

# M56 Thorley Lane

## Best Practice Case Study



### Project data

Client: The Secretary of State for Transport

Location: M56 Junction 5 (exit for Manchester Airport)

Main contractor: Balfour Beatty – Mott MacDonald Joint Venture

Completed: February 2015

Tonnage: 430te

### Project overview

The Thorley Lane replacement bridge, crossing the M56 was assembled in an area approximately 200m from its final position and adjacent to the live carriageway. Upon completion, the bridge was transported and installed into its final position during a weekend road closure. This approach minimised rush hour closures to the busy motorway which serves Manchester Airport.

The completed bridge consisted of four lines of girders approximately 90m long, 10m wide and 3m deep at the central section. The bridge was constructed from weathering grade steel to minimise future maintenance. It was fully assembled on temporary supports allowing the reinforced concrete deck and parapets to be completed before the bridge was jacked up and installed into its final position.

### Scope of Cleveland Bridge work

The preparation of temporary works design, detailed drawings, the supply of steel materials, fabrication, blast treatment and factory assembly into six braced pair sections prior to delivery to the assembly area.

A temporary works scheme was developed and supplied allowing the bridge to be fully assembled and bolted at height.

The heaviest of the six sections to be delivered was 76te and was lifted using a 500te mobile crane.

### Project highlights

The project involved significant coordination between Cleveland Bridge and Mammoet during the design and provision of the temporary works, to ensure that they were suitable for both the construction phase and to facilitate the jacking up operation.

The fabrication programme was accelerated allowing site assembly to commence in mid-November 2015. Site assembly was carried out within programme, with phased handovers allowing deck construction to commence during the CBUK assembly period.

This approach allowed the bridge assembly to be started in mid-November 2014 and installed late February 2015.



The completed bridge being jacked clear of the temporary supports.



Then being transported approx 200m to its final installation position.



Lowered into its final position, SPMTs removed and the M56 reopened