

The cover features a stylized illustration of a city corner. A brick wall, rendered in shades of blue and black, forms the corner. In the background, a building with windows is visible. A bright yellow arc, resembling a sun or moon, curves across the top right. In the foreground, a small green plant with three leaves grows from a square patch of yellow tiles on a grey cobblestone floor.

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the argument against HS2 – part 1

Mayer Hillman argues that on carbon dioxide emission grounds alone we should say 'no' to HS2

The decision to proceed with plans for High Speed Two (HS2), the high-speed rail link from London to Birmingham – and thereafter to Manchester, Leeds and Glasgow – has certainly been made very much easier by the near-unanimous support for it from all three of the main political parties. It fits in well with the commonly-held view that governments have a responsibility to do their best to meet the demand for what people like to do, such as being able to travel further and faster when they wish. Lord Adonis, when the Labour Government's Secretary of State for Transport, referred to the proposal as 'manifestly in the public interest', and his Coalition successor, Philip Hammond, stated that there was no doubt in his mind that it is 'necessary and right – for the rail industry, our economy, and our country as a whole'.

It mirrors, too, the call from a large number of leaders within the business community, the rail unions and well-informed media commentators on public policy for more investment in 'infrastructural projects'. In a recent *Observer* article, Will Hutton criticised the current Government for its failure to give the go-ahead to the new airports and railways 'we so desperately need' to speed up the country's return to economic growth. Academics and economists in this field hold not too dissimilar views. In the July/August issue of this journal, Peter Hall, put forward the view that, subject to improvements being made to the alignment of its route, it would be 'a tragedy' if HS2 were abandoned.¹

Very few transport planning and engineering consultants have raised concerns about this addition to the rail network. However, as a significant number rely on government commissions and are working on this one, the absence of comment from them should not necessarily be taken as demonstrating their support for it. Even if they do have private doubts,

they may feel that their involvement debars them from voicing in public any concerns they may have about the case for proceeding with its construction.

Finally, provided that improvements are made to the proposal, such as more tunnelling, a consortium of environmentally-oriented bodies, including the CPRE and the RSPB, and other lobbyists whose aim is to put a green perspective on public policy such as the CBT (Campaign for Better Transport), have nevertheless come out in favour.

The implications of climate change

HS2's supporters appear to be unaware of the critical contradiction between aiming to meet the growing demand for high-speed long-distance travel by road, rail and air while at the same time limiting the devastating consequences of climate change. It may be that they are in denial of the scientific evidence on this; or think it insufficiently relevant to the current policy of promoting economic growth. But no domain of policy can sensibly be determined without reference to factors that could substantially affect it. In this instance, the overriding consideration relates to the impact of climate change on the future habitability of the planet and the quality of life of its inhabitants. Appropriate decisions on future investment in transport generally and the rail network in particular are a case in point.

Now that the significance and implications of climate change are becoming more widely understood, a distinction must surely be made between developments that are detrimental to our long-term future (such as those resulting from policies which facilitate, if not subsidise, carbon-intensive activities) and those which are not? Current patterns of fossil fuel-based transport activity alone are already way in excess of the safe level that will prevent us from reaching the tipping

point beyond which the equilibrium of the climate system can no longer be assured.

The cost-effectiveness of the proposal

In an accompanying article below, Chris Stokes, a former Executive Director of the Strategic Rail Authority, outlines his reasons for challenging both the cost-effectiveness of the decision to give the green light to the first stage of the high-speed rail network, and the claim that it would prove to be an important means of investing in Britain's prosperity. He argues that the proportion of passengers who would transfer the journeys they presently make by car or air to HS2 would be very low. The great majority of car travel that takes place on cross-country routes could not possibly switch to the new network and, in any case, domestic air travel accounts for no more than 1% of national person-travel miles. From this perspective, the contribution that HS2 would make to reducing Britain's carbon footprint would be minimal.

He could have added further grounds for concern about the cost-benefit ratio that has been cited to justify the case for this investment – the fact that *all* the costs and benefits of the proposal have not been incorporated into calculations. They include those stemming from adding further greenhouse gases from fossil fuel use to the current disturbingly high atmospheric concentrations. These gases are already the cause of the deteriorating condition of many regions around the world, leading to the enforced migration of millions of people who obviously deserve compensation.

Surely, the costs incurred, in so far as they can be calculated, should be included in the cost-benefit analysis. If this were done, they would easily exceed the costs of blight and loss of property values in the UK along the route using 'recognised procedures'. This is a major moral issue that remains to be addressed. Were these additional costs paid for directly in fares, and the fares not subsidised by the Treasury, the projected demand would clearly fall very substantially, and the justification for the HS2's construction would be seen to be highly questionable.

