

BIM Project of the Year Highly Commended 2015

A5-M1 Link Road

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The A5-M1 Link project is an all-purpose 4.6km bypass (scheduled to be open by December 2016) with a new motorway junction, 11A which links the A5 trunk road to the existing M1 Junction. It is the first project to link a new junction with an existing smart motorway, where variable speed limits and hard shoulder running manage traffic flows.

This is a joint venture project comprising AECOM, Costain – Carillion Joint Venture Contractor (CCJV), Jacobs and the client – Highways England (HE). Whilst not an HE BIM “Early Adopter” scheme, it was decided that using BIM and digital process change would develop knowledge and realise savings through the construction process. The client agreed to BIM as a high-level strategy for implementation within the agreed scheme budget of £170m.

The project team developed an Employer Information Requirements document (this included the HE client), which defined the data management, commercial management, BIM competence assessment and transfer of information to the asset owners. No current examples or standards were available, so the report was developed in consultation with the HE BIM working group.

Engagement throughout the supply chain was imperative from the beginning to drive a culture of change and to streamline delivery. A key objective was to create information models that contained sufficient attribute data to ensure 4D (programme), 5D (costs) and 6D (asset information) were embedded. However there were a series of unique challenges – one of which was the project delivery Bentley software, which was not yet mature in terms of object modelling with attribute data. The team developed a workaround to read/import the data into the BIM model and shared this with the software supplier.

This project has been seen as one of the first of its type within infrastructure for Highways England and a success in respect of innovations; these have surpassed the original deliverables and the project and project team have exceeded client expectations. The project launched on site in March 2015 with Level 2 aspirations, ahead of the 2016 target.

Judges comments

This project pushed the boundaries of BIM by integrating temporary works, project constraints and traffic management as active elements in the BIM model.

The Team worked collaboratively using BIM to define the works. The client, Highways England, has seen the benefits of collaborating with BIM and will be embracing it on projects in the future. The team showed innovation getting more out of BIM than had been achieved before.

The development of traffic management as active elements in the model allowed working spaces to be verified as well as allowing the changes to traffic management to be accurately considered in the planning of the works. The integration of the off site constraints allows activities and deliveries to be simply programmed to miss rush hour traffic flows on neighbouring roads.

