

This file is distributed under a [Creative Commons \(CC\) license](#). This doesn't replace copyright -- which remains undivided with **Derek Drysdale** -- but it makes the terms more flexible. The IGLC community may use this file for their personal use. However, this use must be made within the terms of [the CC license "Attribution -- NonCommercial -- NoDerivative."](#)

This Creative Commons license allows you to reproduce, distribute, display, or perform publicly this file as long as you follow these guidelines:

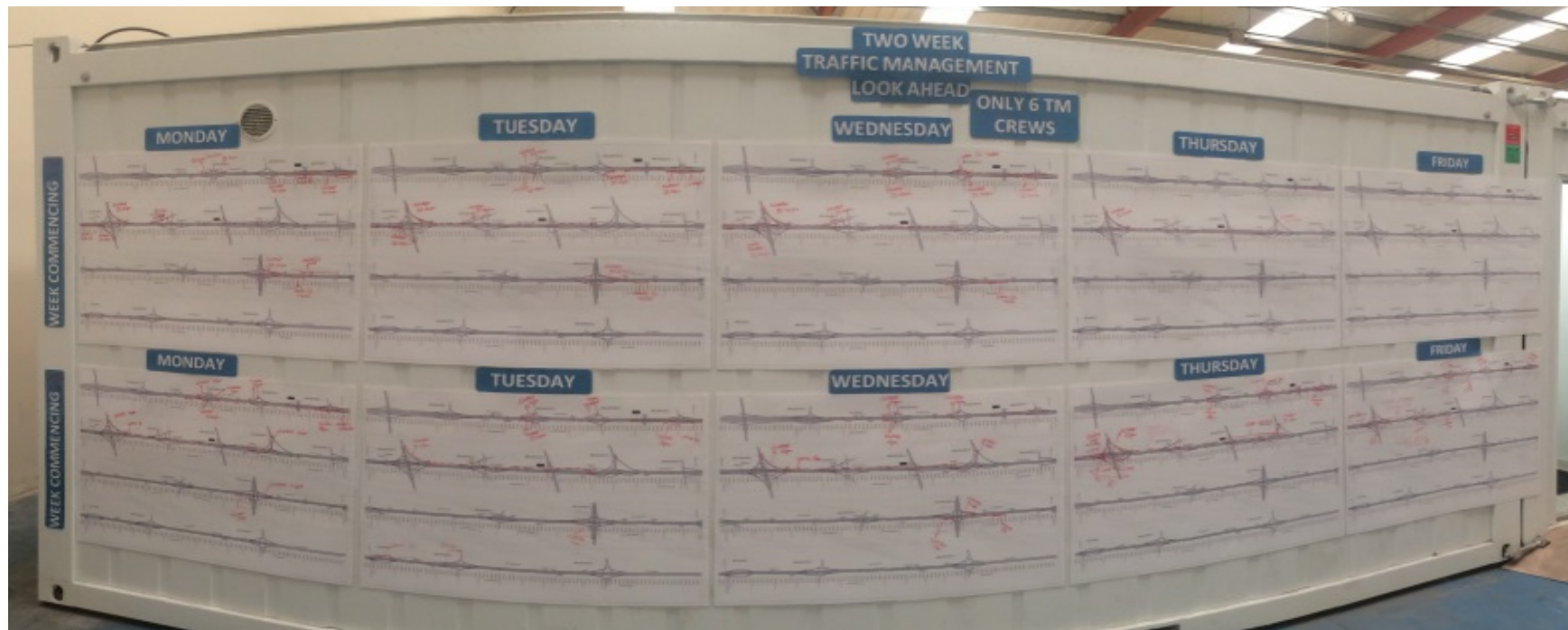
- **Attribution:** You explicitly reference **Derek Drysdale** as the original source of the materials. Please follow the Attribution Guidelines below when referencing this file.
- **NonCommercial:** You cannot use this file (or any parts of it) for commercial purposes.
- **NoDerivative Works:** You cannot alter this file in any way (edit, remix, cut, etc). These conditions can be modified only by explicit permission of the copyright holder (i.e., **Derek Drysdale**). The complete text of the license can be seen on the Creative Commons (CC) website.