Further carbon-intensive development

The claim has been made that HS2 will be 'broadly carbon-neutral', implying that, in operation, it will be close to 'zero carbon'; will play an important part in Government plans for creating a 'low-carbon economy'; and will help to meet its targets on future reductions in carbon emissions. However, this claim is open to challenge.

Trains travelling at HS2 speeds rather than at current InterCity speeds would not only be vastly more energy-intensive but would also encourage more and lengthier journeys – the *distance* factor that is all too often overlooked in any comparison of

consequent emissions owing to the exaggerated emphasis, in the evaluation process, of the relative energy efficiency of different motorised modes. Allied to this consideration in the context of climate change is the fact that, as these emissions remain in the atmosphere for at least 100 years, *any* further emissions will increase their level of concentration there, in the view of many eminent climate scientists, to a level that is out of control by human intervention.

Supporters of the proposal appear to be engaging in a disturbing degree of wishful thinking – that policies aimed at meeting the growing public demand for travel can be put into practice without that resulting in an acceleration towards ecological catastrophe.

'The spreading addiction to fossil-fuel-based lifestyles around the world, not least in the transport sector, is pointing to the very real prospect of ecological catastrophe'

Conclusions

We are at a defining moment in history: it is essential that we recognise both the gravity of the situation and the necessary steps that have to be taken in light of it. There is now near-consensus in the scientific community that human-induced global warming poses the greatest threat ever to have faced mankind. A recent IPCC (Intergovernmental Panel on Climate Change) report included the calculation that a curtailment of fossil fuel use down to *zero* carbon emissions must be speedily achieved – that is way beyond the widely accepted figure in the UK of an 80% reduction by 2050, which is, in any case, a seriously insufficient target to prevent irreversible climate change.

What is overlooked is the fact that the planet's atmosphere has only a finite *non-negotiable* capacity to safely absorb the gases from further burning fossil fuels. The absence of suggestions as to how the ice cap in the Arctic can be returned to its former area rather than continuing to rapidly decline provides disturbing evidence for believing that that capacity has already been exceeded.

HS2 would make a costly, socially unjust and environmentally damaging contribution to a high-carbon future, just at a time when the need to urgently reverse this process is becoming ever more imperative. The spreading addiction to fossil-fuel-based lifestyles around the world, not least in the transport sector, is pointing to the very real prospect of ecological catastrophe on such a scale

as to gravely prejudice the quality of life – if not life – prospects for the generations succeeding us. The time is long over for burying our collective heads in the sand on this most critical of issues.

Politicians and the public alike need urgently to realise that there is only one way of achieving the essential and early goal of close-to-zero carbon emissions. It is the adoption of the GCI (Global Commons Institute) 'Contraction and Convergence' framework, which may well lead to the introduction of *per capita* carbon rationing. If we are to limit the extent of further loss of the planet's habitability, that ration will have to be so small that little rail travel – especially at carbon-intensive high speeds – will be possible. We cannot continue to deceive ourselves

that long-distance journeys, even by rail, are not too profligate in fuel use, albeit that they may be less than by air.

So, one may ask, what is the logic of planning to cater for *more* and *faster* rail travel?

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Notes

- 1 P. Hall: 'How to save High Speed Two from itself'. *Town & Country Planning*, 2012, Vol. 81, Jul./Aug., 309-10
- 2 See the special issue of *Town & Country Planning* published in October 1998, and the GCI website at www.gci.org.uk

the argument against HS2 – part 2

Chris Stokes argues that HS2 is a 'misconceived vanity project'

In the July/August issue of *Town & Country Planning*, Sir Peter Hall made an eloquent case for rescuing High Speed Two (HS2) by transferring Euston suburban services into the western end of Crossrail, which on Transport for London's own forecasts will be grossly under-used. This would reduce the scale, cost and disruption of the massive, seven-to-eight-year reconstruction of Euston station needed for it to become the HS2 London terminal. But his argument starts from the premise that HS2 is vital to provide additional main line capacity, and a sound project. The blunt truth is that neither is the case.

The arguments put forward in support of HS2 have shifted over time, successively withering under critical analysis. First, it was sold as a 'green' project, saving carbon dioxide emissions. But this doesn't stand up; rail is a relatively environmentally friendly mode, but the Department for Transport's (DfT's) own forecasts assume only 3% of HS2's passengers switch from air and 8% from road. By far the largest increase in passengers is as a result

of new journeys generated. Even for air substitution, the limited reduction in domestic slots at Heathrow would be seized on for long-distance flights, leading to higher carbon emissions. Furthermore, high-speed trains are inevitably less energy efficient than existing fast services.

