

## Highways England

*Highways England Lean Efficiency Programme*

*Joint efficiencies of over £200m with a benefit to cost ratio better than 25:1*

Highways England (previously Highways Agency) is the organisation with responsibility for operating, maintaining and improving the Strategic Road Network (SRN). Highways England is a Government owned company that delivers its services within a 5-year investment cycle and operates under oversight from the Office of Rail and Road (ORR) Regulator.

The motorways and all-purpose trunk roads were planned and developed between the 1930s and the 1960s. In the decades that followed, traffic volumes have grown to a point where the network now transports over four million vehicles a day across the 4400 miles of motorway and trunk road that makes up the SRN. Investment has, however, not increased with such demand.

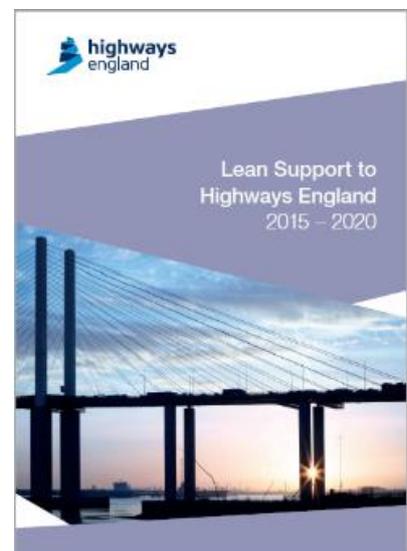
Thus, the quality of the network has declined, and the likes of congestion, noise and poor air quality are problems at numerous hotspots across the network. Continued underinvestment was no longer a realistic option. Highways England needed a mechanism to support a step change in the Network development and to get the best value for its investments.

In 2009 Bourton Group provided consultancy advice on the design of structural and operational changes within the then Highways Agency to enable it to better deliver its organisational strategy, policy, purpose and objectives. Highways England, which employs 3,000 people, and the broader 'highways community' is a multi-stakeholder and cash constrained environment with very high levels of scrutiny and governance.

This assignment was initially to create a strategy for the deployment of Lean throughout the organisation and its Supply Chain. The transition of the business from Government Agency (Highways Agency) to Government owned Company (Highways England) in 2015 has led to further work supporting the implementation of both Lean and of its Supply Chain Strategy, which sets out where Highways England and highway suppliers work together; aligning around clear and transparent shared objectives, engaging on structures to deliver performance and improvement and committing to develop and deliver the capability and capacity for the future.

This was and continues to be a significant assignment in terms of both importance and scale as it set out how Highways England will continue the implementation of Lean in one of the UK's major construction and infrastructure sectors.

*Highways England required support developing and implementing a strategic approach to the deployment of Lean both in its supply chain and within the organisation itself, in line with organisational strategy, policy, purpose and objectives.*



The Lean Deployment Strategy set clear objectives, both for the immediate future and the longer term as follows:

- Delivery of increased Value for Money (VFM) to road users
- Time compression to enable major schemes and other key HA processes to be delivered faster
- Realisation of tangible and auditable benefits in terms of cost, quality and delivery
- Contribution of £250m towards the overall £1.2bn efficiency target for the period (2015-2020) investment cycle
- Delivery of capability across the Highways community
- Delivery of measurable efficiency improvements Significant
- cultural shift towards continuous improvement
- Development of an industry standard for Lean Construction
- Generation of a talent pipeline
- Evolution of Highways England to become a more agile and responsive organisation

To meet these objectives, we developed a strategic approach to drive organisational change covering the structure and role requirements, performance management and culture at organisation, team and individual capability levels. We also set out a comprehensive program to build organisational effectiveness through engaging with and building staff capability – both inside Highways England and within the supply chain.

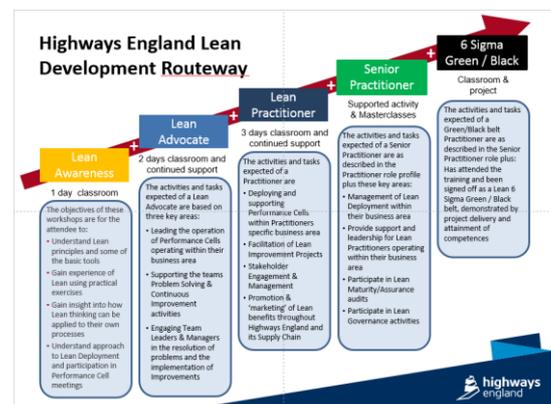
*This approach consisted of four strategic phases:*

