Lean
CONSTRUCTION IRELAND

DIRECT OBSERVATION TO IMPROVE PRODUCTIVITY

Introduction to Direct Observation

What it Is?

How to Complete?

Benefits via Case Study

What is Direct Observation?

- Utilising a simple tool to **OBSERVE** the process and categorise activities on site

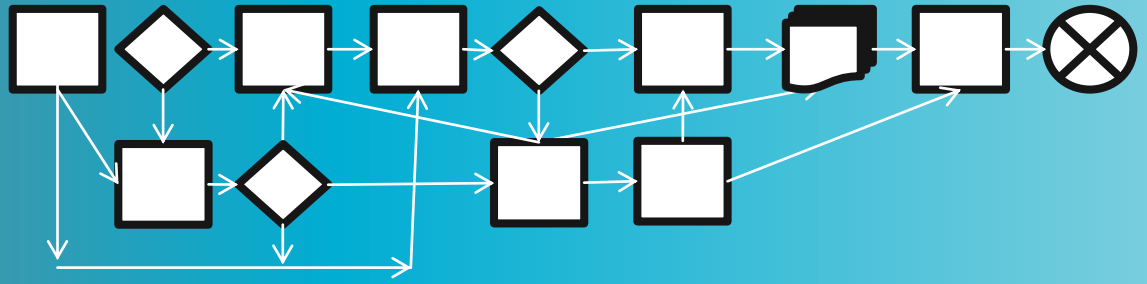
- Activities categorised as
  - Value Added (Productive)
  - Waste / Non Value Added (Non-Productive)

The Why . . . What is Really Happening?

What your Customer is Willing to Pay for (value add):

What you Think your Process Looks like:

What the Real Process looks like:



Non Productive – 8 Wastes

Mindset of Removing Non Productive Activities

Direct Observation Steps

1. Observe the Process
2. Identify the Waste Activities
3. Complete Actions to remove/reduce waste activities

DIRECT OBSERVATION TEMPLATE

Item	Non Productive Activity	Waste Type
1		
2		
3		

Observation

Proposed Action to Improve	Owner	Due Date	Current status	open / closed

Action

EXAMPLE

Item	Non Productive Activity	Waste Type
1	Fitter went off to organise an electrician to remove a tray that was in the way	Waiting / Defect/Motion
2		
3		

Observation

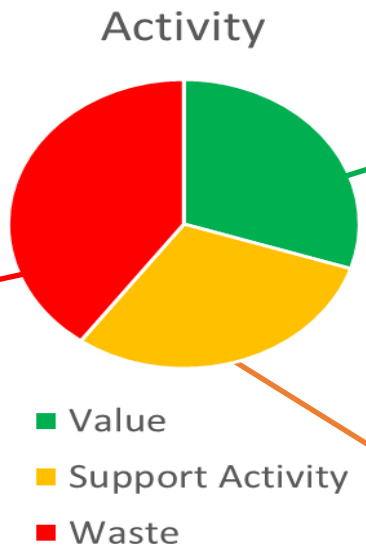
Proposed Action to Improve	Owner	Due Date	Current status	open / closed
Include review of Pipe install constraints in LPS to eliminate requirement to move the tray	MR	1/6/21	Open	

Action

Result

8 Wastes (Non Productive)

- Transport
- Inventory
- Motion
- Waiting
- Overproduction
- Over Processing
- Defects
- Under-utilisation of skills



Value Added (Productive)

Something Changes

- In Shape, Form or Function
- In line with what the customer wants

Necessary Non Value Added (Support Activities)

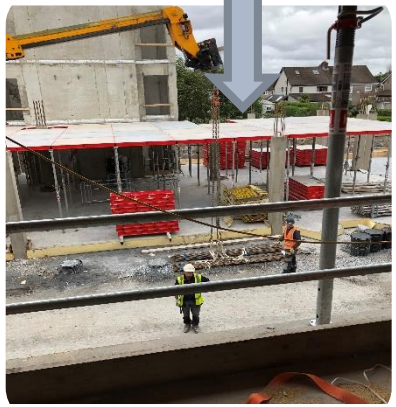
Things we *Must Do* under **Current Conditions** that add no value

