Transport infrastructure expenditure: while there is no strong evidence of significant regional differences, the data available is problematic

The UK government uses a Value for Money framework to help allocate infrastructure expenditure. At the core of this is a benefit-to-cost ratio (BCR), calculated using a set of established monetised impacts and costs. Yet it has been argued that these BCRs are biased towards London and the South East. ***Henry Overman*** *writes that, while there is no strong evidence of significant regional differences, there is a great need for better data that is recorded systematically and published openly.*

Transport infrastructure can play an important role in the economic performance of national and local economies. It reduces transport costs for businesses and commuters, improves access to markets, fosters economic integration, and facilitates agglomeration economies. Given the potential benefits, it is unsurprising that there is debate about how governments make transport spending decisions.

The UK government uses a Value for Money framework to help allocate infrastructure expenditure. At the core of this framework is a benefit to cost ratio (BCR) that is calculated using a set of established monetised impacts and costs, according to Green Book guidance. As part of the debate around transport spending, some have expressed concerns that this method is biased towards London and the South East with implications for how transport spending might exacerbate, rather than mitigate, spatial disparities. The Treasury is currently looking at whether it should reform its guidance to help address some of these concerns.

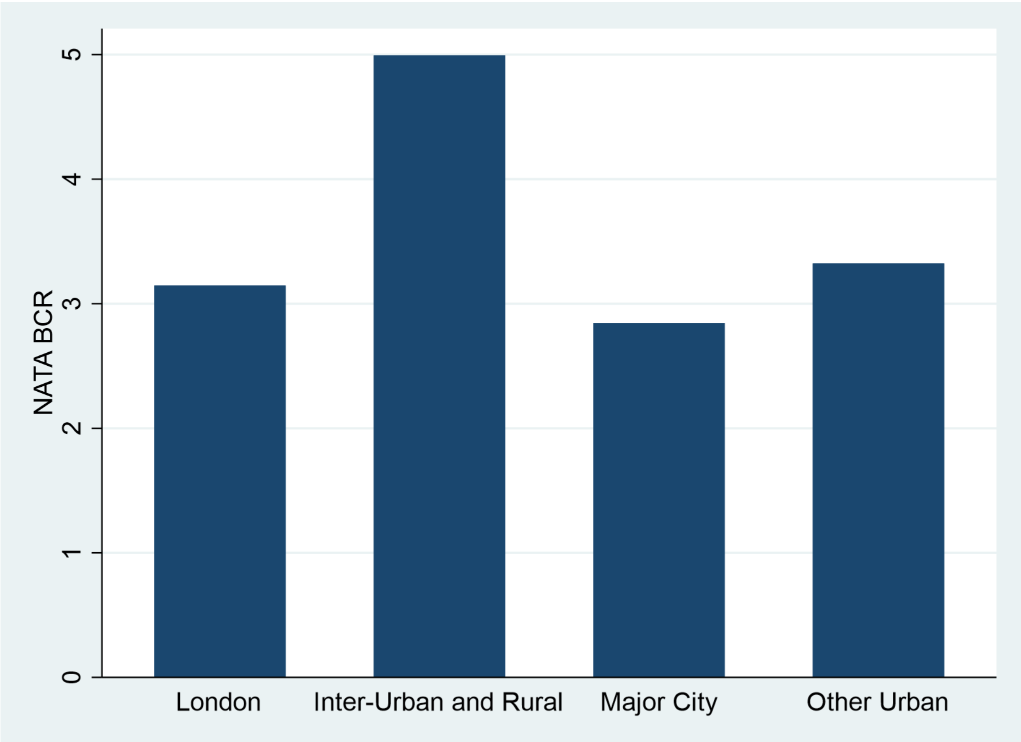
In recent work, Nicolas Gonzalez-Pampillon and I have looked at some of those arguments by analysing which factors explain variation in transport BCRs and whether there is evidence of systematic bias towards particular regions. Our analysis using data on BCRs, controlling for basic scheme characteristics, finds no strong evidence of significant regional differences.

