

Contact author: Gaute Mo, g.mo@dofengineers.com

BOOMERANG AND JUNGLE BRIDGES: CONNECTING CITY AND FOREST

Authors: Gaute MO¹, Mario RANDO¹, Kathleen OVERTON², Fernando Ibáñez² and Altea CÁMARA²

Affiliation: ¹ Degree of Freedom AS, Brenneriveien 5, 0182 Oslo, Norway

² Degree of Freedom SLU, C/ Colon 18 – 5B, 46004 Valencia, Spain

Keywords: steel; timber; Cor-ten; stainless; suspension; aesthetics; viewpoint; integration; transparency.

The Boomerang and Jungle pedestrian bridges form part of a new pedestrian and cycle path, passing from the centre of Oslo through an urban forest and over the Outer Ring Road (Ytre Ringvei) to the east of Oslo. They are the link between the urban atmosphere and the Norwegian forest. The main goal for the design team was to integrate the bridges' architecture within the natural environment and to cause the minimum impact during the construction period.

The 85m long Boomerang Pedestrian bridge, named after its shape in plan, crosses the ring road with a 22.5m span. In total the bridge comprises of four spans, with a continuous steel box girder of asymmetric cross-section. The three intermediate supports are slender, circular steel hollow sections to have minimal architectural impact on the surrounding forest. The bridge is fabricated from Cor-ten weathering steel to avoid the need for painting and to minimise future maintenance. The bridge railings are vertical Cor-ten steel plates topped with a stainless-steel handrail.

The Jungle Pedestrian bridge is a simple suspension bridge spanning 36m over a small river. The main structural elements are parabolic, locked coil cables, four at deck level and two at handrail level. The 2m wide deck is formed from slip-resistant perforated steel panels, supported off a transversely stiff steel framing system, based on a 1.5m modulation of crossbeams and handrail posts. The design intent was to maximize the use of prefabricated lightweight elements to facilitate the bridge erection and minimize the impact on the natural environment. Due to the lightness of the bridge a detailed analysis of the accelerations due to pedestrian-induced vibrations was performed to assess the comfort level for bridge users.

The project won in 2017 the Norwegian Steel Construction Award and was nominated for World Architecture News' Best Bridge Award 2017.

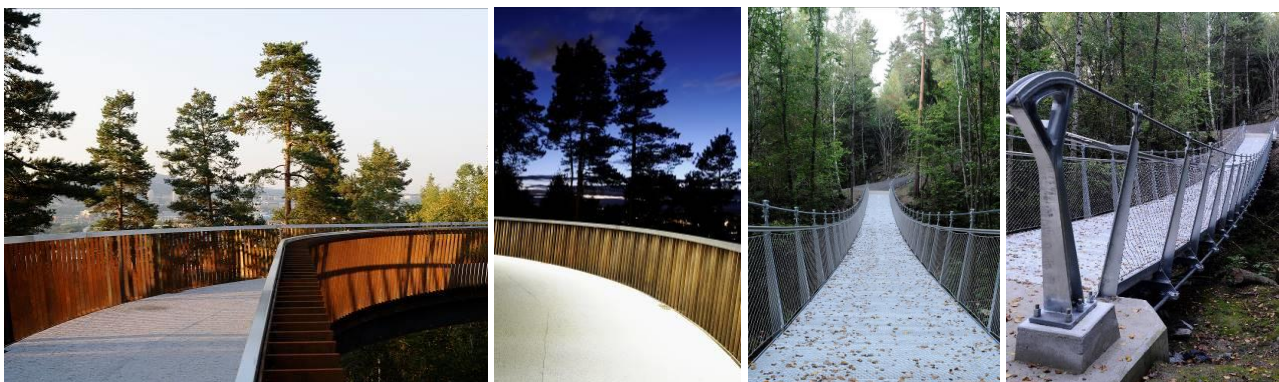


Fig. 1. Boomerang and Jungle bridges