

HS₂ PLUS

A report by David Higgins





Department for Transport

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Product code: CS056



Printed in Great Britain on paper
containing at least 75% recycled fibre.

Contents

Foreword	1
Context	5
HS2 – the catalyst for change	11
HS2 – sooner and better	12
Crewe	12
HS1-HS2 link	13
Euston	13
Phase Two	14
Timescale and cost	16
Conclusion	18

Foreword

There were two reasons why I decided to become Chairman of HS2 Ltd. One was my experience of being Chief Executive of Network Rail for the past three years; the other, the time I spent at English Partnerships in the same role. Network Rail has taught me that not only are our railways from a different era, they are also congested and increasingly full. In many areas we are at capacity at peak times, and even over it. English Partnerships taught me something else: that without proper transport infrastructure, any attempt to bring jobs and housing to an area will not work. It is the essential enabler for real and lasting regeneration. People have to be able to get to and from their work, and to and from their home. It is a statement of the obvious, but too often forgotten.

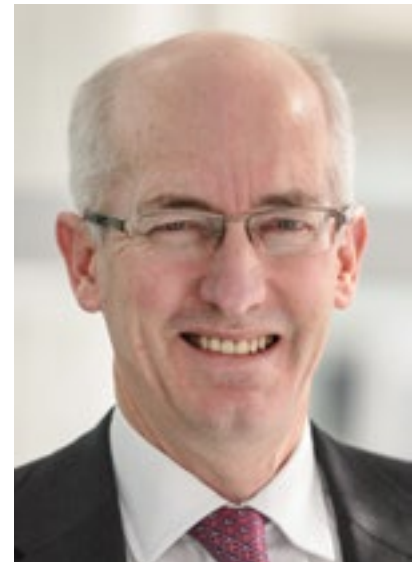
What my personal experience reflects is the two main transport challenges we face as a country: the lack of capacity, particularly but not exclusively south of Birmingham; and the poor connectivity in the North, not just between the region and London, but also east-west between Liverpool and Manchester, Manchester and Leeds, Leeds and Hull. Those challenges have direct consequences, not just for the economy as a whole, but for people's daily experience and aspirations.

I believe HS2 can be the start of addressing those issues, if it keeps to a number of key principles. It must:

- stand the test of time;
- be the right strategic answer;
- be integrated with existing and future transport services;
- maximise the value added to local and national economies; and
- be a catalyst for change, both nationally and locally.

These are the principles against which I have judged the proposals contained in this report.

That is why, for instance, I propose the Government should look at a more comprehensive redevelopment of **Euston** – a solution that could truly stand the test of time and allow the station to join St Pancras and King's Cross as an iconic driver of local regeneration whose beneficial effects will be felt for generations.



“HS2 is ambitious because it needs to be, to meet the demands both of the here and now and the future.”

“HS2 is essential for the future of this country.”

Equally, I propose the Government should accelerate Phase Two as soon as possible to take the line 43 miles further north than planned in Phase One, to a new transport hub at **Crewe** which could be completed by 2027, six years earlier than planned. It is the right strategic answer, and not just for the area around Crewe: it would also deliver the benefits of HS2 – in terms of better services to the North – much sooner. On the other hand, the current proposed HS1-HS2 link is, I believe, sub-optimal and should be reconsidered.

It is also vital to take the unique opportunity that HS2 presents for the North and use it to the full. And that can only be achieved through a regional, rather than a purely local or national approach. That is why, on **Phase Two**, I have suggested more work needs to be done on integrating HS2 into the existing rail network and potential improvements to it. HS2 should also be fully integrated into the plans that local authorities across the North are making to regenerate their particular economies and communities. It should form part of the effort to revitalise the northern economy as a whole.

A coherent approach would maximise the value to the local and national economies, and be a real catalyst for change in terms of regeneration and rebalancing the spread of wealth and prosperity in the UK. I would suggest, therefore, that the Government look at how to achieve that coherence and consensus across the region as quickly as possible.

