Zabalgana footbridge over Madrid-Irún railroad

Vitoria Gasteiz, Spain / 2014

Structural type	steel pedestrian bridge with "U" shaped cross section
Characteristics	one 54.00m span with a 5.00m wide deck
Client	Ensanche 21 Zabalgunea
Scope	detailed design and construction monitoring

FHECOR won a competition to design the Zabalgana Footbridge in Vitoria, after submitting a proposal based in the following ideas:

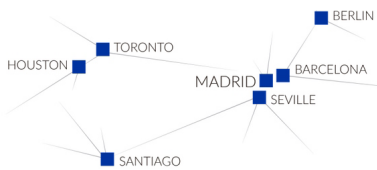
A - Functionality
Footbridge location and position allows for minimum pedestrian itinerary, with one southern access close to a school and two northern accesses, where demand is more scattered.
Necessary railway vertical and horizontal clearance together with accessibility requests have imposed that northern access are separated in a northeast stair and a northwestern ramp, mere than one hundred meters long.

B - New green area
The northwestern ramp has been mainly constructed by an earth embankment, generating a new topography that in one hand protects and isolates the existing buildings from railway traffic and, in the other hand, created a new green area, as an extension of the large green zones of the area.

C - Formal minimalism and structural optimization
The footbridge design intended to minimize visual intrusion and therefore massive elements were discarded and the solution designed with a sole element that would not rival with the surrounding and existing elements.
The footbridge deck has thus been designed with a simple geometry, consistent with the recent urban development in Zabalgana. The deck is a steel beam with a U shaped cross section and constant height, diverting in the northern ramp and stair with formal continuity.

D - Urban integration
In order to avoid marginal areas typically associated with urban bridges and footbridges, an open space was created under the footbridge northern extreme, substituting the obvious solution of a direct support between the ramp and the stair segments by a series of struts and cables that transfer part of the vertical load to the abutments supports.

E - Ease of construction
The footbridge is a steel beam that allows for minor affection to the railway during construction. The ramp and stair steel elements were placed on temporary supports in the northern side. The main beam was assembled in the southern area and placed in its final position using two mobile cranes, with minimum occupation of the railway area.



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