

# WHY IS INFRASTRUCTURE INVESTMENT IN BRITAIN SO DIFFICULT TO DELIVER?

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The consequence of the 'project wish list' approach rather than an integrated plan is not just that many things don't get done, but that the costs tend to be much higher

It all seems pretty straightforward. A new high-speed railway, an interceptor sewer for London, upgrades of the national electricity grid, the roll-out of rural broadband, new runways, and improving major roads are all fairly straightforward construction projects. Digging tunnels, laying concrete and tarmac, and building track and cables are not rocket science – it is all familiar stuff, which industrialised countries have been doing for a couple of centuries. The Victorians managed it, the Chinese are doing it, and Hong Kong built a major new airport very quickly. Yet in Britain, it is currently proving extraordinarily difficult to get any of these projects done. Why?

There are some obvious excuses. Britain is densely populated. It is a democracy based upon geographical constituencies. It already has lots of legacy assets in place. Yet other countries have these features too and they get things done. Britain finds it hard to make decisions, hard to stick to them, and harder still to implement them. Costs are typically high by international standards and, except in special cases like the Olympics, delivery is a struggle. It took more than 15 years from the decision to go ahead with ten new Pressurised Water Reactor nuclear power stations in 1979 to the delivery of the first and last one in the mid 1990s. Terminal 5 at Heathrow met only the last budget and the last timetable. It took a couple of decades to join up the Channel Tunnel with

a high speed railway to London. The upgrade of the West Coast mainline railway cost a staggering £8 billion. And so it goes on.

Looking forward, the recognition of the need for new runway capacity in the south east has not been followed by any decision about where or when to build. Sewage floods into the Thames after storms whilst the government and the regulators dither about deciding how to build a sewer system fit for purpose. The current nuclear saga rumbles on – already seven years on from the decision to go forward. Most extraordinarily, the saga of High Speed 2 ('HS2') would be hard to make up. How can it possibly cost £50 billion to build a new railway line?

There are too many examples for there to be anything other than serious structural problems with infrastructure investment in Britain. These problems fall into three broad categories: planning and system design; finance; and delivery.

## PLANNING AND SYSTEM DESIGN

What distinguishes infrastructure from most other forms of investment is that it tends to be large scale, system-based, and integrated. Big lumpy investments like new railway lines require a degree of planning and government commitment over a long period of time. Take the new airport decision. This has to be a political matter. Where the airport goes depends upon the question to which

it is supposed to be the answer. If, as the London Mayor seems to think, the question is how to provide for a major expansion of the London population and how to maintain London's international competitiveness as a financial centre, and if his answer is that the City has to expand to the east and not the west, then the airport needs to serve this population. The north and south banks of the Thames on the eastern side may well be the best places to put new port facilities, new houses, and new Canary Wharfs.

Add to this the need for interconnections with the railway system, and the airport decision affects the design of the high speed railway network. If the growth is to the east, then a new flood barrier looks essential. The design of the new sewers and where and how the sewage is treated and discharged depends upon where the population is going to be.

The result is obvious: there needs to be an integrated plan. It is inescapable, and yet a quick glance at the latest update of the National Infrastructure Plan reveals that is precisely what is missing. Instead, we have a list of large (and typically prestige) projects.

The consequence of the 'project wish list' approach is not just that many things don't get done, but that the costs tend to be much higher. Consider what will happen if a new runway is built at Heathrow as a discrete project independent of the railway system or indeed any other network decisions.

## Britain has a uniquely complex way of reaching decisions and a track record of changing them once made

Presumably, more and more people will be crammed onto the existing roads and it is hardly convincing that Crossrail will solve more than the direct London connections. Like the Channel Tunnel – without a fast train for decades – Heathrow could have lots of planes and passengers who will for years face the hell of getting to and from the airport. This costs the economy money, and too often the projects are designed discretely without thinking through the subsequent interconnection costs.