CASE STUDY OVERVIEW

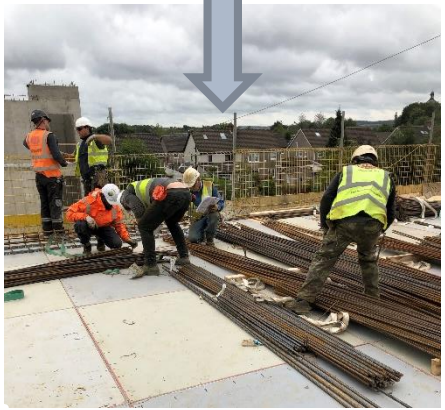
- ❑ Raise awareness
- ❑ Opportunities for Improvement
- ❑ Multistorey Apartments in Cork
- ❑ Direct Observation
- ❑ Focus on Formwork

FORMWORK FOCUS AREAS

Erect the Decking for pouring concrete floor



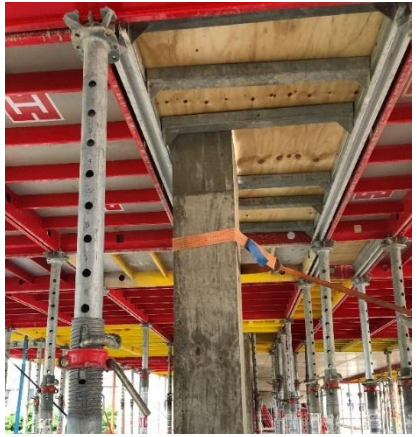
Rebar



Concrete Pour

Strike the Deck

ERECTING DECKING



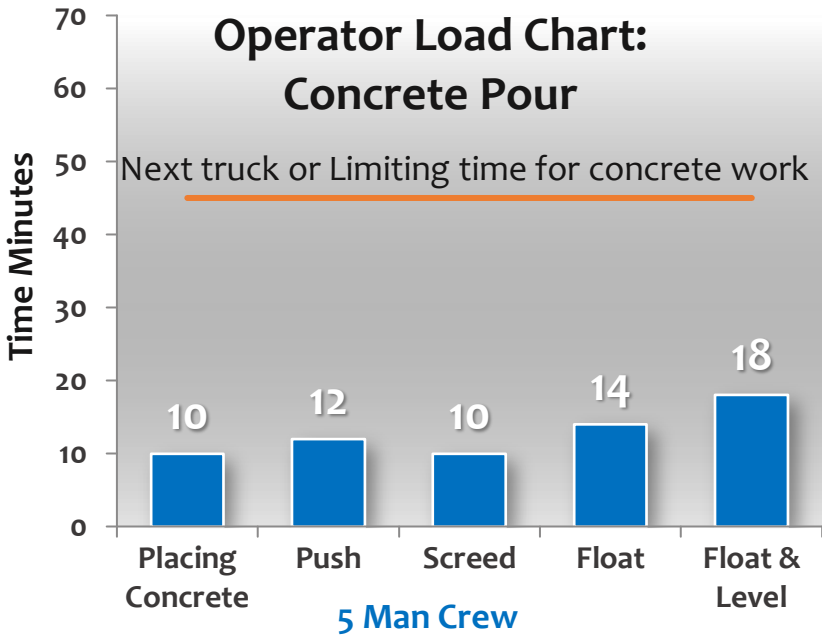
Observation	Type	Action
Walking to get ties / acro etc	Motion	1. Right size stillage 2. Make Mobile 3. Standardise the Process

