

Lean Benefits and Efficiency Realisation Guide

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Foreword



Martin Bolt

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“We all know of the importance of the Strategic Road Network in connecting the country. Developing and maintaining the network requires investment and securing that funding relies on us showing how efficiently the sector uses it to bring about benefits to UK PLC. Lean can, and does, play a key role in driving that efficient delivery. It is vital that we can demonstrate how effective we are as a sector by showing the evidence of our efficiency, and equally important that we share those examples to benefit others so that we grow and develop as a community.

This guide is designed to assist you through the Lean benefits and efficiencies process.

Through capturing and reporting benefits and efficiencies you are not only contributing to National Highways’ Efficiency KPIs, but you are also making contributions in a wide range of benefits including customer service, safety, quality and carbon reduction.

The knowledge that you are recording, and sharing, as part of this process is also beneficial to the rest of the supply chain and is helping us to strengthen our continuous improvement culture where we learn from each other and progress together as an industry.”

Purpose of this guide

This guide gives step-by-step instructions on how and where to capture and record your Lean projects, Lean efficiencies and any associated benefits.

We have documented each stage of the process that should be followed, with links to relevant examples and complementary resources so that Lean benefits are realised and knowledge from the Lean initiatives can be shared across National Highways and our supply chain.

The guide has been developed following feedback received from Lean practitioners.



Definitions

A **Benefit** is defined as a measurable improvement from change, which is perceived as positive by one or more stakeholders, and contributes to organisational objectives.

Benefits are quantitative/qualitative improvements - for example, money saved, improved customer satisfaction, increased revenue, improved capability, improved safety.

An **Efficiency** is defined simply as: “an improvement in the relationship between cost, output and outcome”.

What “qualifies” as an efficiency for reporting purposes?

- It should be different from previous ways of working (ie not Business as Usual).
- It either delivers cost savings to the current programme, or future whole life cost savings.

We categorise efficiencies into three methods:

- **Economy:** Reducing the cost to deliver the same output.
- **Productivity:** Increasing the outputs delivered in a set time without increasing the cost.
- **Effectiveness:** The relationship between the results of spending on outputs or outcomes.

The importance of capturing and realising Lean efficiencies

It is essential to demonstrate the tangible value of applying Lean management principles to maintain momentum for continuous improvement initiatives across National Highways.

The Digital Efficiency Register (DER) is National Highways' single source of truth for recording efficiencies and must be the primary platform for registering improvement opportunities and ideas.

The Lean efficiency contributions made by projects, teams and individuals across our business and supply chain, have supported National Highways to meet the efficiency targets set by the Office of Rail and Road (ORR) for Road Period 1 (2015-2020) and Road Periods 2 (2020-25).

We are aware that we need to strengthen the visibility and transparency of Lean activity across National Highways, capturing the efforts made to date, so have invested in the Lean Tracker – a digital platform designed to:

- Recognise those involved in continuous improvement activity.
- Facilitate the sharing of knowledge, best practice and lessons learned.
- Demonstrate the ongoing value of Lean as a key efficiency enabler for Road Period 3 and beyond.

Lean efficiencies

Lean efficiency entries should be submitted onto each project's [Digital Efficiency Register](#) (DER), with the 'Lean enabled' box ticked.

To demonstrate an efficiency, evidence must be provided to show a reduction in the forecast/cost, equivalent to the value of the efficiency.

It is crucial to demonstrate that efficiency savings are being achieved through measurable cost reductions within the business.

There are three Lean efficiency driver initiatives available on the [Digital Efficiency Register](#) (DER):

- **Lean**
- **Collaborative Planning**
- **Optimising the working window**

As in Road Period 2 (2020-2025), any efficiency claim over £5m will require a case study to explain the efficiency and include details on the saving.

Lean efficiency claims under the minimum threshold of £250K can use the Lean repeatable:
E-080 Improvements Enabled by the Application of Lean Principles, Processes and Tools.

Lean non-monetary benefits

Lean business improvements aim to result in positive outputs that address the identified problem and result in beneficial outcomes.

