Design and combined rail-structure response of a new high speed railway bridge

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Summary

This paper describes the combined rail-structure response of the northern section of the new high speed rail bypass at Mechelen, starting with the work done in the feasibility stage and continues on to the final design

Keywords: High speed railway, combined rail structure response, feasibility, final design

1. Introduction

The last piece missing in the high speed railway network in Belgium is the Bypass of Mechelen, the construction of two tracks allowing the high speed trains from Brussels to Amsterdam to pass Mechelen station at 160 km/h. These two tracks follow the existing track Brussels - Antwerp as far as possible (adjustments are made in radii, the existing lines (Lines No.25 and No.27) have been designed for a speed of maximum 90 km/h), and travel through urban areas of Mechelen.

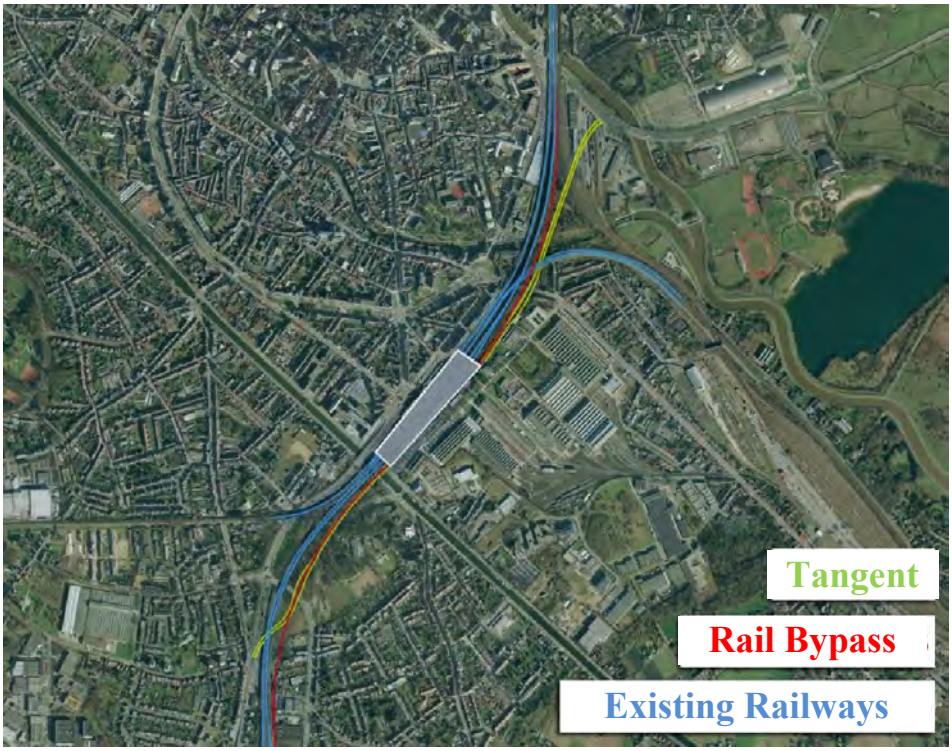

Fig. 1: Overview of the project

In order to limit expropriations and obstacles for the inhabitants of these urban areas of Mechelen, the design of a new ring road around Mechelen, called the 'Tangent' has been combined with the design of the Bypass railway infrastructure. This new ring road is a project of AWV, the Flemish Government Department of Roads and Traffic.

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