ATTRIBUTION GUIDELINES

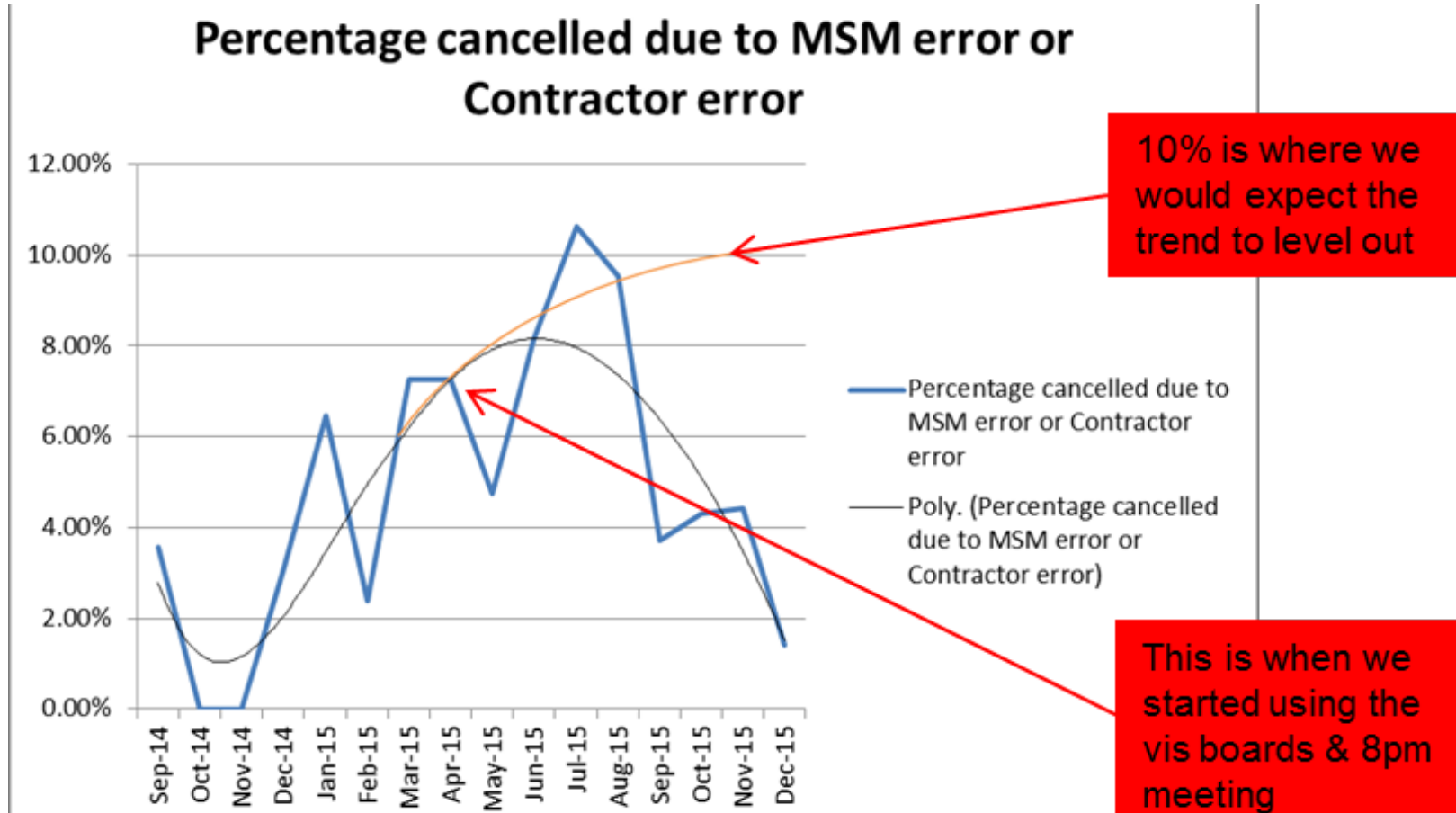
Drysdale, D. (2016). “**Leading and Sustaining a Lean Transformation across a major public sector organisation in the UK**” *Advances in Lean Design & Construction Practice from New England, across the US, and Abroad*” full-day event, IGLC-24, July 19, Boston, USA.