To capture non-monetary benefits, from Lean improvement initiatives from across the business and our supply chain, we have our [Lean Tracker](#) digital system with a dedicated section on our Lean project form, which aligns with our organisational objectives:

- **Sustain a well-maintained and resilient network**
- **Delivering better environmental outcomes**
- **Improve safety, health & wellbeing for all**
- **Meet the needs of all users**
- **Provide fast and reliable journeys**
- **Achieve efficient delivery**

Lean recognises the importance of identifying and capturing the positive economic, social and environmental benefits, to sustaining a continuous improvement culture.

Lean Efficiency Driver

Lean tools, techniques and philosophy are used both internally by Nationally Highways and externally by our supply chain to deliver value through business improvements to our customers.

We maintain our requirement for our suppliers to employ Lean principles and strive for continual improvement. Lean is driven through the supply chain at organisational and project/regional levels by means of Lean maturity assessments, which incentivise suppliers to be more efficient.

Efficiency Examples:

- Identifying and stopping activities that provide no value to the customer.
- Reducing the number of steps in a process, so that a process undertaken within a shorter timeframe, reducing the cost of delivery and increasing productivity.
- Standardised processes for consistency in delivery.
- Streamlining the flow of work by removing bottlenecks.

Time saved is calculated as the average cost saving per/hour or day at a suitable rate.

Collaborative Planning Efficiency Driver

Collaborative Planning (also known as Last Planner TM) is a joint collaborative working structure that brings all of the parties together right from the start to plan and deliver their project/programme. It applies a rigorous 5 levels of meeting structure, that focusses on performance, production and assurances. This system of production control aims to improve workflow reliability using the key metric of the percentage of assignments completed. It should be noted that there is a direct correlation between the percentage of assignments completed, the level of productivity and the quality of outputs.

Efficiency Examples:

- Savings in staff time on scheme preparation
- Savings in construction time
- Improvements to the scheme development and preparation process
- Reducing the number of schemes which have issues to be resolved
- Savings in post construction time in resolving issues of billing, pricing and handover
- Savings in post construction time for elements of programme considered at risk.

Combined cost of works estimate (silo activity) minus Combined cost of works (collaborative approach).