## 1. Getting started

- Program set-up and mobilisation through the creation of the Highways England Lean Division
- Senior management and key stakeholder engagement
- Development of strategic plans for both Supply Chain and Internal Lean Deployment Diagnostic and scoping of areas to focus for improvement
- Awareness Raising of Lean within Highways England and its supply chain

## 2. Building Capability

- A program of development for leaders, teams and individuals to enable them to understand the concepts, language, tools and techniques of Lean and their role in the change was developed. This has provided a common skill set and capability development model now being used across the industry (see figure below)



- Roles and responsibilities were developed for members of the deployment team and for the wider improvement community, embedded in Personal Development Plans
- We provided training, development and ongoing support for members of the Highways England community (internal and supply chain team members) within the programme described earlier
- Developed a skill transfer approach aimed at increasing the capability of the Highways England Lean Division to deliver training and support themselves

### 3. Creating an Improvement Engine:

- Bottom-up, work team based improvements involving creating daily work team meetings, visual management, collaborative planning and basic problem solving.
- Lean Sigma project interventions to resolve end to end process problems that often-cross functional boundaries
- Blitz activities to resolve known problem areas by concerted efforts over a short timescale
- Use of Lean Collaborative Planning within Construction and Maintenance schemes
- Top-down, strategic change issues that require dedicated central teams for major step change programs

*Support Highways England in managing the success of the Lean Deployment Programme by:*

- Program Governance and Management through a framework of weekly, monthly and quarterly reviews; dedicated Programme Management support; A3 based reporting and external auditing of benefits

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- Development and maintenance of a Benefits Capture Model that records all major improvement activities
  - Development and deployment of a Lean Maturity assessment approach that allows the Agency to monitor the progress each of its key supply chain partners are making on their Lean Journey. HELMA (Highways England Lean Maturity Assessment) is proving to be a significant driver for the Supply Chain
  - The provision of Coaching in Lean and Lean Leadership for Senior Managers in both Supply Chain partners as well as The HA itself as a means of overcoming implementation constraints and issues

Bourton Group's support has continued through into implementation and support for the delivery of significant bottom line benefits. Much of our work has been within complex and varying networks of multiple stakeholders including other consultancies, major contractors, various supply chain partners and Highways England itself.

It has not been unusual, when providing Lean deployment support to a major contract, for us to work alongside 4 or 5 partners, successfully coordinating their drive for improvement.

### 4. Governance & Quality Management

Summarising from the above we have advised and supported Highways England in the introduction of several best practice techniques drawn from other industries such as:

- Supplier lean assessments – this allows you to assess the lean maturity of each organisation and set targets to improve their ability to provide value in line with strategic goals.

- Value chain analysis – allows a business to assess value and remove waste from the entire value chain.
- Management coaching – developing the right environment and understanding to implement lean
- Lean sigma training – developing internal capability
- Facilitation of lean improvement projects – development of exemplar examples within the business and creating benefits to the business
- Policy and strategy deployment - linking strategy to direct actions thus improving the efficiency of strategic planning activities.
- Collaborative working - Partners with supply organisations including Arup deploying Lean techniques within Highways England to support strategic goals.
- Developing quality Metrics and infrastructure to develop and deliver lean opportunities.

#### *Quality Assurance and Risk*

Initially assurance was focused on supply chain engagement and delivery of efficiencies through the Lean assessments. As the organisation has matured the quality assurance methodologies are changing initially there is a change in the lean assessment system to reflect that maturity. Secondly the business improvement methodologies have become more core to the central business and the business is undertaking a Value chain approach, we are supporting them in the development of quality management systems to deliver efficiencies in this way.

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As part of our commission we are helping the development of new commercial models to be used by the organisation for the future implicit within this is the management of risk and risk provisions.

#### *Benefits delivered; financial/ time / quality / engagement*

The impact of the Highways England Lean Programme can truly be seen as industry changing. The Lean deployment approach, training methodology and specific tools and techniques have had an industry wide impact with Lean practices, such as Collaborative Planning and the use of Continuous Improvement Cells and visual management techniques have become standard practice on all Highways Schemes.

Adoption of Lean has now become a contractual requirement for all Highways England supply partners. Since the infancy of the programme in 2009, joint efficiencies of well over £200m have been shared with the Supply Chain. These have been realised at a benefit to cost ratio often better than 25:1. To achieve, support and sustain this, over 200 Lean Practitioners have been trained – a combination of internal Highways England staff and supply chain partners.

*"Within a five year investment cycle, the Lean Division has committed to the delivery of £250m of efficiencies as part of the wider Highways England target of £1.2bn. After four of those five years the division is well on target to achieving this target."*