Impact of Visual Management

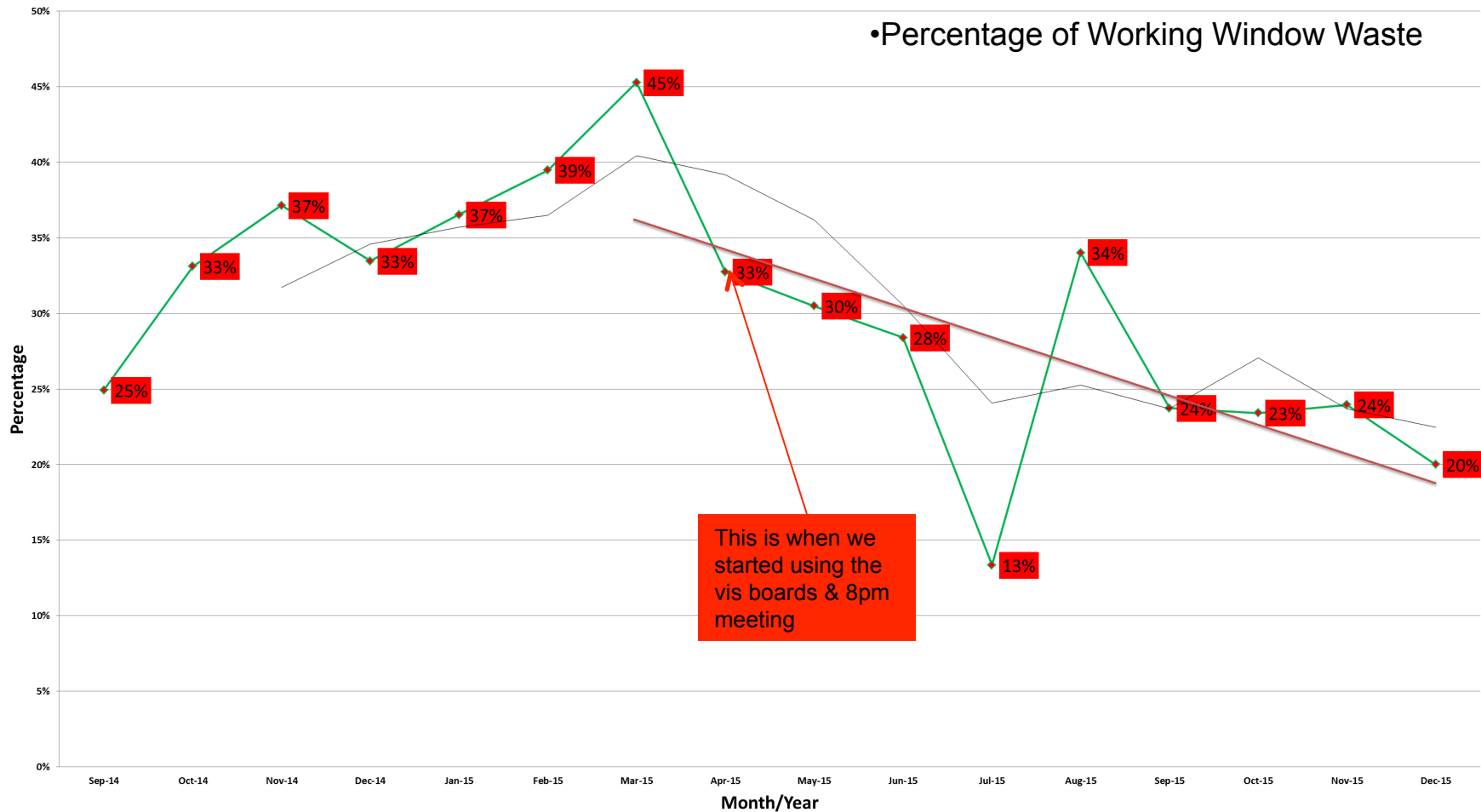
- Two week traffic management look ahead boards.
- Meetings are held at 1pm every Thursday



Impact of Visual Management



Impact of Visual Management



Big Room established

- Visualise the Plan
- Identify and Improve
- Consider "Blockers"
- Look ahead
- Review
- Improve Performance

