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## TRIPOD FOOTBRIDGE, TERNI (ITALY): THE BRIDGE AS A PUBLIC REALM DRIVER OF URBAN REGENERATION

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### Summary

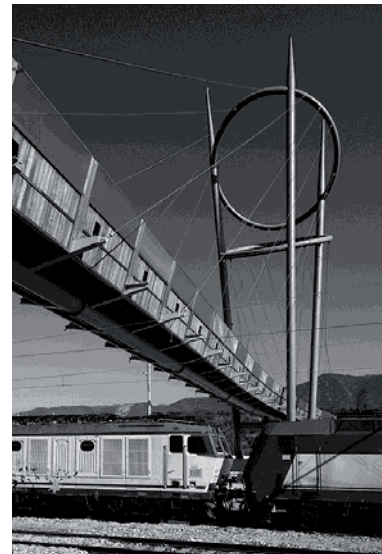
Landmark 180m bridge facilitating Terni's urban regeneration, linking station improvements for fast trains to Rome. A 60m inverted 'tripod' tower and pair of rings support an asymmetric array of cable-stay spans. A further truss span is re-positionable in future to release and connect more land. 2 bridges for the price of 1.

International competition winner marking Terni's expansion as a commuter hub 100km from Rome. The tower and its structural halos are visible from the historic town centre, ring road and surrounding Umbrian mountains, aiding orientation and enhancing the station's identity.

**Keywords:** landmark; urban regeneration; tripod; re-positionable; masterplan; 2 bridges for the price of 1

### 1. Competition Brief and Context

As an integral part of the city's masterplan for urban regeneration, the competition brief asked for a new pedestrian/cycle bridge that would increase connectivity, unlock regeneration potential to the north of Terni, connect the station to the improved parking spaces and become an 'iconic landmark' for the city. It required a bridge to high standards as well as a sensitively designed atrium connection to the station and other improvements for fast trains to Rome.



*Fig. 1. View of the bridge from the north and from the south side (photos by Matteo Carnevali)*

### 2. Design Approach

The bridge is a catalyst for this urban regeneration process by creating a new urban landmark connecting the new and the old town and bringing to life the surrounding areas.

The design aims to create a special place for people to enjoy crossing and a memorable ‘iconic’ landmark, which reflects the identity of Terni’s steel-making industrial heritage. It enhances the importance of steel production in Terni through a strong iconographic 60m-inverted tripod tower and pair of rings supporting the asymmetric array of cable-stay spans. The tower and its structural halos are visible from the historic town centre, ring road and surrounding Umbrian mountains, aiding orientation and enhancing the station’s identity.

A further re-positionable 55m truss span evolved from our proposed long-term masterplan identifying a future need for another bridge nearby and the strategic controlled redevelopment of redundant rail sidings; economically releasing land at the bridge’s north end and spanning the tracks west of the station to connect further valuable sites giving 2 bridges for the price of 1.

The gently curving route enhances user experience. The robust timber deck and balustrades to handrail height give a warm natural character.

A new triple-height “glass box” clerestory atrium space with a new stair and lift is sensitively integrated with commercial improvements to the train station concourse to provide a generous sense of arrival and 24 hour public realm access.

### 3. Structure

The bridge is made by two independent structures: a 125m long asymmetric array of cable-stay spans supported by a inverted tripod and a 55m truss span that can be removed in the future to facilitate town expansion and new development to the north and west.

### 4. Lighting

Continuous under-handrail lighting ensures long views without glare for users or onlookers. The sustainably sourced “Ipe” hardwood timber deck is punctuated by under-lit translucent glass strips at structural rhythm points. From afar, lighting accentuates the tower and glowing halo cable supports in complementary contrast to the gently arching horizontal line of the timber balustrades.

### 5. Construction

The construction of the foundations and concrete works began in 2014 while the steelwork and timber deck were being assembled off-site. Significant technical and bureaucratic challenges were resolved before site-assembly started in 2016 with the launch of the steel structure and deck. This had to happen at night to avoid disruption to the on-going train services and was therefore arranged in 11 finely orchestrated phases.

### 6. Discussion and Conclusions

Bridges occupy a special place in people’s imagination, whatever they span. They are often a catalyst with the ability to inspire and ‘punch above their weight’ to effect positive change over a wider area than their immediate context. When approached in the right spirit, bridges can be public realm drivers of urban regeneration.

Our approach focuses on bridges as critical connective catalysts within a strategic urban morphology. We tend to start by looking at a wider context than a specific brief implies, to explore opportunities for catalytic infrastructures that are much more than a simple A to B connection. We explore their potential role as elements of local character providing continuity with an area’s heritage, and/or their function as landmarks, gateways, thresholds, open spaces, meeting points, as well as their capacity for orientation and sometimes accommodation, and on occasion as objects of beauty.

In summary, our single most potent urban regeneration idea in our Terni bridge was its ‘2 in 1’ strategy where the re-positionable section evolved from our long-term regenerative masterplan identifying a future need for another bridge nearby and the strategic controlled redevelopment of redundant rail sidings so close to the town centre.

### 7. Acknowledgements

In addition to Benedetti Architects and Manfroni Engineering Workshop, the key organisations in the team who commissioned, designed and delivered the project were: Roberto Meloni, Comune di Terni (Client), Cobar Spa (design/manufacture/build), Arup (Competition-Stage1), Cirrus Lighting, Ottone Pignatti Studio Associato (Consultant), Andrea Calo’ (QS), Lorenzo Catraro (CDM Stage 4-7), Danilo Ricucci (CDM Stage 3)