



LC International

Network Rail's Birmingham Gateway Project

Achieving programme completion through lead time compression

THE BACKGROUND

The £600m regeneration of Birmingham New Street station and the overhead shopping centre was commissioned to satisfy the doubling of passenger numbers and create a stunning 21st century transport and retail hub.

By 2014 Network Rail recognised the need to reduce the atrium demolition programme by 50%, from 12 months to 6 months to ensure on time completion in 2015.

At the same time the station had to remain open for the 150,000 daily commuters and the works be completed in a logistically constrained inner city location without breaking any upper noise limits.

LC International were engaged by Network Rail to provide improvement expertise across the project on multiple critical paths, and levels.

THE CHALLENGE

The size and scope of this project meant there were multiple critical paths covering the various phases.

The live railway station needed to stay open during construction, while the building itself presented many challenges.

THE SOLUTION

Over the course of the ten months leading up to the start of the demolition phase we facilitated teams in the deployment of a number of tools and key lean techniques in order to ensure a standard visual approach to managing each of the critical paths as well as the compression of the demolition programme.

These included:

- Setting up control rooms, BIM visualisation and setting a pacemaker process to ensure all the stakeholders could understand and contribute to the planning and management of the programmes.
- Conducting collaborative planning, waste analysis and problem solving activities, work studies and rapid improvement workshops, in order to make improvements across the board. This included creating a revised atrium demolition programme within stringent working constraints.

- Using Set Up Improvement methodology to reduce the movement of a dispersal tunnel from 4 weeks to 48 hours. This allowed the demolition critical path to proceed as planned, as well as minimising cost and passenger disruption.
- 4D modelling to detail the revised programmes, sequences and operating models. Simplification and standardisation of all the processes was key to reducing the planned time but also the level of risk to the programme.
- Improvements across various critical paths from Rail platforms to roof activities.

THE RESULTS

- Safe demolition achieved in 5 months - instead of the original 12 month plan.
- Additional work incorporated on top of the original scope.
- Process improvements saved £28m across the project.