

PROJECT: Elephant & Castle, London, England
Owner & General Contractor: Lend Lease
Type: Mixed use: office, retail, residential



Over the next ten years, Lendlease's £1.5bn regeneration of Elephant & Castle will transform this part of Central London, delivering nearly 3,000 new homes, over 50 shops and restaurants, and a brand new park right in the centre of scheme. With a strong emphasis on energy efficient buildings, urban nature and new pedestrian and cycle paths it represents one of the world's most sustainable developments and is fast becoming Central London's greenest new place to live.



[WATCH THE PROJECT SIMULATION](#)

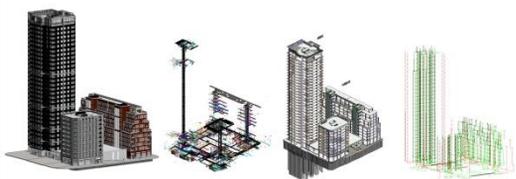
The project, developed over 5 phases, is in one most connected locations in London-just south of the River Thames; it has a mainline station, two underground lines (Northern and Bakerloo) and 28 bus routes. While the location is outstanding for residents and businesses, it adds significant complexity to the construction process. The project is being constructed while the surrounding streets and businesses remain open and accessible. This creates a number of **challenges**:

- ensuring the safety of both the public and the delivery team
- maintaining the needed access for equipment, materials and personnel
- optimizing logistics on a confined site
- coordinating complex infrastructure installation concurrent with building works

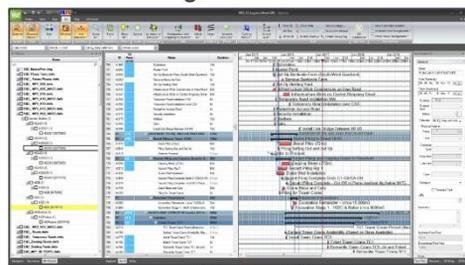
To overcome some of the complexities of delivering such a large project in a Central London location, Lendlease has incorporated a number of innovative tools including Synchro PRO. PRO is being used to integrate the design and 3D BIM model data with the construction schedule to create a 4D real time schedule. The company uses P6 for traditional Gantt chart scheduling- they federate their models in Navisworks then import both the P6 schedule and the Navisworks model into Synchro PRO to create a smart linked real time visual schedule that can be reviewed, edited and optimized. No longer do people need to interpret a Gantt chart- a short video quickly and clearly demonstrates the sequence and enables the entire team to participate and cooperate so the project can be delivered safely, reliably and with the highest quality. Conflicts in both space and time are identified and resolved before construction ever begins on site. **Once the plan is validated and optimized**, the Lendlease team holds **weekly model review sessions at which they engage both internal and external stakeholders**. Synchro PRO has enabled Lendlease to **understand and to validate the logistics sequencing as well as to eliminate waste and maximize productivity amongst the various trades**. “When you go through the model and see things, people quickly and clearly understand” said Nigel Quirke, Senior Project Manager.

**Elephant & Castle - Innovative Approach
Buildability and Programme reviews using 4D BIM**

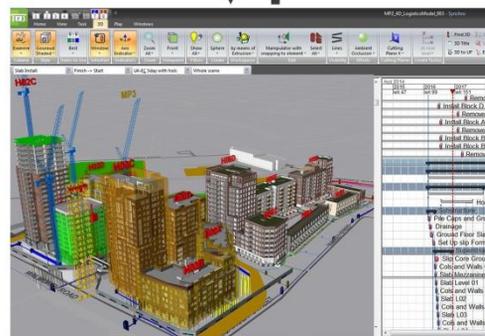
3D BIM Models



P6 Programme



Buildability and programme reviews



4D BIM Model

Synchro PRO “allows us to significantly improve performance while still utilizing many of our traditional tools. With the support of the Lendlease BIM team, 4D visualizations empower our entire team to do a better job. Without Synchro, we have no way to see into the future of the project” Ian Francis, Head of Planning E&C and Regions. As Elephant & Castle progresses, the team will continue to utilize and update the 4D model to mitigate risk and to gain continued efficiencies. “In Master Plan 2- site wide infrastructure will be added to the 4D model and Synchro visualizations will be used for look-ahead meetings on site- this will create even greater participation and cooperation and allow us to test new ideas in a safe environment” commented Lendlease BIM Manager Tolga Adinir.

Benefits from using Synchro PRO 4D visual scheduling:

- Cooperative, total team approach rather than traditional silos
- Shared understanding- real time simulations are quick and clear
- Efficient and effective communication- no interpreting Gantt charts
- Ability to review, edit and optimize phasing and logistics



Synchro visits the site, September 2015