

Putting designers in the 'driver's seat' in the Eastern region

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Infrastructure consultancy AECOM is providing design support on rail schemes across Eastern region. Speaking to RBD, regional director Simon Middleton explained why he believes designers should be in the 'driving seat' at the outset of a project – and how one ongoing programme has benefitted from this approach.

Can you give some examples of what's worked well in your region in the current Control Period?

Our main projects during this control period have been the Northumberland Line and Darlington Station, two quite different schemes. While Darlington followed a more traditional model (with Network Rail in the lead) we've played a different role in the Northumberland scheme, which is led by the local authority, and the largest local authority-promoted rail enhancement in the UK.

I believe that the designer is best placed to control the scope and define the cost envelope at the beginning of a project, working closely with the client. It should be in the driving seat in terms of acting as an interface with the sponsor and stakeholders, and capture the requirements. This should transfer to the contractor when the project moves into the design and build phase. We've seen this approach work quite effectively on the Northumberland Line.

In addition to taking on the role of designer, AECOM has worked with Northumberland County Council to develop the business case for the project. Our team also worked directly with the DfT to secure funding and helped to establish the delivery model. We were able to gain an understanding of different stakeholder requirements, feeding that knowledge into a scope and delivering an efficient project.

Northumberland was also a 'pathfinder project' for SPEED, and AECOM worked closely with the DfT, Network Rail, and a range of partners to do things differently and expedite delivery. We employed a range of new techniques, including MVP. Work was carried out to reduce overlapping roles, and to replace full assurances with spot checks where a competent supplier was in place.

Using PACE principles, we were able to take the project from its strategic outline business case to its final business case in around three and a half years. This would normally take five or six years.

The project is expected to finish in summer 2024 – a full year earlier than the original date in summer 2025.

Are there any lessons learnt from the current Control Period to take forward to CP7?

We've learned valuable lessons about how a project captures its predicted capital cost, and accurately assesses the risk at various development stages of the business case. Where issues such as inflation or unforeseen risks put cost pressure on a project's funding, there can be pressure to reduce costs in other areas of the project. As soon as you start trying to cut costs through 'optioneering' (e.g., changing or removing scope), you can find redesign costs rising.

How can we build on efficiency realised during CP6?

We need to lock in a project's requirements early, with every stakeholder involved in the process. Doing so should help us to avoid any over specification or preferential scope additions that are not aligned to a project's core requirements.

It's also important that the industry is aware of third-party stakeholders, like planning authorities – and that these organisations are properly engaged

throughout the planning and consents process, resulting in assets that meet everyone's requirements. Engagement with the end user/operator is also key, ensuring that works are delivered efficiently and cause minimum disruption.

This all ties in with Network Rail Eastern's new agile client model, and the application of PACE. It's about reducing the number of overlapping roles, embracing that 'one team' approach, and getting projects to their build stage more quickly. Indeed, Network Rail's capital delivery director for Eastern, Rob Cairns, believes that between 70 and 80 per cent of a project's costs should be on 'blue collar' builders, materials, and plant (the "pound in the ground") - the people and resources that deliver the physical end product.

What are the priorities/objectives in your region?

One focus is the concept of MVP, which is helping us to avoid any over specification. It often involves challenging specific standards - applying a greater level of pragmatism and questioning 'the norm' to develop a more affordable and efficient solution.

We're in a strong position, in that a lot of the investment around issues like levelling-up will sit within the Eastern region. So, the key objective will be developing these projects efficiently, expediting the entire process, and ensuring that a larger proportion of every pound invested goes into the ground.

What does the industry need to do to achieve them?

It's about understanding a project's outcomes at the start, before turning those outcomes into requirements, and the requirements into a scope of works. We need to lock that in at the outset and avoid deviating from it - otherwise, you end up wasting time and money.

Similarly, the whole 'one team' collaboration piece is crucial- and that requires the right kind of delivery model, as discussed. When it comes to challenging standards, we need to ensure that the right people are in the room - not just contractors, but sponsors and representatives from the DfT.

A lot of this comes down to leadership. On the Northumberland project, we brought in a programme delivery director, who is now reporting directly to the DfT, dealing with local authorities, and managing those interfaces effectively. Every project of scale needs to have strong, clear leadership.

What new ways of working are you looking forward to implementing over the next few years?

We continue to develop and deploy a range of digital tools to support efficiency

of design development and whether AI can be used to automate more routine tasks – electrification and track renewals, for example.

There also needs to be a cultural and behavioural shift; parts of the industry are pushing against modernisation (and the associated efficiencies) because of concerns about the impact on people's jobs. But if we don't keep up with advances in technology, we'll fall behind quite dramatically.

Finally, I think information sharing between projects could prove hugely beneficial. Rather than surveying ground that has already been investigated, it would be great if all parties would use digital tools to warehouse that information – and save precious time.

CP6 was an extraordinary period, particularly with the impact of the pandemic, has this changed your view of the benefits of rail?

We have seen passenger numbers returning to near pre-pandemic levels, but the legacy of the reduced industry revenues over recent years will remain. The need to spend wisely and quickly realise any return on investment for enhancements has left us with concepts like MVP and the principles of Project SPEED now being considered as business as usual.

There's also the considerable opportunity to move more freight off roads and onto rail and support the UK's net zero aspirations. It all drives the need for increased capacity, and I think the investment that should come through as part of the Integrated Rail Plan is going to bring great benefits to the UK from the perspective of both the climate and economy.

Photo credit: AECOM