

Contact author: Etienne Bouleau, [etienne.bouleau@ingeni.ch](mailto:etienne.bouleau@ingeni.ch)

## A FULL WEATHERING STEEL FOOTBRIDGE WITH OPTIMIZED LATTICE TRUSS PARAPETS

Authors: Etienne BOULEAU<sup>1</sup>, Laurent SAVIOZ<sup>2</sup>

Affiliation: <sup>1</sup> INGENI SA, Geneva, Switzerland

<sup>2</sup> SAVIOZ FABRIZZI Architectes, Sion, Switzerland

**Keywords:** weathering steel, lattice truss, optimized truss beam.

The Rives de la Broye footbridge in Payerne (CH) is the result of a design and construction competition organised by a global contractor on a municipal public domain. In this context, our team composed of an architect (Savioz Fabrizzi), an engineer (Ingeni) and a steel contractor (Stephan) proposed a full-steel structure that combines lightness and elegance with the financial requirements of the project owner.

The footbridge is 36m long and 3m wide, and was completely welded in the workshop, transported in one piece and installed with a crane in one hour. The financial estimate led us to a Corten steel structure, eliminating the painting, touch-up and protection costs associated to a structure of this size. This structure, whose rough material develops a patina over time, blends perfectly with the industrial environment of the Rives de la Broye district.

The context of the competition led us to imagine a footbridge without dynamic damper, with an extradossed structure, whose web has been finely cut in order to reduce the weight and to meet the criterion of vibration frequency.



*Fig. 1. Perspective view with a cyclist*