

Lean Construction and Last Planner

What is Lean Construction?

Lean Construction is a philosophy based on the concepts of lean manufacturing. It is about managing and improving the construction process to profitably deliver what the customer needs.

Because it is a philosophy, Lean Construction can be pursued through a number of different approaches. In particular the following tools are used in the Construction Industry:

- **Last Planner:** Collaboratively plan, track and improve
- **Value Stream Mapping:** Identify and remove waste
- **5S:** Organise the project workspace

This fact sheet outlines the elements of Lean Construction and how they are delivered in practice.

History of Lean Construction

Lean Construction has been adapted from the highly successful principles of Lean manufacturing which was initially pioneered and developed by the large Japanese car manufacturers. Lean Manufacturing has been implemented by a wide range of manufacturers worldwide inside and outside the automotive industry with considerable success.

The Lean Principles

- Eliminate **waste**.
- Precisely specify value from the perspective of the ultimate customer.
- Clearly identify the process that delivers what the customer values (the **value stream**) and eliminate all non value adding steps.
- Make the remaining value adding steps **flow** without interruption by managing the interfaces between different steps.
- Let the **customer pull** – don't make anything until it is needed, then make it quickly.
- Pursue **perfection** by continuous improvement.

Lean is about designing and operating the right process and having the right systems, resources and measures to deliver things right first time. Essential to this is the elimination of waste - activities and processes that absorb resources but create no value.

Waste can include mistakes, working out of sequence, redundant activity and movement, delayed or

premature inputs, and products or services that don't meet customer needs.

The primary focus is on moving closer and closer to providing a product that customers really want, by understanding the process, identifying the waste within it, and eliminating it step by step.

Last Planner

Last Planner is the main tool used to implement Lean Construction and it has been highly successful in the New Zealand infrastructure and building environment.

Take-up began in 2009 when Constructing Excellence NZ first introduced the concepts into New Zealand. Since then, many projects have reported a range of benefits, not least the Manukau Harbour Crossing project completing 7 months ahead of schedule and one large contractor reporting a 30% increase in profitability since using Last Planner.



Last Planner in Action – Collaborative Programming at MHX

Organisations such as Fletchers, Fulton Hogan, NZTA, Arrow International and Naylor Love and now use Lean Last Planner, often as a standard approach for their projects.

Last Planner is a methodology which empowers a collaborative culture of planning and enables a team to manage programme risk on a daily basis.

Benefits

Benefits are often surprisingly quick to be realised and are usually tangible and measurable. Typical benefits include:

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- Waste is owned and removed across the project.
- Productivity is measured and tangibly improves within weeks.
- A collaborative approach develops, enabling an enjoyable environment of Trust, Openness & Honesty.
- The project team becomes integrated; each individual gains a better understanding of their part in the overall project and how their performance impacts others.
- Delays are mitigated or if introduced to a project in delay, it can substantially help to get the project back on track.
- Communication is improved significantly.
- “Fire-fighting” is dramatically reduced.
- Profitability increases for supply chain members whilst other important performance criteria such as completing to time and budget improve.
- The team gains a better understand of project risks and manages them on a daily basis as part of a collaborative team.
- Winning teams of suppliers are developed which encourage them to stay together for the future.

Endorsements

To date, every project which Constructing Excellence has helped to implement Last Planner has been on time or early, even when there have been significant delays at the outset of implementation. Some comments from users are:

“Last Planner has been an outstanding help in bringing our project in on time” **Fulton Hogan, Auckland**

“We would not have delivered this project nor made our margin without Last Planner” **Higgins, Wellington**

“Our Hunua 4 project has embraced Last Planner and is producing great results in a very challenging and evolving project environment. **Watercare, Auckland**

The Last Planner tool works. This tool produces bottom line results by including and communicating to all levels & designations of construction delivery and operations. Highly recommended. **Worthington Contractors, Christchurch**

Expertise

Amanda Warren, our Lean Construction expert is New Zealand’s leading authority on Lean Construction and the tool Last Planner. Amanda regularly teaches Lean Construction in addition to facilitating implementation of the principles on a wide variety of projects. Amanda operates a team of highly skilled Lean practitioners.



About Constructing Excellence NZ Limited

Constructing Excellence exists to achieve a step change in construction value, productivity, & customer service.

Through focused programmes in Innovation, Best Practice Knowledge, Productivity and Engagement, Constructing Excellence has developed strategies to deliver the process, product and cultural changes that are needed to drive major productivity improvements in the sector.

Constructing Excellence delivers new thresholds of performance based on cross industry networking and collaboration.

“To have a skilled team on every project, working to a common management system using tools to provide a consistent approach to best practice and best profit”

Our Mission

To deliver initiatives, tools & services which influence & assist individuals, corporates and the industry to achieve excellence in construction.