

CLIP

A specialist contractor used CLIP to reduce defects in newly refurbished local authority housing properties and to improve customer service levels



THE PROJECT

Local authority housing refurbishment – Preston Road, Hull

CLIENT:

Hull City Council

CONTRACTOR:

Keepmoat plc

Nathan Brough of Keepmoat tells how the company used CLIP to improve client satisfaction, and develop a best practice procedure to drive future improvements.

BACKGROUND TO THE PROJECT

We specialise in the construction and refurbishment of social housing through our operating companies, Frank Haslam Milan and Bramall Construction. Our main goal is to assist in providing 'community regeneration', through our expertise in delivering quality new and refurbished housing.

We were one of the first companies to encourage a partnership approach, and have developed a number of long term relationships, particularly with local authorities and housing associations.

What attracted us to CLIP

As a company, we use best practice as a way of giving our clients value for money. Our group Chief Executive became a champion for lean construction and CLIP after meeting Martin Watson of Construction Best Practice.

We realised that we could use the principals of CLIP to reduce waste and improve our processes.

What our aims and expectations were

The main aim was to look at areas of our business where we were always having problems. We wanted to analyse our processes and find a way of dealing with them. We felt we could get the most out of CLIP on the Preston Road contract. It involved the complete refurbishment of local authority houses and we would be able to look at every aspect of our work.

The project was a relatively new scheme in partnership with Hull City Council. It involved gutting most of the

existing houses leaving only the shell, and then refurbishing them. We did the majority of the work ourselves, but sub-contracted out the roofing, plastering and M&E works.

We wanted to work on the following areas during the CLIP project:

- Rethinking the way we do things
- Improving team working between partners and clarify roles and responsibilities
- Improving the supply chain
- Improving quality and reducing defects
- Identifying opportunities for cost reductions
- Identifying opportunities and spreading improvements onto other projects.

How the CLIP process worked for us

I was the champion for the pilot project. I began by assembling the project team, which included the client, architect, project manager, site manager and quantity surveyor. There was little resistance to the idea, as we already had a good working relationship – having partnered before on previous jobs.

We held an introductory meeting where we decided to use key performance indicators (KPIs) to analyse our current situation. The site team understood what we were trying to achieve so I had no problems in motivating them to use CLIP. The team was already using ‘snagging sheets’, to record the defects before handover, and these provided an indicator of the quality of the work on site. We then found where the main quality issues lay on the project, by using a Pareto chart. This is a simple bar chart where you can record the number of defects in each area of work, and plot the cumulative total on the same page.

The charts showed that the existing joinery, windows and internal doors were causing a number of snags. There were also problems at handover with the electrics, plumbing & heating and joinery work. However, we decided that they could not resolve the problems without collecting more detailed data. We modified the form to collect data on the amount of delays caused by each trade.

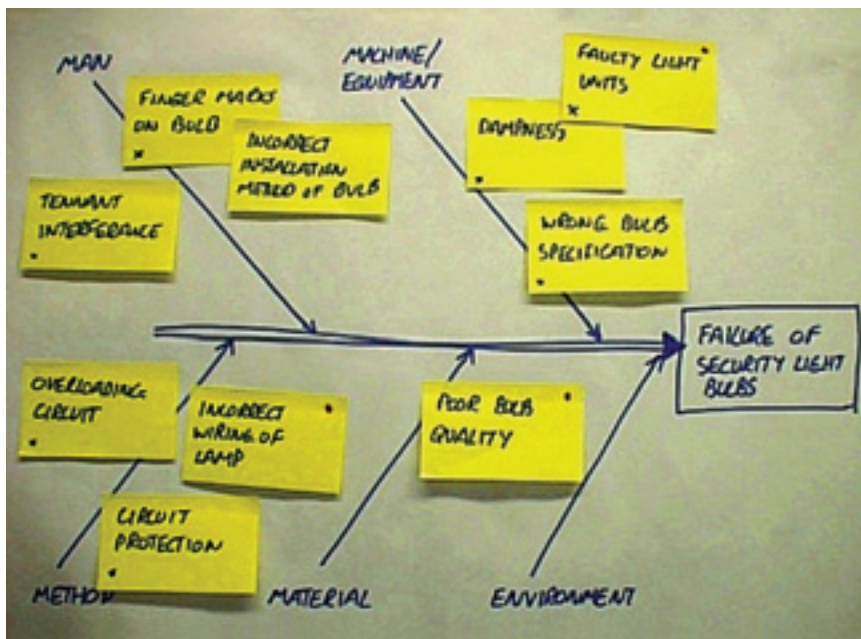
We reviewed the additional information on post-handover defects and found that the method for fitting doors was

‘It is important that we do not forget the lessons we have learned from this project, particularly as we are expanding the business.’
Nathan Brough of Keepmoat plc

not at fault. However, the delivery of doors and windows caused delays and snagging defects, which was preventing early hand over. The team then collected more data on the plumbing and heating, and identified two main problem areas. Debris in the pipes was causing taps to fail and a number of supplied parts failed (mostly valves).

We found an average of 32 minor defects per property. Although we rectified almost all of these before handover, they were adding to the cost of the project. Tenants were also reporting minor snags and defects in a large proportion of the properties after handover. We decided to focus on reducing the total number of snags or defects, because of the cost and disruption caused by returning to the properties to remedy faults.

A number of security light bulbs were failing after handover. The team brainstormed the reasons for the failures and drew a fishbone diagram to map their ideas. The team thought that the most likely cause for failure was poor bulb quality. After contacting the supplier, we made little progress so we decided to buy in new bulbs before fitting any more security lights. We found that this cost less than being called out to fix every bulb failure.



