

Rolling deck saves 37 days on programme  
Improved safety working over water  
Grand Union Canal remained navigable



Case Study

## Gade Valley Viaduct Innovative Rolling Access Deck

PROJECT	Gade Valley Viaduct Strengthening
CUSTOMER	Connect Plus M25
LOCATION	M25 Kings Langley, Hertfordshire
CONTRACT	COFA Framework
COMPLETION	2022





## Need

Gade Valley Viaduct is a 400m long box girder bridge carrying the M25 and it has been undergoing significant structural refurbishment. For most of the three-year project, the access to the underside and inside of the bridge has been from a scaffold erected directly from the valley floor. However, where the eight-lane motorway bridge spans over the River Gade and the Grand Union Canal a different solution was needed.

Due to lack of space, it was not possible to install the usual bridging scaffold over the waterway. A clever approach was needed to overcome the constraints.

## Solution

Working with key stakeholders and with our specialist scaffold supplier Alltask, an idea for a moving deck was developed. The design was to pre-assemble the deck elements off-line and lift them into place without impacting on the motorway bridge above or the waterway below.

Each of the two full width spans were landed onto tracks mounted on scaffold abutments

each side of the canal. The scaffold abutments extended beyond the motorway bridge to allow installation by crane. Once landed the two elements were connected to form a single deck which could be moved manually using a cable and winch as the work progressed. Stoppers locked the deck safely in position at each location.



Figure 1 - Rolling Deck Launch

## Outcome

Developing a rolling deck delivered considerable benefits over a full width deck. Crucially, it was 65% smaller saving both erection and dismantling time. The smaller size also improved the safety risk and reduced the material quantities. As a result:

- 25 working days were saved on erection. That meant less crane hire and night work, and less disruption and noise for neighbours
- There was less to dismantle which saved a further 12-15 days.
- There was less time working at height and working over water.
- The Grand Union Canal remained navigable, and there were cost savings from the over sail licence.

This solution benefitted the delivery programme and demonstrated how close working with specialist suppliers and key stakeholders can create smarter, safer, and more efficient methods of work.



Figure 2 - Rolling Deck spanning Canal