Next, it was claimed that HS2 would be vital for tackling the North-South divide. But serious academic work points to high-speed rail primarily benefiting the dominant hub (in this case London) at the expense of other cities. Lille is often quoted as an example of the regeneration benefits of high-speed rail, but it's a zero-sum game: Lille has done better than other Northern French cities, which have continued to decline, but less well than Paris. HS2 is planned to reach Manchester (although not until 2033, at the earliest) and its Manchester station would no doubt be surrounded by shiny new office blocks, but at the expense of Liverpool and Bradford, not London.

There is also an intellectually disreputable argument that everyone else is getting high-speed

rail so we have to have it too. But there is no correlation with economic success – Spain has both the largest European high-speed network and the highest unemployment. In fact, British InterCity services to and from London are already both fast and frequent; for example, Warrington has an hourly train from London at an average speed of 105 miles per hour –hardly slow! Where average speeds are lower, this reflects intermediate stops to serve stations across a region, giving excellent connectivity.

'The InterCity routes from Euston are far from being a high priority. The current sustained investment in the rail network, including substantial electrification, is very welcome. But the priority should be to increase commuter capacity into London and other major cities, and improve inter-regional links away from London'

Taking the West Midlands as an example, Birmingham has a train every 20 minutes today, with three intermediate stops. HS2 will be faster for Birmingham, but services to Coventry, Sandwell and Dudley and Wolverhampton would be slower and less frequent; the published HS2 business case cites a £5.1 billion saving from reductions to existing services, although the DfT has declined Freedom of Information requests to disclose the details. So it is no surprise that Coventry City Council is one of many bodies opposed to the project.

Then we were told that HS2 has a good business case. But, on the DfT's own numbers, it has progressively deteriorated, and is highly dependent on an obviously outdated assumption that time spent travelling on business is unproductive. So, no laptops and smart phones on trains? Even with the exaggerated numbers that the DfT has used, the claimed benefit-cost ratio for the first phase of the project is 1.4, way below the level which is generally required for transport projects to be taken forward.

Lastly, we are told that HS2 is vital for capacity. But the West Coast Main Line, the route which would be primarily relieved, has lower average passenger loadings than pretty much any other

main line out of London. Again, the DfT has consistently refused Freedom of Information requests to release loading data for the route, citing 'commercial confidentiality' – a dubious defence given that the West Coast franchise is a major public sector contract and there is a clear public interest. So one of the groups opposing HS2, HS2 Action Alliance, carried out its own counts at Euston, which showed that average occupancy in the evening peak period was only 56%, before many of the existing trains were lengthened from 9 to 11 vehicles under a project authorised by the Labour Government several years ago.

First Group – the winner in the recent franchise competition, before the decision was scrapped following the discovery of 'significant technical flaws' in the procurement process – has stated that average loadings once the current train-lengthening project is complete will be only 35%, and so argues that loadings can grow by astonishing compound amounts for the foreseeable future. Long-distance peak passengers from Waterloo, Liverpool Street, Paddington and Victoria would think they were in heaven with loadings as low as this.

And if and when it is needed, long-distance capacity from Euston can be increased much more quickly, and at less than 10% of the cost of HS2, by increasing train lengths to 12 vehicles and reducing the number of first-class coaches from four to three. This would triple standard-class capacity from the 2008 'base' used in DfT's own business case for HS2 – way beyond any conceivable increase in demand.

HS2 also gives little benefit for freight. Except for a couple of bottlenecks, which could be tackled much more quickly and cheaply, InterCity and freight trains do not share the same tracks on the southern end of the West Coast route. The problems are further north, on the two track sections between Crewe and Glasgow – but HS2 does nothing to relieve this.

In summary, while much of the rail network in Britain is congested, the InterCity routes from Euston are far from being a high priority. The current sustained investment in the rail network, including substantial electrification, is very welcome. But for the future, the priority should be to increase commuter capacity into London and other major cities, and improve inter-regional links away from London, where journey times are slow, and rail's market share is pitifully low. Early investment across the country will produce much greater benefits in the next few years, giving a much earlier, desperately needed stimulus to regional economies.

HS2 is a misconceived vanity project, and the Government should abandon it.

● **Chris Stokes** is a former Executive Director of the Strategic Rail Authority. The views expressed are personal.