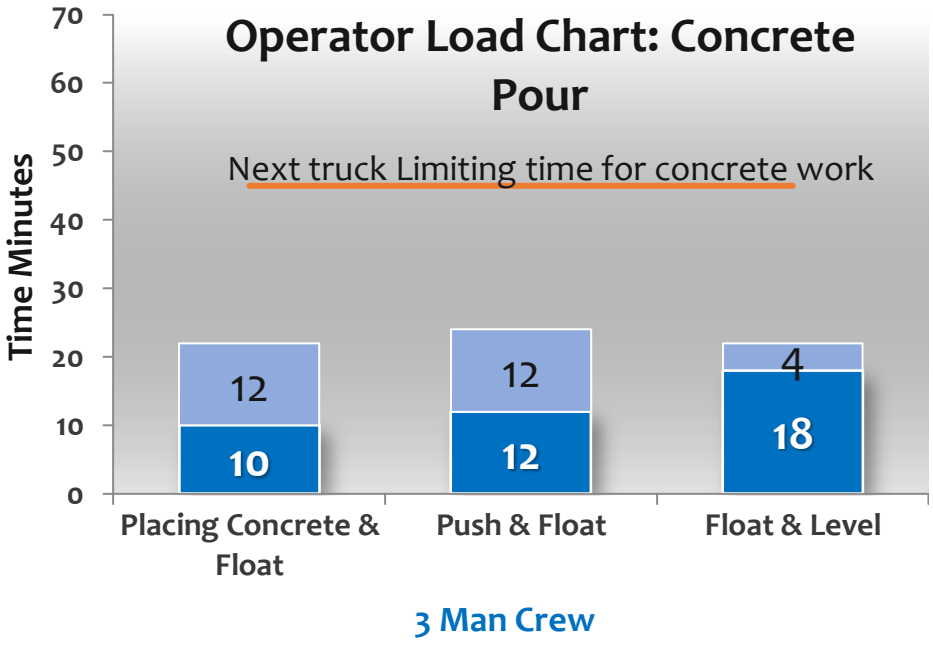
Similar findings with striking the deck

REBAR

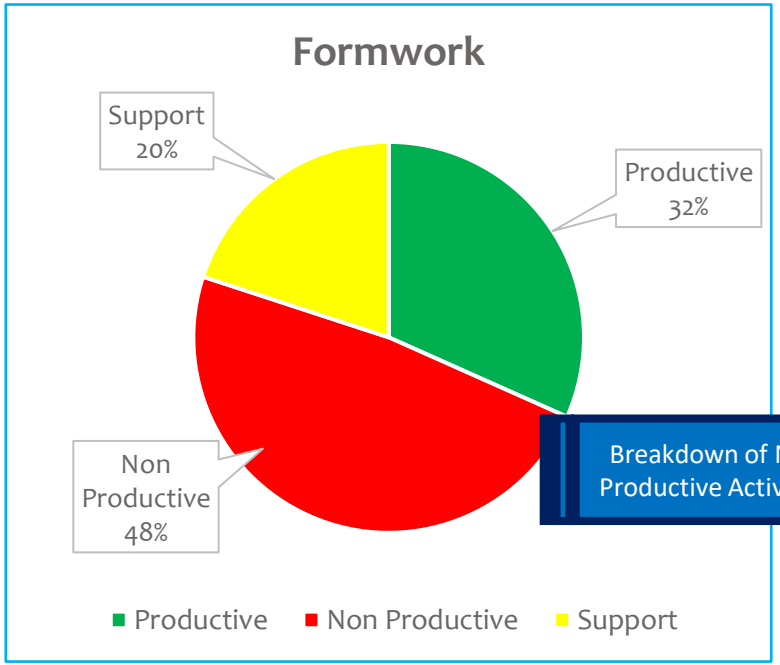
Observation	Type	Action
Searching of the right size	Motion	1. Reduce no of bar marks 2. Colour code 3. Present differently
		1. Reinforcing bar carpet.