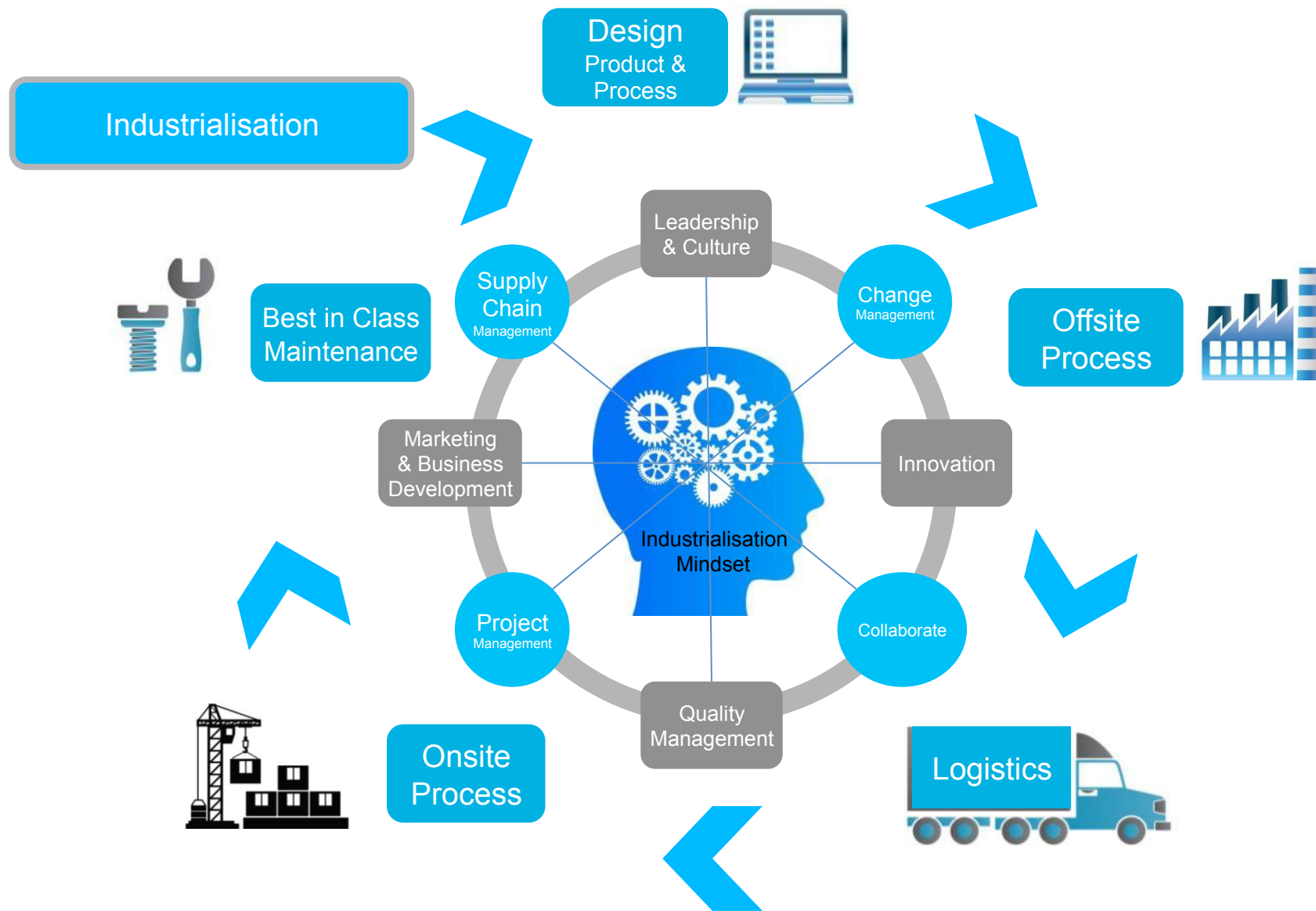


Scheme Delivery Reliability

56%

89%

1000+ projects delivered



SKANSKA

Factory Thinking – What is it about?

