



BIM PROJECT OF THE YEAR

HIGHLY COMMENDED 2014

LUL Victoria Station Upgrade BIM for Ground Treatment – Tunnelling Interface

Victoria Station Upgrade (VSU) will provide larger ticketing facilities, step-free access, reduced journey times, congestion relief and extend station life by 75 years.

The complexity of task, in the middle of one of London's busiest stations, with new tunnels constructed between existing tunnels, lying at varying levels – between London clay and overlying, water-bearing river terrace gravels – required the team to use BIM as the 'single source of truth'.

The VSU model encompasses the entire project and incorporates 18 discrete, but interacting, design disciplines. The BIM working process was built around collaboration between the client and a federated project supply chain and included:

- a unified data creation system for management and sharing
- developed design procedures/ CAD guidelines
- a 'shared pain/gain' contract
- co-located design teams
- application of bi-directional model data
- linking modelling tools
- engineering analysis software.

3D printing technology was used to generate physical scale models, interactive PDFs – significantly improving the project team's ability to communicate their design and construction intentions. As the project moves into the build phase, the richness of information has improved the contractor's ability to understand and resolve details and communicate change. It also enables the team to check work against specifications and validate anomalies.

BIM has hugely enhanced predictability of works interfaces and directly contributed to an improved – and improving – safety performance.

The project's approach to data management has meant it's currently rated within TfL at being close to BIM maturity level 2, with lessons learnt being shared with future projects and external parties.

Post-completion, the model will provide TfL with an accurate record of assets – those belonging to third parties as well as its own. Containing spatial and technical information, including object libraries, the model will assist TfL in managing the maintenance and operation of the asset throughout its life.

Judges' comments

This project evidences a truly collaborative engagement by the whole team. The strong interaction between the site and design teams has contributed to the predictability of the outcome, not only in terms of cost and schedule but also in the management of risk and health & safety.

The Victoria Station Upgrade project adopted BIM way before others were even recognising the value and contributed significantly to assessing the feasibility of the scheme.

