RailBusinessDaily

The importance of finding more efficient ways to invest in railway infrastructure

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With Rob Cairns, the Capital Delivery Director for the Eastern Region at Network Rail.

Billions of pounds are being invested on railway infrastructure to increase capacity, reliability and customer experience in the UK.

Major works on all four of the routes within the Eastern Region are underway. Among just a handful of the projects includes the new Brent Cross station, King's Cross re-modelling and the upgrade of the Midland Mainline with electrification being planned up to at least as far north as Market Harborough.

However, with the escalating costs for these kinds of projects, there are concerns that the Government might move away from rail unless different more efficient ways are found to invest in infrastructure.

Rob Cairns is the Capital Delivery Director for the Eastern region for Network Rail. He has spoken to railbusinessdaily.com about the challenge to reduce the costs of projects whilst at the same time completing them quicker.

“It is a big challenge for us to understand how to deliver some of the big capital projects in half of the time and reduce the costs, but one that needs to be done and one I’m sure we will do,” he said.

“There is a burning platform created by our funders, stakeholders and customers wanting something very different from the infrastructure delivery and that’s something we are working hard to achieve.”

Many of the desires, and case for change was already very well made before the COVID19 crisis, but the challenge now faced by the industry and economy has shone a light on the urgent need to make immediate changes.

Rob said: “The rate of increase for rail infrastructure costs is a source of great concern for the industry and funders. Depending upon how you measure the costs for some of the CP5 costs being re-timed, then like for like costs are near 40% greater than they were at the beginning of the last control period, and the majority of that increase lay within the indirect cost base, as opposed to direct construction costs.

“The ‘rate of rise’ is a phrase often used in our engineering, and it applies equally to our infrastructure costings. Unless we counter the trend, then it will not be viable for the majority of many of our assets to be replaced when they reach the point of needing renewal, as the competition for public funds will be to great – and that’s a legacy we must take steps now to avoid.

“The aftermath of the COVID19 pandemic has created a critical moment for the industry, and fortune is going to favour the brave as we must now seriously consider taking several steps which would otherwise feel counterintuitive in the conventional world of UK infrastructure investment.

“Much of our industry assurance activity is well purposed, but it hasn’t kept pace with the industry change – and therefore we’ve been slow to remove the layers of activity that had greater purpose during previous times, when the industry faced very different challenges.

“Every pound is a prisoner and every pound spent on a duplicated assurance between ourselves and our critical supply chain, is a pound not spent on renewing critical frontline assets that will either improve passenger experience or keep the railway sustainable. The burning platform created by this disguises itself well, as streamlining process attracts opposition from those who lose from its withdrawal.

“We are recognising that the many number of industry obstacles are far better served by Network Rail and its supply chain together as opposed to Network Rail alone, so we are already working more closely with suppliers and sharing our problems in order to dramatically widen the pool of thinking beyond our own lens.

“The more we do this the more quickly the industry can move forward.”

It is just over six months since Network Rail transferred responsibility for capital projects from the former centralised system to five geographical regions.

The aim was to enable decision making and responsibility to be devolved away from a centralised organisation to a smaller, nimbler and customer focussed businesses.

This is achieved by having stronger, and uninterrupted ‘lines of sight’ between funding sources, front line operators, customers and ultimately our passengers.

Rob was appointed as Capital Delivery Director for the Eastern region, which brings together the four routes of Anglia, East Midlands Railway, East Coast Mainline and North Eastern Routes.

Every day his team are delivering around £3 million of investment within the Eastern Region Capital Investment Portfolio.

“From a personal perspective, having a far wider span of control results in a far easier process for making decisions, and deciding on the trade-off which are so often needed to maintain project on our investment programmes,” he said.

“You are not wrestling for who is responsible for what, and who is accountable for what. It has enabled me to make intuitive decisions around grouping up bits of work together and consolidating packages of work across disciplines. This might not have been done in the past for fear of stepping on toes.

“Generally, though, there is more flexibility to make bolder decisions and we are working a lot closer with the suppliers, who have stepped up amazingly.

“During the 1st year of CP6 which closed recently, we invested just over £1.5 billion on our Eastern Region infrastructure through our enhancement and renewals programmes, of which around £1.2 billion of that was placed through our supply chain.

“As a result of some superb efforts on the part of our supply chains, it’s pretty clear that we remain on track to beat our Year 2 commitments having already delivered around £300 million of activity in the first 8-10 weeks of this year – and this is a crucial indicator for the maintaining of our commitments into our asset and our supply base.”

A closer working relationship between Network Rail and the supply chain

Recent months, particularly during the coronavirus pandemic, have seen a closer working relationship between Network Rail and its suppliers.

There are 18 tier one suppliers in the Eastern Region, through whom over 75% of all the regions work are placed. In the aftermath of the COVID crisis, Rob and his team are now holding regular calls, sharing business plans and solving problems collectively.