Using current Lean Manufacturing tools and techniques in construction



Discipline & Control

Quality & RFT

Supply Chain Mgt

Low Inventory

Visual Management



Factory Thinking – Simple solutions



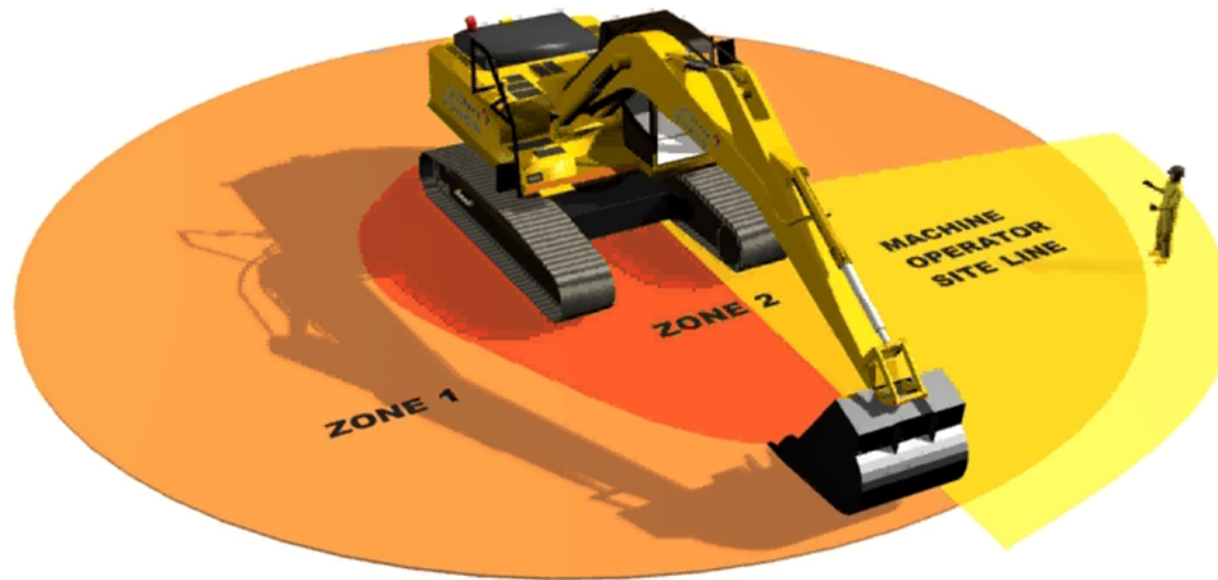
Sleeper replacement is a repeatable operation – use of jigs saves time and labour



People Plant Interface Training

- The PPI training has been delivered to 423 people on the project so far through 15 training sessions.

- PPI of traffic are



use
t
work

People Plant Interface Training

- Within this warehouse we have had the real version for

When it is demonstrating it is the most effective way of showing how quickly the arm can slew at full reach and crucially, how dangerous it would be standing in the red/orange zones.



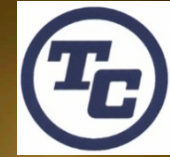
Assessing Lean Maturity



Collaborative Planning

- Visualise the Plan
- Improve
- Consider “Blockers”
- Look ahead
- Review
- Improve Performance





NDD Area 9 Resurfacing Productivity

The challenge was to increase the surfacing output in a night shift. The project was averaging 240 tonnes per night.

Using **Production Management** we were able to help the team increase this by 54% on average with a maximum in one shift of over 1000 tonnes.

In total, we helped to create a cost benefit of £635,000 for the project and reduce the project time by a third or 18 overnight road closures. Fewer overnight closures has customer benefits and reduces roadworker exposure to harm.

Optimising Surfacing Productivity

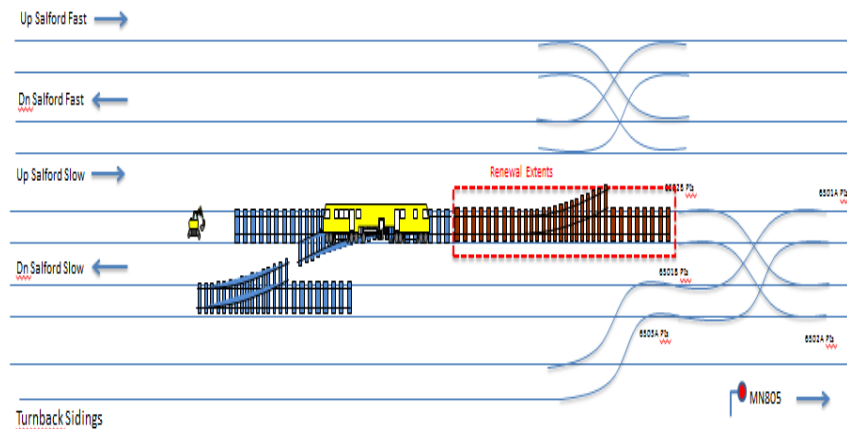
The **1000 T** target

- Review construction methodology, planning sequence, health and safety, access, plant, logistics, temporary works, etc