But the difficulty is not just the inability to create a joined-up infrastructure plan. Britain has a uniquely complex way of reaching decisions and a track record of changing them once made. Consider the costs of consultation processes. Consider the need to explore and develop all the options. Consider the endless lobbying and delaying techniques. Consider the legal challenges. It all adds up to great costs even before anyone gets on a digger or pours any concrete.

Some might say that this is just the price of democracy. But democracy is not in itself a force for inertia. A core difficulty is that Britain has few means of compensating the losers, and so they have every incentive to complain and obstruct progress. A common sense way of deciding whether to go ahead with a project is to work out if the costs are less than the benefits. If this is true, then the gainers could compensate the losers. This is a familiar

test in economics. But it is the next step that counts: the gainers should compensate the losers, leaving everyone at least as well off. If HS2 is such a good idea, then those adversely affected can be paid off and the project is still worthwhile. Compensation takes the sting out of decisions, and it needs to be institutionalised.

### FINANCE

Next comes finance. The problem here is not so much the upfront high capital costs and the time period, but rather that for most infrastructure projects whilst the capital costs are high, once built, the marginal cost tends to be low. So there is a temptation, once the project is completed, to force the prices down to the marginal costs, and therefore expropriate the investors. This is the time inconsistency problem – promise ex-ante a decent return, and then ex-post push the prices down.

Fortunately Britain has developed its own rather good solution to this problem in the utilities. It is called the regulatory asset base ('RAB'). Utilities carry out capital projects and, once completed, the costs are transferred to the RAB, and the regulator ensures that investors get a return on that RAB. The regulators' commitment to the RABs protects against expropriation. It works extremely well in the water sector and quite well in electricity transmission and distribution; it also underpins railway networks, and

## There needs to be a financial framework which allocates risks to those best able to manage them

works reasonably well for airports with monopoly power, like Heathrow.

Unfortunately, the government has turned its back on extending the RAB model to other parts of the infrastructure sector, instead trying to underpin the project delivery itself through Treasury guarantees. Precisely the risks that ought to be placed on the private sector (making sure the project is built to cost and time) because it is best-placed to manage them, are being underwritten by the government. Meanwhile, the fixed and sunk costs associated with the time inconsistency problem are left hanging and ripe for ex-post expropriation. No wonder the cost of capital is so high for these projects, and since the cost of capital is absolutely critical to the overall project costs, it's not surprising that infrastructure projects are so expensive in Britain.

### DELIVERY

The third problem is delivery. Why can't the British build on time and to budget? Here at least, we have lots of examples to examine and learn from. Take two – the London Underground upgrades and the Olympics. The London Underground upgrades were delegated to Public-Private Partnership ('PPP') contracts. These performed in very different ways. The first one – Metronet – demonstrated almost every imperfection in the consortia design, its interests and its management – and it collapsed. Tubelines, by contrast, was altogether better, but it ran into

a simple but insuperable barrier – the client kept changing its mind about what it wanted done. Rigid fixed contracts could not cope easily with such inconsistency. Yet flexibility to learn as you go along and make changes is often very desirable. Tubelines was, at heart, an example of failures in contract design.

The Olympics is by contrast regarded by many as an exemplar case. Not everything was quite perfect, and it had a very generous (and repeatedly increased) budget. But what it had going for it was a very clear deadline. Reputations were at stake in a very public way. The designs had to be fixed and kept to. It had to be co-ordinated. And therefore it needed clear and direct management. The result was – against much expectation to the contrary – delivery on time.

What this all shows is that not only should infrastructure be straightforward, but that it can be. However, not on the current path. It needs three key ingredients. First, there has to be a plan – an integrated plan across the networks – designed to address a simple question: what is needed to support a modern economy with a rising population? Second, there needs to be a financial framework which allocates risks to those best able to manage them. The RAB model has a great deal going for it. Third, contract design matters, as does project management. None of these is particularly difficult in principle,

but it takes political will and institutional structures to carry them through.



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