# **Master Thesis**

### Cost-benefit analysis of the recovery and rehabilitation of the Rosenstein Railway Bridge

Cities need to modernize to become more efficient, maintain a healthy growth and incorporate sustainability. However, modernization often means leaving old infrastructure behind, which more often than not, is considered obsolete and destined for demolition; increasing the life cycle cost of public investment. Adaptive reuse of infrastructure deserves more attention to establish its sensitivity and viability.

Such is the case of the Rosenstein railway bridge in Stuttgart Germany, which is to be demolished after the construction of a new railway bridge. The general impression is that demolishing the bridge is the only sensible course of action. The government's perception is that keeping the bridge for pedestrian and bicycle movement would be more expensive than building and maintaining new bridges. Nonetheless, recovering and adapting the use of "The Rosenstein Bridge" may be a better option.

This paper discusses the idea of adapting the bridge to a multifunctional park like pedestrian/bicycle corridor over the river, which would not just link both sides of the river in a barrier free manner, but also break the urban barrier present in the area sustainably by avoiding the need for new construction. The idea seeks to also integrate the physical space to other activities in accordance to regional plans that seek to bring people back to the river; this way, the bridge becomes a magnet for social activities and acts like a urban stitch rather than a barrier. Furthermore, this paper lays the requirements that, in terms of mobility and urban function, would make the project attractive for stakeholders.



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#### Multimodal and intermodal mobility plan



#### High connectivity and accessibility

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