Planning Track Renewals – limitations of current tools

- ✧ 2D drawings
- ✧ Static powerpoint slides to show activities and the overall schedule
- ✧ 4D Animation
 - ✧ Static view of the process
 - ✧ Can't respond to the changing schedules.

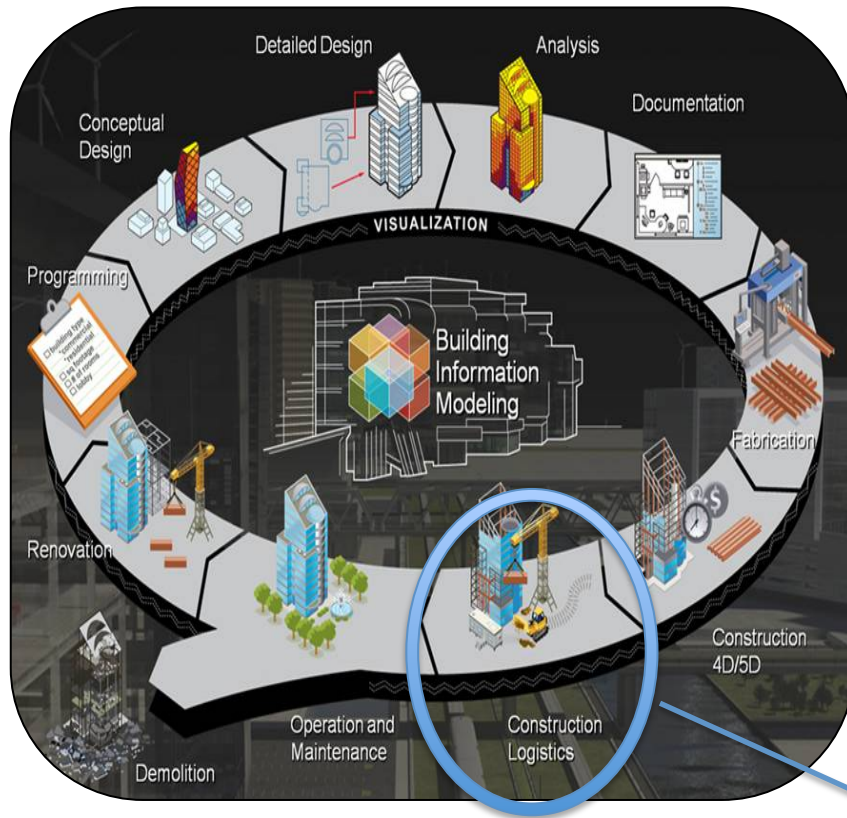


University of
Salford
MANCHESTER

potentially



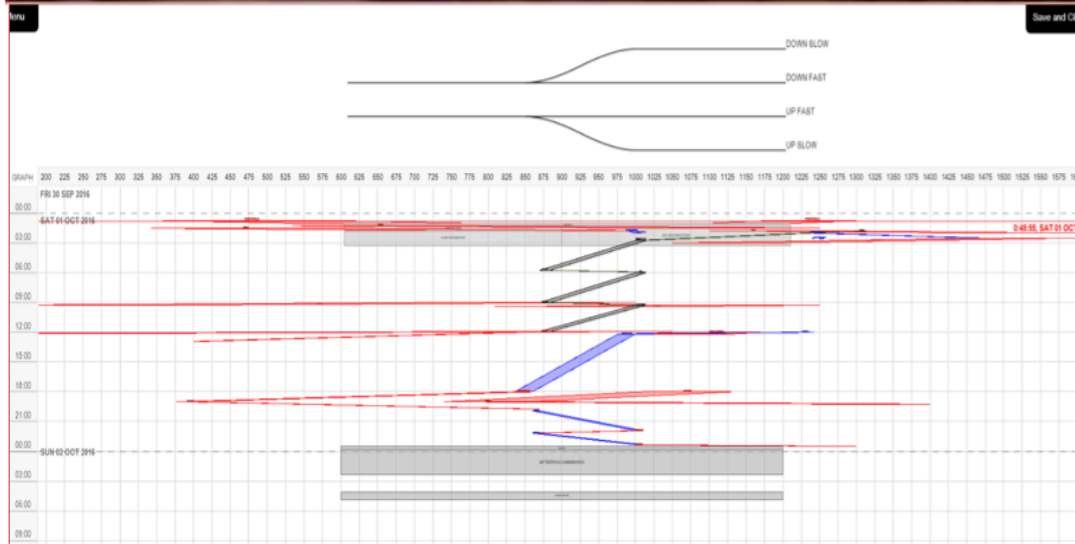
Track Renewal 4D Planning



University of
Salford
MANCHESTER

Use BIM data to
plan track
renewal
programmes

THINKlab Approach for Track Renewal



- Time-distance metaphor to specify tasks.
- Smart library of resources that can incorporate shape, cost and performance;
- Library of tasks from a drop down menu
- Develop tasks and see their operations instantly in 4D

Lean Construction Research Alliance



To create improved project delivery to meet client needs and improved efficiency for constructors.