The team brainstormed reasons for the failure of security light bulbs and created a fishbone diagram

The team found that some of the reported defects did not exist, and were caused by tenants misunderstanding how the installations within the properties work. We now give the tenants a more detailed set of 'user documents' that explain and give advice on this.

The team also drafted a flow chart for different parts of the building, such as fire alarms and plug sockets. The charts outlined how each component could go wrong and what was the best way to fix the problem. We produced a corrective action report to record all the reported defects.

Now the customer service team uses the flowcharts when taking calls from tenants, which means they are in a better position to handle complaints and give advice to tenants. By giving the staff extra information about the properties, we have reduced the number of abortive calls and improved our customer service levels.

How we benefited from this initiative

We thought we were running a tight ship, but the CLIP project did highlight areas where we could make improvements. The number of defects per property dropped and we reduced the amount of post-handover maintenance. The number of call-outs has also dropped, which saves money and frees up resources.

We are also developing our internal non-conformance system. We are using our 'corrective action reports' to ask the client what they, or our team, did to rectify a problem. By getting to the route of the problem, we can identify the best way to deal with it. We can now ensure that our customer services team is fully aware of any problems, so that they can sort out any complaints effectively. It is about making sure you ask the right questions.

We are now in the process of developing a 'best practice procedure' framework. Future project teams can use this framework to pre-empt potential issues and eliminate snags. It is important that we learn from this project and adapt best practice throughout our growing business.

Although the Preston Road contract was curtailed early in 2003, the CLIP project was a success and we have moved on to a new site.

How we plan to use the skills and lessons learned

The company has an informal approach to business improvement, and each site is currently using different best practice ideas and tools. We are now trying to streamline our new projects, so that they all focus on the same key areas. This will take time and require a culture change throughout the company. Our new 'best practice framework' will drive improvements in the future projects.

We will continue to use the pareto charts as they are a good visual aid for highlighting problems. We are also rolling out a series of workshops in the next few months to discuss the findings from the first CLIP project.

If I could start again, I would use CLIP from the start of the project. We could have picked up the main snagging areas before they led to defects and delays, by collecting more data from the start. We also spent too much time looking at our processes and not enough time trying to improve them.

Remember to have a clear goal for your CLIP project, and map out what you want to analyse before you start. You will need to be committed to make it work. Don't ignore the trivial things as they are still worth looking at and improving. All the small cost savings we made during the project do add up.

“We thought we were running a tight ship, but the CLIP project did highlight areas where we could make improvements.”

Nathan Brough of Keepmoat plc

LEARNING POINTS

- The site team understood what we were trying to achieve so I had no problems in motivating them to use CLIP.
- Remember to have a clear goal for your CLIP project, and map out what you want to analyse before you start. You will need to be committed to make it work.
- By looking at the data from our 'snagging sheets', we have developed a 'best practice manual'. This will drive improvements in future projects.
- I was the champion for the pilot project. There was little resistance to the idea, as we already had a good working relationship – having partnered before on previous jobs.
- We wanted to analyse our processes and find a way of dealing with them. We felt we could get the most out of CLIP on the Preston Road contract.
- If I could start again, I would use CLIP from the start of the project.
- Don't ignore the trivial things as they are still worth looking at and improving. All the small cost savings we made during the project do add up.

JARGON BUSTING BOX

■ **7Ws – look for seven wastes that can never be added value:**

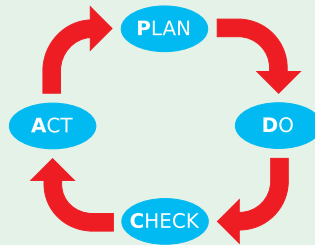
- Motion
- Transport
- Waiting
- Overproduction
- Defects
- Unnecessary inventory
- Inappropriate work or processing.

■ **5Cs – check these to lay the foundations for continuous improvement:**

- **Clear out** – separate the essential from the non-essential
- **Configure** – a place for everything, and everything in its place
- **Clean & check** – assess the current condition of the environment
- **Conformity** – ensure standard easily maintained
- **Custom & Practice** – ensure everyone follows the rules.

■ **THE PLAN-DO-CHECK-ACT (PDCA) CYCLE –**

a way of thinking which encourages continuous improvement



■ **THE CLIP – ‘standard structured approach’ – which is made up of four main stages:**

- **Pre-diagnostic** – setting the aims and training the team in lean tools and techniques
- **Diagnostic** – practically applying the tools to analyse the situation
- **Improvement activity** – looking at the data for opportunities to improve processes
- **Follow up** – identify barriers to success and set improvement actions in place.

■ **VISUAL CONTROL –**

a major part of the CLIP process is to use visual tools to display data, highlight improvements and record ideas. These include:

- **Key Performance Indicators** – are the measure of performance of activities that are critical to the success of an organisation
- **Pareto Chart** – a comparative bar chart that shows the number of defects for each chosen area of work, and the cumulative total of defects over the whole project
- **Fishbone Diagrams** – are used to identify the possible causes of problems. Start by defining the problem to be investigated and write it down. Then draw lines (bones) to represent each cause that runs into it. Finally you can brainstorm what is actually the cause of the problem
- **Priority Matrix** – a quadrant chart used to prioritise which improvement areas to focus on first. For example, you can place activities that will have a high impact at a low cost in one quadrant and focus on these first.

GETTING HELP

CONTACT DETAILS

Martin Watson
CLIP Director
BRE
Garston
Watford WD25 9XX
01923 664638
email clip@bre.co.uk
www.bre.co.uk

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