

# The Dinosaur Bridge – innovation in structural form & fabrication

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## Summary

While small, the Dinosaur Bridge demonstrates how close collaboration between the design and fabrication team can create a delicate structure that suggests new ways of generating sculptural form.

A team of Tonkin Liu (architects), Arup (structural engineering) and Cake Industries (fabrication and installation) were commissioned by the charitable body that looks after the Victorian Dinosaur sculptures in Crystal Palace Park, London, to improve access for maintenance and educational purposes to the heritage island. By drawing on and abstracting references from the natural world, the team developed a scheme for an 8m swing bridge that creates a complex sculptural geometry from flat laser cut steel sheet. By cutting a “comb” from a 10mm thick plate, the cantilever struts, deck stiffeners and balustrade posts could all be folded from a single piece. This framework is attached to a triangular and profiled box girder, creating a structure that is visually striking, with sinusoidal forms that act both aesthetically and structurally.

This paper describes the process of design and planning, the funding via crowdfunding and community donations, and outlines the collaborative approach to fabrication and installation. The bridge is due to be installed in Summer 2020.



Fig. 1. The footbridge in the open position. [Tonkin Liu]

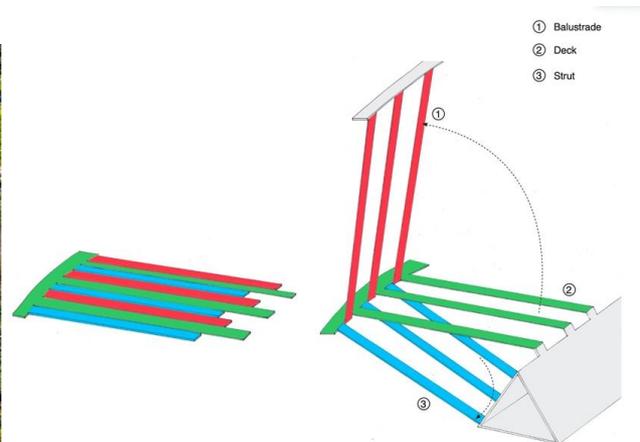


Fig. 2. [Left] Dinosaur sculptures. [Right] The process of bending the laser-cut sheets to form the balustrade

**Keywords:** structural concepts; planning; fabrication; moving structures; aesthetics; community funding

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