



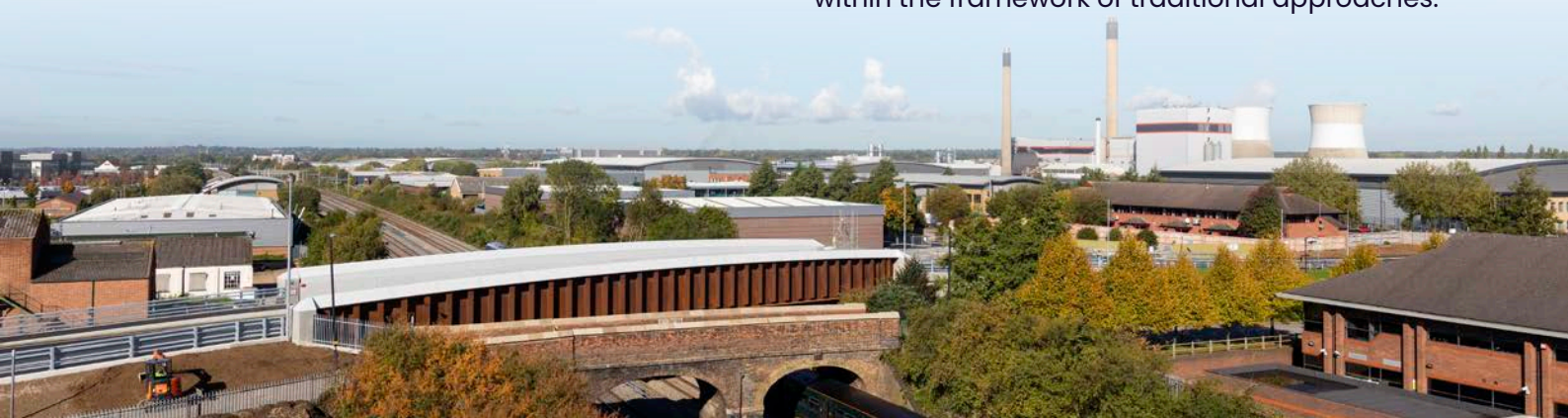
Efficiency Gains Are Out There, But You Need to Think Differently to Find Them

Efficiency and productivity in the infrastructure sector have largely stagnated for many years. This is not surprising when you consider the basic model of delivery hasn't changed much. It's still based on the centuries-old practice of shipping materials, plant and manpower (yes, it is mostly men and the industry's lack of diverse teams is a key hindrance to efficiency and productivity) to the site.

Mechanisation and more effective organisation can only ever achieve marginal gains if the underlying construction methods and technologies remain the same.

Yet the efficiency gains we need to see are significant. It's not just shifting up a gear, it's a case of finding a whole new vehicle - from a Model T to a Tesla, if you like.

The components we are using to build new ways of thinking and working are not revolutionary. Some have been used in other industries for many years. Some have been dotted around infrastructure projects, but still within the framework of traditional approaches.



The main components include the following:

- Data driven decision making.
- An agile workforce that can quickly deploy a range of specialist expertise.
- Early engagement with contractors and supply chains to share knowledge and find innovative solutions.
- New technology that promotes an engaged workforce and greater accountability.
- Novel materials and methods that reduce waste.
- Lifetime value designed-in from the outset.
- Taking account of the value of the project as well as how efficiently it is delivered.
- Detailed knowledge of the asset condition at the start and end of each project.

These components have the capacity to transform efficiency and outcomes when we put them together systematically with a creative and inquiring mindset. These outcomes include greater asset and network resilience, waste reduction and superior lifetime value.

