

HOW WE TURNED A RAIL BRIDGE INSTALLATION INTO A STRAIGHT-FORWARD SUCCESS



Sometimes, the space restrictions of a working environment mean that a straight-forward move doesn't actually involve moving straight forwards. This is where our team excels, using experience and equipment to find an innovative solution.

In Whaley Bridge, Derbyshire, the town's Reservoir Road bridge had been identified as needing a replacement. As a rail line, this work was imperative to secure the future of the railway network running through the region. With plenty of experience in exactly this kind of work, we were

asked to remove the original bridge and install the replacement. Normally, a move like this wouldn't create a headache. However, with the bridge being in a residential area, there were a number of issues that were clearly going to need some engineering ingenuity.

The project comprised two SPMT (Self-Propelled Modular Transporter) set-ups, each one driven individually, to remove the two half bridge sections. Each one weighed around 20 tonnes.

Due to the restrictions of working in a residential area, the maximum width we could put on the road was not much more than the width of the trailers themselves (about 5.5m). We realised that this would create practical issues when the bridge was removed, as each section was about 12m long. To overcome this challenge, we fitted a turntable to the top of both SPMT configurations.

This let us pick each bridge section up, move clear of the abutments, and rotate the bridge so that the longer length would then run along the road rather than across it. This gave us the ample clearance needed to transport each bridge section safely.

We had to minimise travel disruption wherever possible and ensure the safety of everyone who might be working or living in the vicinity. These are core considerations in every project, but here, in a residential environment with overhead powerlines, the Reservoir Road is a key network link for local people. We had a team of operators and banksmen on hand when the SPMTs were transporting the bridge sections.

Due to the area being so tight, we worked from a secure compound, which in itself presented a series of movement challenges. To overcome them, we used a 300te mobile crane to lift the new bridge sections directly from their transport trailers onto the SPMTs, and to then transport them through the town. By planning the setup and delivery of equipment down to the last detail, we were able to use all the space available but minimise the disruption.

In fact, to overcome an incline in the road, we included climbing jacks in the SPMT steelwork, provided by our sister company, Allelys. When the new bridge sections arrived at the installation location, we could use the climbing jacks to rotate the deck – the turntable proved invaluable – but we also gained height with the jacks, in addition to the SPMT hydraulic suspension. The turntables enabled us to adjust the bridge, as well as the SPMT steering and additional height, and install it to millimetre-specific tolerances.

This SPMT solution at Whaley Bridge was a good demonstration of applied innovation: using our equipment and experience to deliver the best possible approach that will meet all the project requirements, on time and on budget.

