

Case Study: Building Information Modelling (BIM)

This case study discusses Thameslink Programme’s implementation of BIM from 2016 onwards, including the adoption of a common data environment and managing 3D data capture and presentation

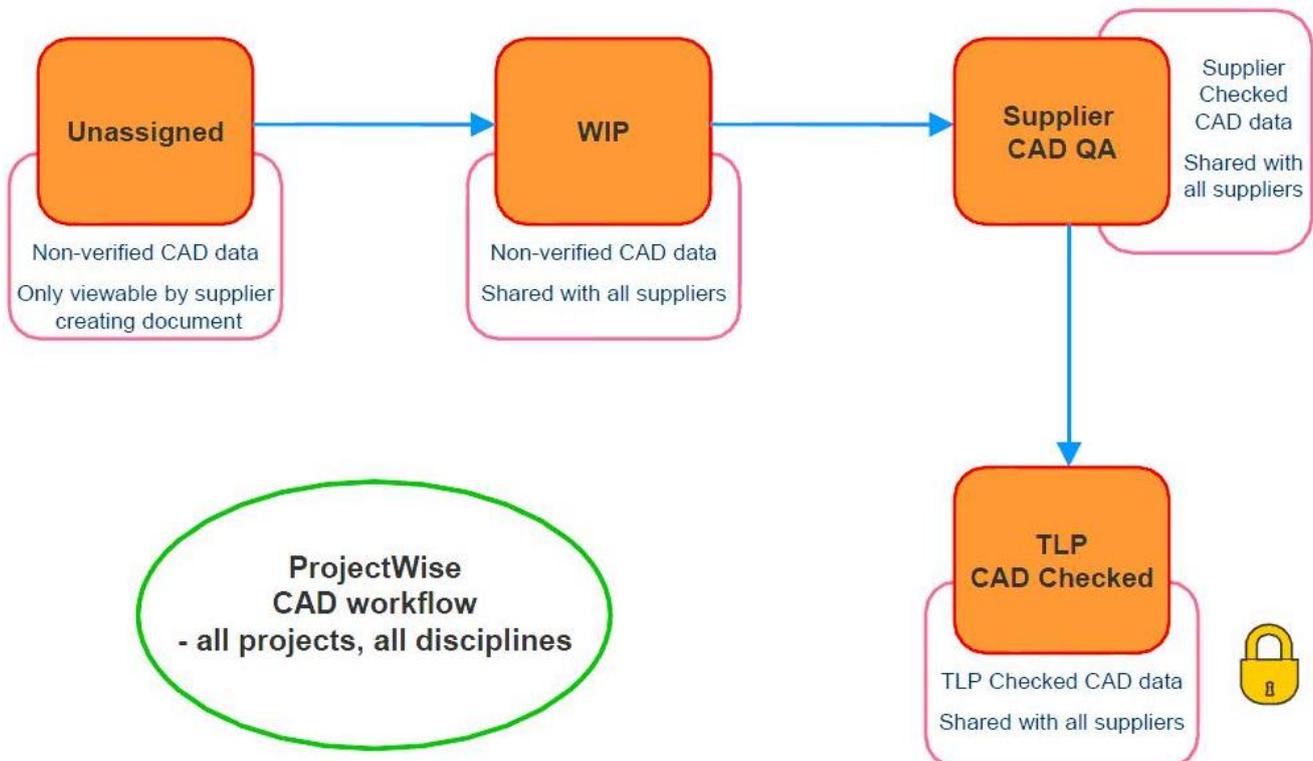
Building Information Modeling (BIM) is a digital representation of a physical and functional form of a facility underpinned by the creation, collation and exchange of shared 3D models, structured data and asset attached to them. In May 2011 the Cabinet Office published the Government Construction Strategy, announcing its requirements for level 2 collaborative 3D BIM on its projects by 2016. To successfully implement BIM for Key Output 2 (KO2) of the Thameslink Programme it was important that a common set of processes and procedures were used.

The processes which were adopted outlined the co-ordination of the project model files (2D and 3D) and the production of 2D drawings from 2D and 3D models (these processes are outlined in Thameslink Programme’s Processes and Procedures). Throughout all Thameslink Programme procedures for Utilities, Survey and CAD there is consistent requirement for level of detail to meet the Government-set BIM requirements.

