

Aberdeen Bypass/ AWPR, North East Scotland

## Formwork traveller solution helps save time on AWPR / B-T scheme

### Key Benefits:

Low dead weight solution

Easy access platform for concrete placement

Designed to accommodate geometry



### The project at a glance

The Aberdeen Western Peripheral Route Balmedie to Tipperty (AWPR/ B-T), is a 58 kilometre-long route which will run through the North East Scotland on completion. Approximating a cost of £745 million, the scheme promises to reduce congestion and improve journey times as it bypasses the city of Aberdeen. Construction of the new route started in 2015, with joint venture, Balfour Beatty and Galliford Try taking on responsibility for delivering the scheme.

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Customer:

**Balfour Beatty & Galliford Try**

Developer:

**Transport Scotland / Aberdeen City Council**

Project type:

**Infrastructure, Bridges**

Products and Services:

**VARIOKIT – Cantilevered parapet carriage**



### What did the customer need?

The crossing over River Don, one of the major jobs on the project, required a parapet along the 230-metre length of the bridge to provide safety barriers for two-way traffic. The customer needed a simple, yet quick solution to realise the parapet.

Precast concrete was initially selected as a way of saving time. This decision was later changed as in-situ concrete was quicker than waiting for precast segments to be produced and delivered to site.

For in-situ casting to take place, a project-specific formwork traveller was required which would ensure fast, yet safe construction of the parapet and coping.

### What was the challenge?

As with anything visible to the public eye, ensuring a unified and visually appealing finish was important throughout all elements of the bridge.

In addition to the specified concrete finish, the formwork solution had to provide access to the underside of the bridge deck, enabling workers to pour concrete for the coping.

### How did we help?

We designed a bespoke cantilevered parapet carriage to meet the geometry of the bridge deck using off-the-shelf VARIOKIT components and roller units. By using standard components, we were able to minimise waste throughout construction of the parapet, as the system could be adapted, dismantled and reused.

In total, four carriages were used simultaneously to facilitate the concrete pour, two on either side of the bridge at each end. We embedded steel profiles within the bridge deck to ensure the systems moved smoothly.

Once the concrete had cured, the systems were winched along the bridge deck to complete the next pour, eventually meeting in the middle on completion. A carriage was capable of concreting a 25-metre-long section at each pour before moving on to the subsequent section.

We also incorporated a secure, hand-railed working platform with the carriages. The platforms provided safe means of access for workers when pouring concrete as high as 40 m in areas that were difficult to reach.

Prior to concreting, the systems were also used for the installation of reinforcement bars that were added to strengthen the concrete. By casting in-situ using the parapet carriage, the customer was able to save four weeks on the project, which would not have been possible using precast concrete.

Contact us by email  
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