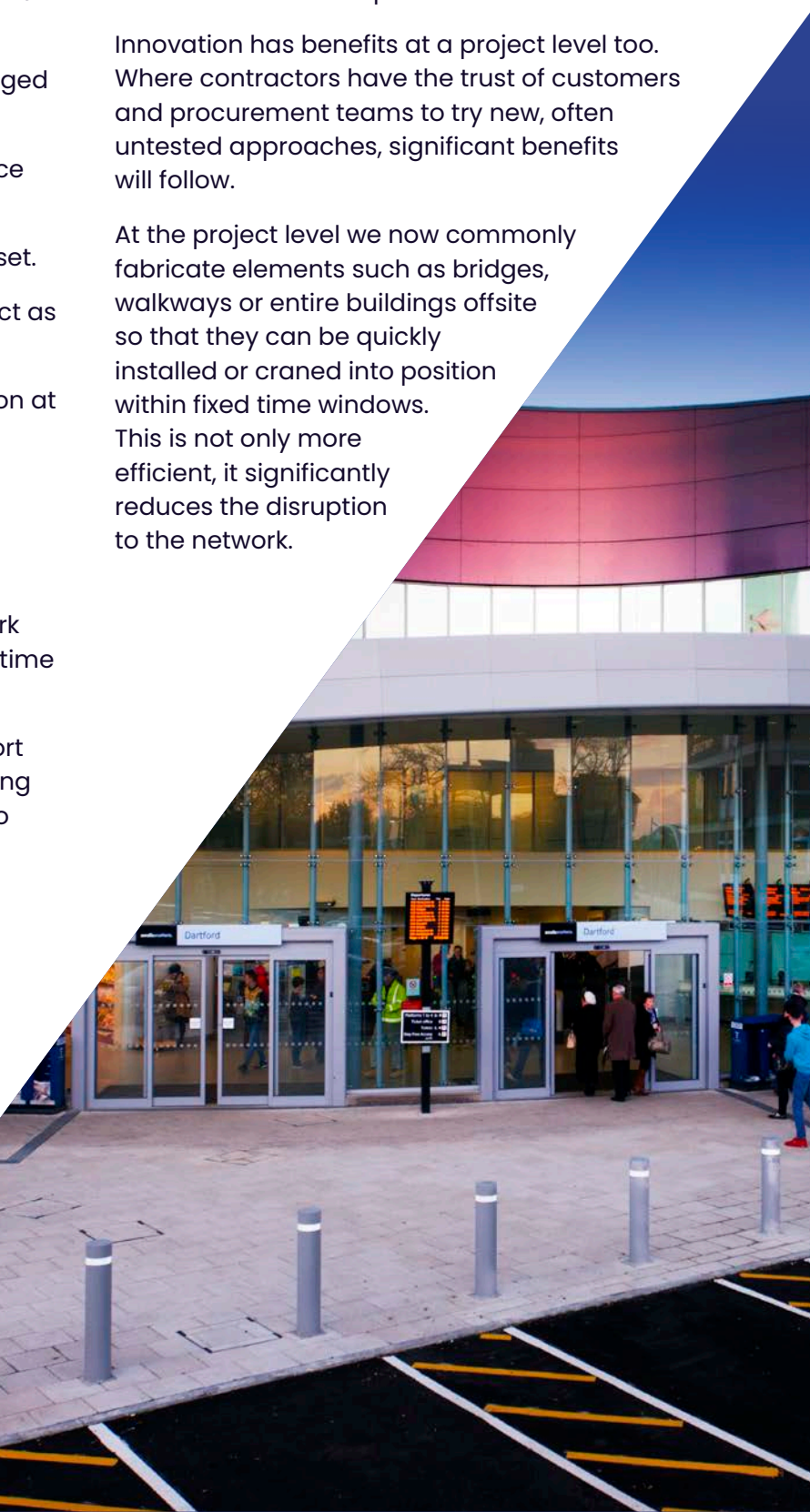
At the same time, procurement must support this evolution by giving appropriate weighting to broader benefits and being more open to innovative solutions.

A Better Product

Innovation can help provide solutions that reduce time, materials or waste without compromising the integrity of the finished product. BIM is the most noticeable innovation at an industry wide level. It helps us to improve knowledge sharing so we can design out issues and risk earlier in the process.

Innovation has benefits at a project level too. Where contractors have the trust of customers and procurement teams to try new, often untested approaches, significant benefits will follow.

At the project level we now commonly fabricate elements such as bridges, walkways or entire buildings offsite so that they can be quickly installed or craned into position within fixed time windows. This is not only more efficient, it significantly reduces the disruption to the network.



Improving Sustainability

Sustainability is a factor no construction or infrastructure project can ignore. Construction work consumes significant resources and can generate large amounts of waste and emissions. This means the sector has a unique responsibility, and an opportunity to make a significant impact on sustainability.

In efficiency terms, sustainability involves the way projects are managed from several points of view. For example, traffic management should minimise the extent and duration of diversions and keep traffic flowing as much as possible.

Buried services management is also critical. Across the UK there are still too many strikes of underground services. These not only bring severe safety risks, they also delay projects while repairs are carried out. The correct approach involves active service detection to ensure everything possible is done to locate underground services before teams arrive on site.

From every project there are lessons to be learned. Part of the efficiency puzzle is to find better ways to understand and share these lessons so that they feed continuous improvement.



Helping People Work More Efficiently

The sector's skills challenges are on two fronts. Traditional skills are in short supply while, at the same time, we need different skills that will come from people who wouldn't have thought of the contracting industry as their natural home. Recruitment is one area where we clearly need to think and act differently.

The challenges continue beyond recruitment. Systems and ways of working have to support engaged and empowered teams. These teams understand the purpose of the project and can make the right decisions at the right time to keep projects on track and deliver better outcomes.

Fatigue management is also important. Several major safety failures over the years have resulted from operative fatigue. We not only have tools to manage onsite time and fatigue effectively, we also have better insights into how to manage mental wellbeing to make sure everyone is healthy, switched on, focused and working safely.

Better Processes

Across all walks of life, people expect more convenience and better service. And they're not slow to take to social media when they feel let down or frustrated. Transport is no exception, with a heightened focus on anything that might disrupt journey times by rail or road.

Greater certainty over timing and quality is being driven by process improvement. Procurement methods can have a big impact by striking the right balance between cost, value and convenience.

With large scale, planned projects it is easier to scope out how to achieve the best value. But networks operate in an environment where they need to react quickly. The challenge is to be responsive while maintaining strict financial controls and accountability.

The Self-Assessment Maturity Model provides a vehicle to improve efficiency. It offers greater insights into the issues and feeds them back into the project planning to ensure things are managed better going forward. It reinforces the importance of integrating knowledge from all levels of the project delivery into planning and implementation processes.



Costs and Benefits

The Cost-Benefit Ratio is increasingly significant as value supersedes cost as the key criterion for evaluating success. Greater efficiency is the way to deliver cost advantages without risking major cost-focused failures such as Carillion or Grenfell.

Ultimately, the drive for efficiency reflects the need to find the right balance between impact, in the narrow and widest sense, and cost. Old ways of thinking and acting will never get us to the optimum balance. But through focused improvements on the product, process and people, the future looks more optimistic and more sustainable.



For more information on how we could help your project please visit our website or contact us by email: hello@octaviusinfrastructure.co.uk