1. The common data environment

As well as the processes and procedures, a common data environment approach was adopted for the sharing of information between all members of the project team. This collaborative approach was already in place during the Key Output 1 (KO1) phase of Thameslink Programme. However, there were many lessons learnt which were applied to KO2.

Thameslink Programme used *Bentley ProjectWise* for the management of the CAD data and *Bentley Enterprise Bridge (eB)* for the management of all non-CAD data. Within ProjectWise there were four workflows:



2. Consistent standards in data capture and presentation

One of key lessons learnt from KO1 was the importance of consistent standards in 3D data capture and presentation in CAD. For KO2 a Survey Strategy Document and Tracker, which covered the principles to be shared by all projects in that area (i.e. grids, chainages, data sharing, supplier performance, survey master model), was developed and implemented. Furthermore, a KO2 Survey Collaboration process and support team was put in place to support projects and ensure continuous awareness and application of the survey process and procedures.

The programme has an extensive survey data set, which is readily available for future projects and programmes to use as part of the design stage or view through *Leica Truview*.

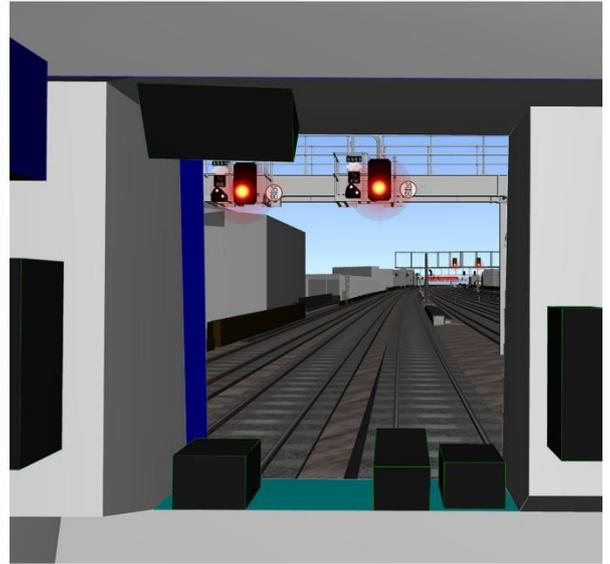
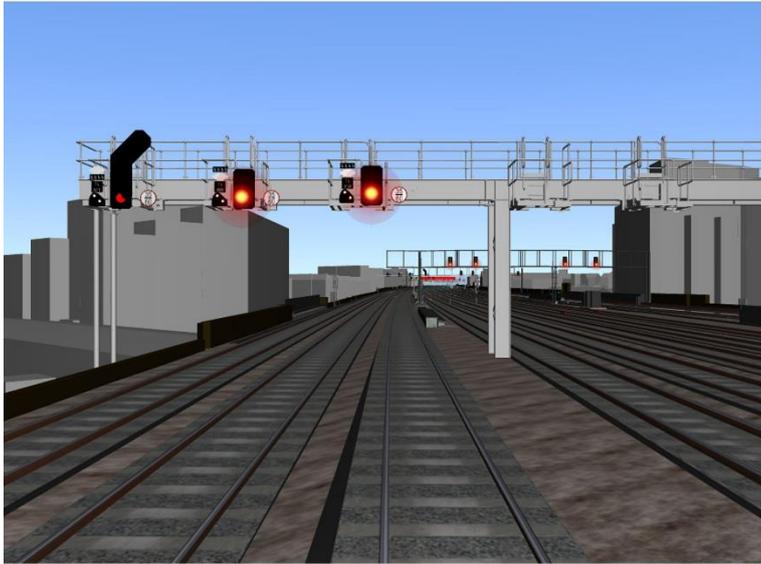


3. Utilities management

Thameslink Programme had an internal utilities management team to assist with the management of statutory utility assets, providing benefits in the following areas:

- Visibility of utilities issues (getting the project off to a good start)
- Reduced and mitigated project risks
- Commercial strategy ensuring delivery to budget and best value for money
- Compliance with legislation and Health and Safety including CDM regulation
- Safety through asset awareness.

As well as the support above, the Thameslink Programme identified the added value in digitising all the utilities data received for KO2. This was a total of around 7000 PDF documents which are now available in 2D CAD format. In the surrounding areas of London Bridge ground penetrating radar is used, and this data is provided in 3D CAD format.



Author

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Further information

For more information on this Learning Legacy case study please email contact@thameslinkprogramme.co.uk