EXAMPLE CONCRETE POUR

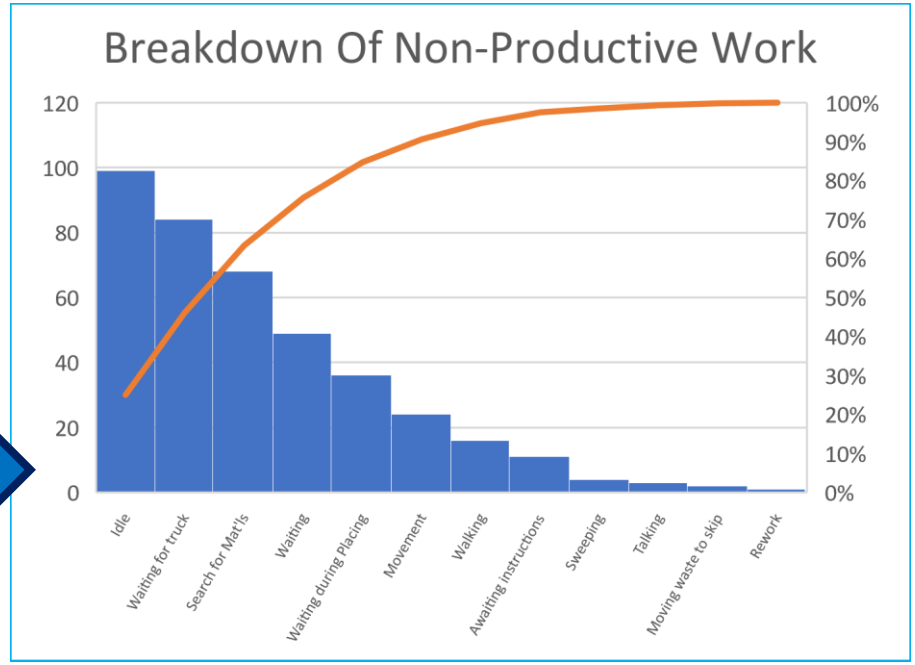




OUTPUT FROM DIRECT OBSERVATION



Breakdown of Non Productive Activities



OPPORTUNITIES FROM FORMWORK

4 Process Areas	Cost of Lost Time €
Erecting the Deck	28.8k
Rebar	9.5k
Concrete Pour	24k
Striking Deck	25k
Total Cost of Lost Time	**87.3k**

Formwork Opportunity

Conservative Estimate

€45k

50% Improvement

€513k Project Opportunity

CLIENT FEEDBACK

> Direct observation studies provided ***simplistic*** approaches to *pre-commencement* activities ***to focus the tasks on maximising outputs*** for operatives once the task had commenced. The pre task organisation brought immediate "buy in" from the operatives on the ground as it removed their frustration in organisational aspects of their task and allowed them to focus on the productive elements.

2020 LCi Book of Case Studies - SISK

About LCI

WHO WE ARE…

Lean Construction Ireland is an all-island, independent, and not-for-profit association whose members passionately believe that Lean Thinking & Practices can enable and sustain enhanced effectiveness, efficiency, productivity, and profitability for the Irish Construction Sector, Clients, and Supply Chain.

WHAT WE DO…

Lean Construction Ireland leads a community of learning and practice that promotes the application of Lean Thinking & Practices throughout the Irish Architecture, Engineering, Construction (AEC) sector so as to realise value-add for all stakeholders in the value chain. It supports the open exchange of knowledge, information, and experiences around good practices and case studies. It also supports ongoing research into Lean practices nationally and globally, their application to AEC, and their sharing with the wider Lean Construction Ireland Community. It is aligned to LCI USA.

CORE VALUES…

Collaboration. Leadership. Teamwork. Commitment. Knowledge. Innovation. Integrity.

VISION…

Deliver Projects Better, Faster, Together

STAKEHOLDERS…

- Public & Private Capital Project Clients & Owners.
- AEC Supply Chain.
- AEC Representative Bodies & Agencies.
- AEC Professional Bodies.
- AEC Academics.
- Lean Construction Trainers & Consultants.
- Lean Business Ireland.
- Ireland Inc.

OBJECTIVES…

To achieve this Vision Lean Construction Ireland will:

- **P**romote the application of Lean Thinking & Practices in the Irish AEC sector.
- **D**evelop a national network of members committed to the application of Lean Thinking & Practices.
- **C**hallenge the status quo of current project thinking and delivery methods.
- **A**dvance amongst all stakeholders the business case for Lean Construction knowledge and skills.

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Should you wish to receive information on the benefits of becoming an LCi Corporate Member, please contact shauna@boxmedia.ie or call + 353 46 9773434