

Tennison Road Bridge, London

A UK first - live launch without any practice under possession over 12 live tracks

£10.3m

/ Project value

January 2014

/ The build commenced

December 2015

/ The build was completed

Significant in both scale and complexity, the multi-award winning Tennison Road Bridge, with a design life of 120 years, has signalled a shift towards modernity for Croydon commuters. Exemplifying our deep expertise in tackling intricate engineering challenges, this £10.3m project was the first 'live launch' in the UK delivered without any practice under possession over 12 live railway tracks. It replaced an existing 90-year-old road over rail bridge with an innovative structure that is approximately 3.5 metres wider than its predecessor, encompassing broader footpaths on both sides of the bridge over the railway lines.

The Brief

Strategically located, the Tennison Road Rail Bridge, supports critical Network Rail (NWR) infrastructure. Adjacent to the UK's largest train maintenance depot and crossing 10 rail lines, our team was tasked with the design and construct replacement of the existing road over rail bridge while minimising commuter disruption over the 20-month project term.



"I'm delighted that the council has played a part in delivering this impressive first in rail engineering. This new and wider bridge will last for decades and make a real difference to everyone who uses Tennison Road"

Councillor Kathy Bee
Cabinet Member for Transport and Environment at Croydon Council, which part-funded the project

“The old bridge had served the local community for over ninety years, but it had become outdated and needed replacing. The new bridge will better serve those who use Tennison Road, providing safer access for motorists, cyclists and pedestrians”

Mark Huband
Route Asset Manager for Network Rail

The challenges

The operational importance of the rail interface, which operates 24/7, year round, dictated the need for efficiency in problem solving and innovation in project delivery throughout the transformation programme. Indeed, our team's identification of weaknesses in the structural integrity of the site early in the design process averted a major risk of bridge collapse. Negative national media attention, associated with NWR's 2014 Christmas engineering work, also intensified the scrutiny attached to the construction phase. Compounding the level of difficulty further, was the imperative requirement to consider, and proactively engage with, the inhabitants living in this residential area.

GRAHAM's solution

Recognising our team's technical excellence, the new bridge structure, which was installed by 'launch and slide' techniques over 12 rail lines, and completed in August 2015, was the winner of the prestigious 'Evening Standard People's Choice Award' at the ICE Awards. This industry acknowledgement, just one of many, was testament to the innovative and collaborative approach, which defined the project. Epitomising this ingenuity, the road bridge, weighing 515 tonnes exclusive of a 50 tonne nose cone, was the first 'live launch' in the UK that was delivered without any practice under possession prior to continuing as a 'live launch'. Seamless possession handbacks were also a feature of our client focussed delivery, with the temporary bridge hand back of 41-hour possession - eight hours ahead of schedule - just one obvious example. Zero reportable accidents over 231,000 'man-hours' and a vibrant engagement programme established with the local community represent additional facets of our Croydon completion.

Outputs & Benefits

- / **Award Winning:** Highly Commended (National Rail Awards 2015), Winner (Evening Standard People's Choice Award at ICE Awards 2016), Finalist (Construction News Awards 2016)
- / **Innovative:** First 'live launch' in the UK delivered without any practice under possession
- / **Sharing Initiatives:** 'Seven Signs of a Tidy Site' briefing issued to all Network Rail projects
- / **Health and Safety:** Zero reportable accidents over 231,000 'man-hours'
- / **Community Engagement:** Teaming up with Heavers Farm Primary School in community events such as Easter Egg Hunt and Question and Answer sessions
- / **Residential Engagement:** 'You Said - We Did' feedback including the utilisation of a hybrid generator reducing noise and fuel emissions



For more information on how we're delivering lasting impact:

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