The problem that we faced in our analysis is that the data we have is hopelessly out of date. We use the BCR data from the Eddington Transport Study, published in 2006, which ignores recent developments in the guidance and only reports results for funded projects. Despite these caveats, it has been used by others to support their arguments around regional bias in BCRs.

The first lesson I take from this is that we need better data on BCRs that is recorded systematically and published openly. Currently, the government does neither. This should change. Not just from a research perspective, but because it would allow scrutiny and a better understanding of the evidence that underpins specific transport investments. It would also allow us to better link evaluation and appraisal to see if the benefits that were assumed in the appraisal ended up being realised once the scheme is built and evaluated.

The second lesson involves BCRs: the way in which they are calculated and the extent to which this is well understood. Figure 1 shows what happens when we take the Eddington BCRs and plot them by scheme location. Urban schemes generally have lower BCRs than non-urban. Does this mean that the BCRs reported in Eddington cannot justify the level of investment that we have seen in London? No. Because the Eddington team, in which I played an advisory role, realised the BCRs as then calculated were biased against London and our other cities. At the time (pre-2006), a big chunk of the benefits in the BCR were calculated based on travel time savings from investments. These were valued using national wages. But the BCR used actual costs. So, if you were appraising a scheme in London, it looked expensive, but the benefits looked small because the BCR ignored the fact that employment in London is much more productive. After Eddington, two major changes were introduced to address this problem – the inclusion of wider 'agglomeration' benefits and of land value uplift. These benefits do vary by region and, somewhat ironically, are now cited as evidence that today's BCRs, calculated to include wider benefits and land value uplift, are biased in favour of London and the South East.

Figure 1. BCR by scheme location



To summarise, the [BCRs that we use to make investment decisions](#) today continue to use actual costs but national wages. Wider agglomeration benefits and land value up-lift, that are now included in many of today's BCRs, offset this because they vary by location. While we can quibble on the details (e.g. what value of time should we use when people can now work on the train) this seems like a reasonable compromise to get at the benefit-cost ratio for many projects.

But this doesn't mean that there aren't problems with the current Green Book guidance. One problem, as highlighted by [Diane Coyle and Marianne Sensier](#), is that the guidance is bad on transformational projects. This is not a problem of the way that benefits are priced (monetised) in our current guidance, as discussed above. Instead, the main problem is that BCRs constructed according to the current guidance still aren't very good at dealing with projects that induce large changes in either prices or quantities. When lots of new employment is brought to an area and housing and office markets boom, BCRs mostly ignore these benefits. This is not a question of bias towards one part of the country, however, because the guidance struggles with these kinds of projects wherever they are located.

How do we fix this?

One easy change is in the way we report BCRs. Currently, the guidance focuses on the national impacts of a scheme with local BCRs playing second fiddle. For schemes that are explicitly about changing the distribution of employment across the UK – e.g. helping level up – this should change, and we should pay as much attention to the local BCR as we do the national. When we're doing this, however, we just need to be careful that we also consider the local BCR in places that are likely to lose those jobs. Comparing the two will give us a feeling for the balance of winners and losers when we use transport investment to shift around jobs.

Beyond this, with the methods available, I think we will struggle to accurately capture transformational and levelling-up benefits in the BCR itself. But we need to do something because otherwise claiming that a project will be transformational or help with levelling-up becomes a way of avoiding challenge when BCRs look low. Indeed, I worry that we already see this in many of the claims being made about transport's role in helping level-up our poorer towns and cities.

The solution is to make sure that these claims are subject to the same sort of scrutiny as is currently reserved for the BCR. This means carefully assessing the strategic case and the evidence that is used to support it. Careful scrutiny of the strategic case also means that it needs to be made available before we construct the BCR for a given project. But this should be happening anyhow. If we don't understand the strategic case for a project, how can we ever hope to properly assess the costs and benefits?

Note: a version of the above blog was first published on the What Works Centre for Local Economic Growth website.

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