

Balfour Beatty

TOC for Project Management/Critical Chain

Bringing Civil Engineering Projects in Early, On-Budget, and Within-Scope using Critical Chain

Balfour Beatty is one of the leading construction companies in the United Kingdom. Its core business is civil engineering projects building, repairing, and maintaining roads and tunnels.

Traditionally, large projects such as the ones Balfour does would involve employing a number of different contractors. Often adversarial relationships would develop between the different contractors as each worked to achieve its own individual goals and contract requirements.

Several years ago, the construction market began demanding a change in the way its projects were being managed. There was a shift toward contractors delivering an entire project designing, building, financing, etc.

In 1992, Balfour Beatty formed its Business Improvement Team to change the culture of the company to meet the demands of its market. In 1994 the team was introduced to TOC via *The Goal*. Soon thereafter they saw Eli Goldratt's play *UnCommon Sense*. In 1995, the Business Improvement Team attended a Management Skills Workshop.

The Business Improvement Team was introduced to TOC-Project Management (Critical Chain) in 1995, and later that year introduced Critical Chain at a pilot site where a project was already underway. In 1996 and 1997, Balfour Beatty implemented Critical Chain on three other project sites.

Following are the results achieved by Balfour Beatty using Critical Chain from start to finish on a design-and-build project:

Project Specs

- Design and build an 8km road
- £35million budget
- Contracted to complete in 124 weeks

Actual Performance

- Project delivered 9.5 weeks earlier than estimated, which was 45 weeks earlier than actually contracted (the contracted delivery date was the client's deadline) in spite of increased scope of work
- Margin maintained

Balfour Beatty attributes its success to

- All parties involved defined the project's success at the beginning and used the Prerequisite Tree to plan the project
- Good relationship between all parties

- Use of TOC-Project Management (Critical Chain) for scheduling
- Key subcontractors were procured for productivity, not for cost
- Managed buffers from start to finish
- Had good teamwork from all involved to manage risk effectively
- Developed and trained the staff

After having used Critical Chain successfully on several projects, Balfour Beatty has earned the reputation of producing projects early.

These results and others were presented by Balfour Beatty at the JonahSM Upgrade Workshop in May 1998. The presentation is available on video (#JUK-8).

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