1

Articulate and demonstrate the need clearly

2

Senior level sponsorship is vital

3

Get key opinion formers onside

4

Learn how to do Lean properly

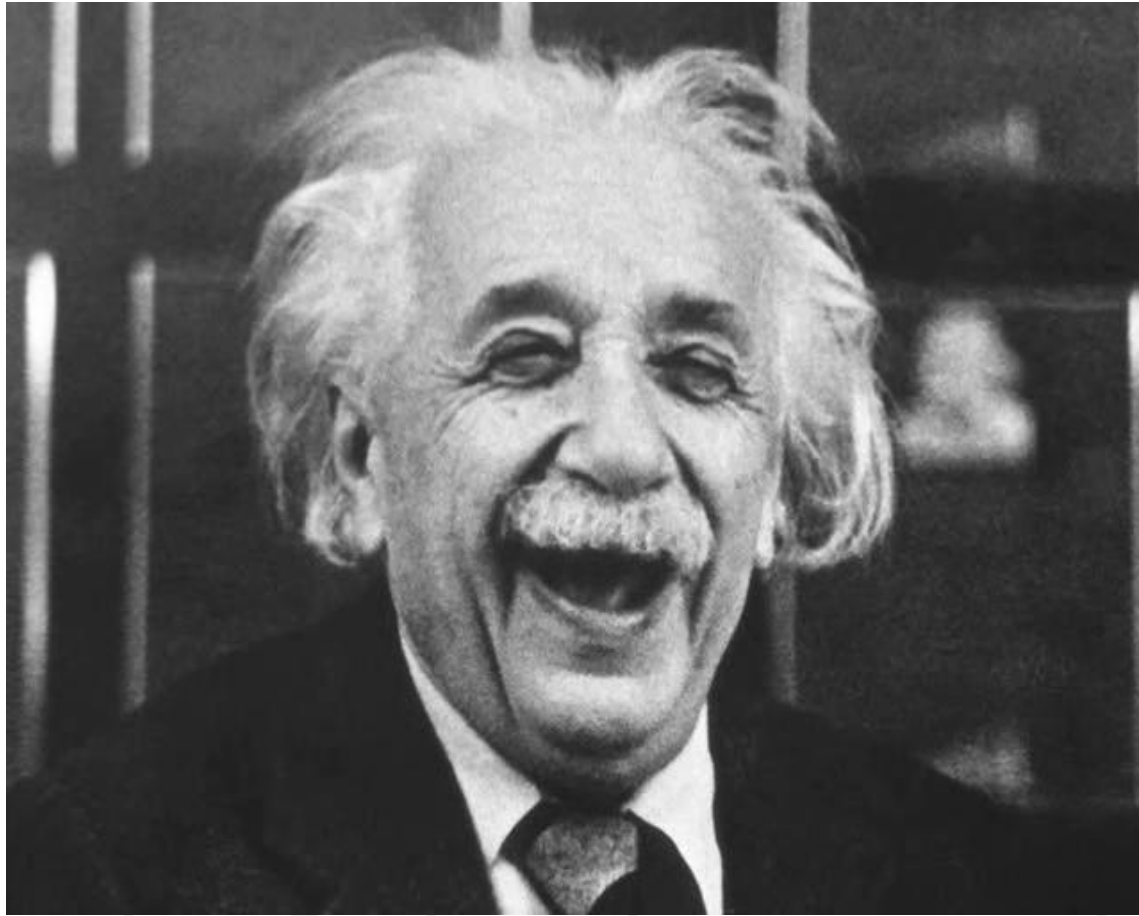
5

Become self-sufficient in Lean

6

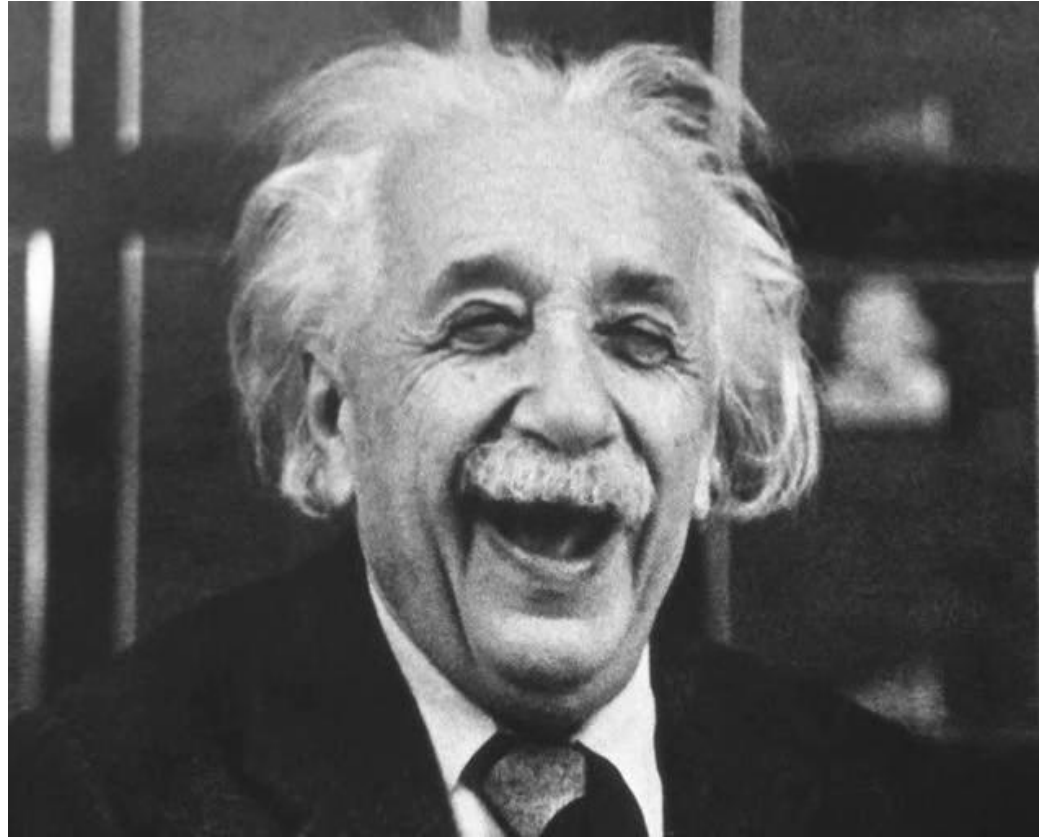
Use Lean as a staff engagement tool not just for eliminating waste





*“Insanity: Doing the same thing over
and over again and expecting
different results.”*

ALBERT EINSTEIN, 1879-1955



“If you want your children to be intelligent read them fairytales but if you want them to be more intelligent read them more fairytales!”

ALBERT EINSTEIN, 1879-1955





DEREK DRYSDALE BSc CEng FICE

Drysdale Lean Construction Consultancy Ltd

M: 07834 273 971

E: derek.thinklean@gmail.com

W: www.thinkleanconstruction.co.uk

University of
Salford
MANCHESTER

