A4 highway with the S8 expressway being under construction. The ring road is 26.765 km long. Forty bridge structures were designed along or over it. Total length of highway bridges and viaducts is more than 6 km, that is equivalent to 22% of the whole route.

The longest bridge is a concrete cable-stayed structure over the Odra River. The river flows in its main bed, while inland navigation uses additional channel with two locks. There is an island located between the river and the channel. The planned bridge is 1742 m long and consists of: south flyover 610 m long with continuous eleven span prestressed concrete box structure; main bridge 612 m long with two separate decks connected to a single concrete H-shaped pylon; north flyover 520 m long with continuous girders made of prestressed concrete.

**Keywords:** Concrete structures, flyovers, cable-stayed bridge, design process, erecting methods.

## 1. Introduction

The highway ring road of Wrocław is a very important part of urban communication network being now under modernization work (Fig. 1). It will begin near the village named Nowa Wieś (with connection to the A4 highway and the temporary connection to the route no. 8 to Prague) and it will reach the north border of Wrocław, where it will be continued as S8 highway to Warsaw (temporarily it will be connected to the existing route no. 8). It will be 26.765 km long.

The ring road will pass through the west part of Wrocław, along the border of tight urban area. It crosses the Odra River near Rędzin and goes through irrigation fields, where sewage were previously circulated.