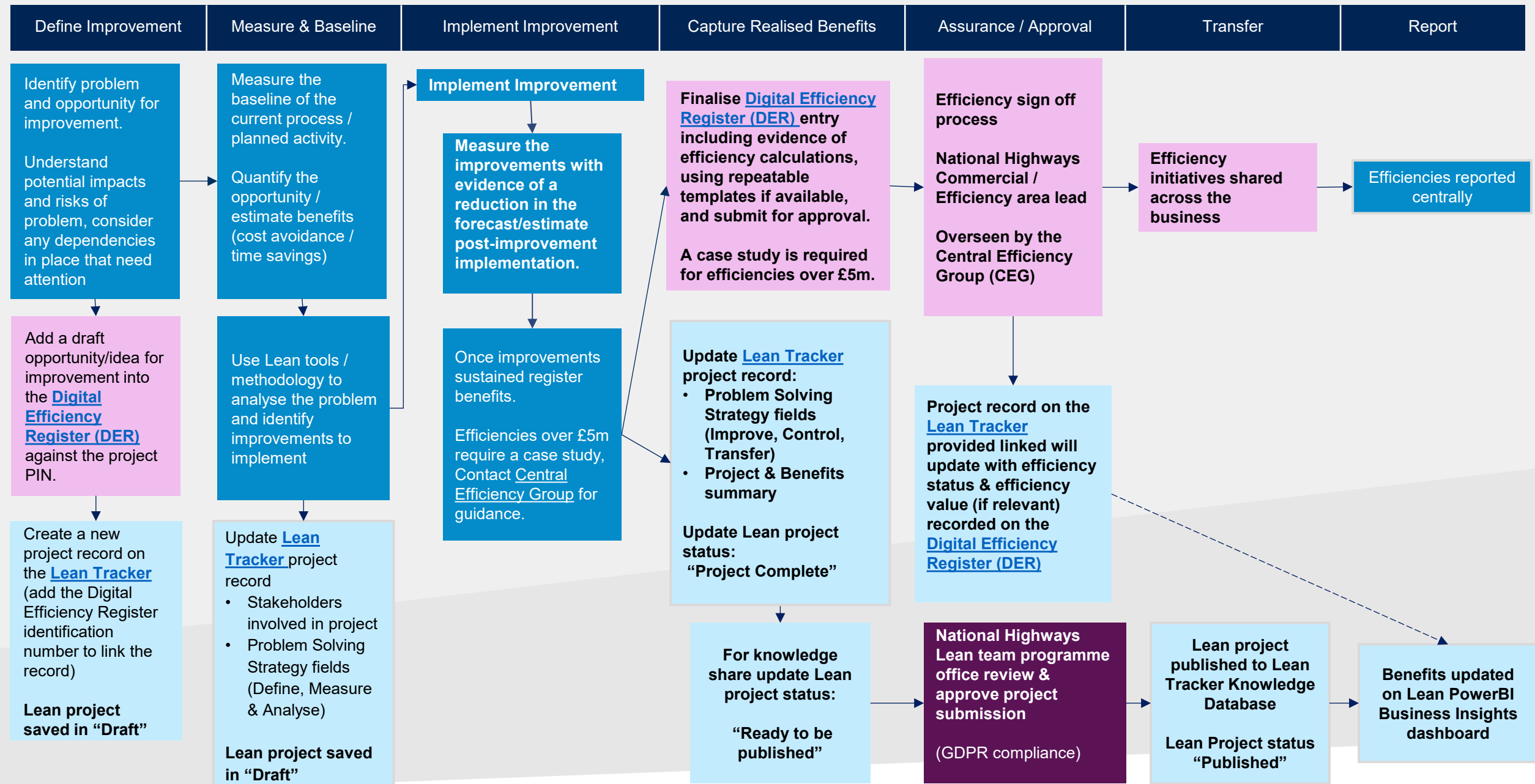
Optimising the Working Window Efficiency Driver

Optimising the working window is a Lean initiative carried out to increase the activities and outputs in a process within a fixed time, whilst minimising the impact on our customers.

Efficiency Examples:

- Minimising the amount of sequential work you have in your programme and maximise parallel working, thus ensuring little time lag between activities.
- Mobilising construction plant into the work area quickly at the start of shift
- Ordering material well before the shift starts reducing delays to the operation
- Working more closely to the end of the working window.
- Reviewing the programme to ensure sufficient and higher levels of material and transport are available to feed higher outputs.
- Using production control to drive performance during the overnight closure.

Activity undertaken in a shorter timeframe reduces the overall cost of delivery.



Lean Project Flow Chart

Reporting

The Lean Group, National Highways Project Managers and Commercial Efficiency Group (CEG) will ensure that the benefits reporting process has been followed.

The Lean Group will review Lean projects entered on the Lean Tracker and where necessary will be in touch to clarify details before publication to the accessible project database.

Reports on benefits achieved will be accessible on the Lean Tracker Business Insights page and a summary circulated with the Lean Newsletter which can be subscribed to, by emailing Leanimprovement@nationalhighways.co.uk.

The Lean Group will also report on Lean efficiency data given to us by the Central Efficiency Group.

Through accurate reporting we will provide a clear narrative to illustrate how Lean enabled efficiency initiatives have benefited the business while effectively lowering costs.

For guidance and clarity on efficiency calculations, efficiency managers can engage with the efficiency_ceg@nationalhighways.co.uk mail group.

Useful contacts/links

Link description	Link
Digital Efficiency Register Administrator contact details	Central Efficiency Group
Efficiency documentation (accessible to both internal and external users)	National Highways Efficiency Resources
Lean Tracker	https://leantrackerportal.powerappsportals.com/
Lean Tracker Administrator contact details	LeanTracker@nationalhighways.co.uk
National Highways Lean Supplier Support	Lean Supplier Support
National Highways Lean Programme Office Administrator contact details	leanimprovement@nationalhighways.co.uk
National Highways Lean SharePoint	Lean SharePoint