It is this kind of approach that has led to an incredible 80% of the planned work in April and May having been completed – despite the coronavirus pandemic.

Rob puts it down to the ‘amazing work’ of the suppliers and the way they have quickly adapted and invested in new and alternative technology and found different and novel ways to keep going.

He said: “Being so open with the suppliers is something we might have discouraged in days gone by, but this is the new way of operating and one which has brought us all closer.

“I remain convinced that whatever downsides could theoretically exist by sharing all our working progress plans, is more than compensated by the upside of having their perspective and thinking introduced into the equation at a much earlier stage

“It comes at a time that there is a renewed interest by the Government to use rail infrastructure as part of the economic stimulus programme.

“Even before the pandemic took hold and the lockdown was announced there were some pretty bold investment plans being talked about – with a greater shift of powers to councils and mayors and seeing local investment at a higher level, Government backed – such as the Beeching reversals which people are getting excited about.

“We are working in all kinds of different ways with the supply chains, local funders and combined authorities to get these projects going.

“The best way to get some of these projects going in some cases is letting the tier 1 suppliers lead the way and Network Rail just engaging in a support role.

“The coronavirus pandemic has led to new ways of learning for everyone. Red tape has been reduced as a consequence of the pandemic, simply because it is not possible to apply all the red tape the industry has liked to apply in the past.

“The industry has coped quite comfortably without some of the red tape and are finding more innovative and efficient ways to do things. Some of the red tape turned off won’t be turned back on again which is a real positive.

“We have very quickly learned that effective governance, does not have to be expensive governance – and many of the traditional industry approaches to assurance incur a cost which is often greater than the benefit it brings, in terms of both risk avoidance and cost control.

“In many cases, the governance is not effective in identifying significant risk prior to occurrence, nor enabling adequate control for funder decisions to be accurately calculated. Many risk events, or cost changes occur regardless of the governance in place to predict and control them.

“To mitigate poorly applied governance, further governance is added often in addition to, rather than in place of the original assurance event it seeks to mitigate. We simply have to stop doing this.

“To streamline and create a more effective governance layer, we must shift the bias away from just verifying process adherence, and expand it to also test and establish if the right decisions are being taken at the correct point in time.

“In nearly all cases, cost and programme threats occur as a result of the consequence of decision not being recognised in advance. That can be because inadequate use of industry norms are checked as referenced, or an optimism bias is applied to industry configurables such as supply chain capacity, asset knowledge and access availability."

Designing projects to cost

Coronavirus aside, the big challenge facing Network Rail is the pressure to bring down the cost of major infrastructure projects and the time it takes for them to be completed.

For Rob, working closer with the supply chain and designing projects to cost are two key factors.

He said: "Traditionally, we might spend the first couple of years designing what we thought was required and at the end of the two years we would price up the work and all of a sudden at the 11th hour find out that we had created something that doesn't fit the budget.

"This approach caused huge levels of wasted effort, so with a far greater focus on design to cost we are working closer with the suppliers as it is those teams that have got the knowledge, experience, intellect and construction skills.

"It is making sure that before we commit ourselves to the design and investment of the scheme that we use the supply chain to tell us more about what some of the cost drivers are.

"Designing solutions to budget requires a far higher skill level than merely designing for compliance. The trade-offs needed to design within a budget are far more finely balanced, and hence more difficult to judge – put simply, our supply chain have this experience but we rarely leverage it enough at an early enough point in the cycle.

"There has been some great work over the last decade, and some huge investment by our suppliers – particularly around modularising the infrastructure such that manufacture and installation can be more automated and reduce the 'bespoke' nature, which was undoubtably a significant cost driver.

"We need to look at the whole process, particularly the often large chunks of time that gets consumed not on the building, but doing the option selection, procurement, business case, placing or negotiating contracts. The challenge is looking at all these background activities.

"Understanding more about what we genuinely would stand to lose, if we sought to release some process from our investment system, and how could we replicate that governance or that assurance without going through a one or two-year process.

"There have been cases in which we might do a long piece of design process which could save us £250,000, but the cost of doing that process could exceed that.

"It is about challenging ourselves and our funders on what is the benefit of those processes and what do we lose by losing some of those processes.

"Other issues include the white-collar costs, the prelims, overheads, which are now a far larger higher percentage of the cost base than five years – it has gone up from 35/40% to 55/60%.

“Overall though we are seeing real changes and as an organisation Network Rail is being far more open and honest about problems and shortcomings, as are our suppliers.

“I want a culture at which our suppliers’ problems are our problems and vice versa. The more that is done and the closer we are with our suppliers, then the more we can take the industry forward in a way that taxpayers and passengers deserve and is long overdue.”

Rob Cairns is the Capital Delivery Director for the Eastern region at Network Rail