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Balfour Beatty VINCI prepared to move Giant HS2 bridge into place in central Birmingham

24 hours ago

A specialist Balfour Beatty VINCI engineering team is preparing to move a 112m long, 1,631 tonne steel structure over a section of Lawley Middleway – part of Birmingham's ring road this August.

The operation will be supported by Balfour Beatty VINCI's bridge move contractor Mammoet.

Rather than building the bridge in situ, disruption to road users has been drastically reduced by constructing the steel span on land next to Digbeth Canal over the last two years. In preparation for the move, the structure will now be jacked up onto two self-propelled modular transporters (SPMTs).

On 15 August, heavy lifting engineering experts Mammoet will rotate the bridge 90 degrees using the SPMTs. From 16 – 23 August, a skidding system – with a jacking push/pull mechanism, will then be used alongside the SPMT to move the structure into place across Lawley Middleway. This combination of techniques is rarely used and is a first for Balfour Beatty VINCI on the HS2 project.

To minimise disruption to road users, the span will be moved in night-time operations – moving around 12 metres every night, ensuring that the road remains open during the day.

The section of Lawley Middleway will be closed between 10.00pm and 6.00am from Garrison Circus to Curzon Circus from 15 to 24 August. A clearly signed diversion route will be in place during the night-time closures and the road will be fully open again at 6.00am on 24 August. The official diversion route has been planned to avoid entering the Birmingham Clean Air Zone (CAZ), but drivers can use alternative routes if they prefer.

Lawley Middleway bridge forms part of the railway's approach to Birmingham, with high-speed trains travelling out of the west portal of the 3.5 mile Bromford Tunnel at Washwood Heath and onto a one mile stretch of five connected viaducts – Duddeston Junction, Curzon 1, Curzon 2, Lawley Middleway and Curzon 3 which links onto the platforms of Curzon Street Station.

Georgios Markakis, Project Manager at Balfour Beatty VINCI said:"This operation is a first for BBV, combining SPMTs and a skidding system to lift, rotate and move this giant structure into place. Work is progressing well on this whole section of the Curzon Approaches, delivered by a team of more than 250 people, including steel welders, steel fixers, joiners and engineering apprentices."

"Importantly, we've worked closely with Transport for West Midlands and Birmingham City Council to plan the operation during the low traffic holiday period and keep the road open during the day, minimising disruption to road-users."

HS2's Head of Delivery for the Curzon Approaches, Greg Sugden said:"The team have worked hard to get us ready for yet another significant feat of engineering, marking a further step forward in the construction of the high-speed railway into Birmingham.

"The Curzon Approaches is a complex and challenging section, with the railway being carefully designed and constructed through an urban landscape and network of roads, railways and canals."

Now at peak productivity, work will progress on this section of the railway with the second Bromford Tunnel breakthrough, Curzon 2 viaduct move, first Duddeston Junction Viaduct move, reopening of Aston Church Road, demolition of the old Aston Church Road bridge and start of construction of the new Saltley Viaduct – all set to happen over the next 12 months.