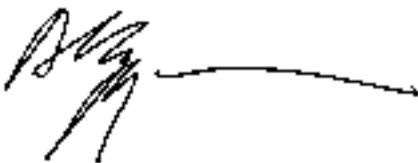
Despite all these potential benefits, I am conscious of the price – financial, physical and emotional – that HS2 will demand from the country, from communities and from individuals. That is why I have rejected any thought that the project should cut back on planned mitigation measures, whether noise or environmental. Those will continue. It is also why I support the Government’s proposed approach to property compensation. We need to be clear about the impact of the project, as well as its benefits, and address the consequences of that impact, as we are.

The same is true of our approach to risk. My team and I have undertaken an exhaustive review of the costs outlined in the first phase of the project. Overall, I am satisfied that the £21.4 billion (including contingency) allocated to the Phase One infrastructure project, plus the £3 billion (including contingency) allocated for Phase One trains, is enough to deliver Phase One. The uncertainty over the legislative timetable plus the inherent risks associated with any project at this early stage is why I have resisted the temptation to reduce the large contingency contained in the budget. The same approach should be taken to the second phase when the work outlined above is complete.

None of that is to rule out the possibility that a target for a lower budget for Phase One could be set at some point in the future, but only when the legislative timetable becomes clearer and more certain. There is a direct connection between the length of time the Parliamentary process takes, and the amount of contingency that is required.

HS2 is an enormous undertaking, but it is not an end in itself. If we do it right, it can be a catalyst for fundamental change at both a local and national level, up and down the country. It is ambitious because it needs to be, to meet the demands not just of the here and now, but of the future. That means being more ambitious about going further north, sooner. More ambitious too about producing a coherent transport plan for the North as a whole. And more ambitious about Euston to create a station that lasts. That is why I have called this report HS2 Plus.

I firmly believe that HS2 is essential for the future of this country, and I recognise the political vision and courage on all sides that have been necessary to get us to this point. I applaud this and do not in any way take it for granted. HS2 will have to continue to earn that support. We have made a good start. Now we must build on it.

A handwritten signature in black ink, appearing to read 'David Higgins', followed by a long horizontal line.

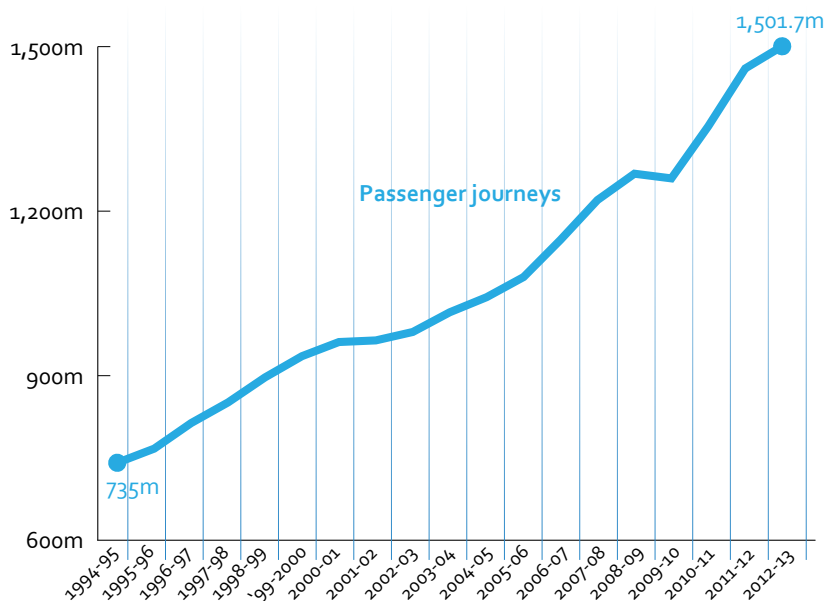
David Higgins
Chairman

“I recognise the political vision and courage on all sides that have got us to this point.”

Context

Every day, people in this country live with the consequences of our past failure to invest sufficiently in infrastructure capacity. For them, this is not a theoretical debate, but a living reality. In the past twenty years the number of journeys made on Britain's rail network has doubled. In the past decade, that growth rate has averaged over five per cent per year, even through the economic downturn. Passenger and freight demand is forecast to increase by over 30% over the next decade.

Overall rail passenger growth



Source: Office of Rail Regulation

“The reality is, the line is increasingly full.”

This level of growth has put pressure on all our existing major rail networks, and the West Coast Main Line in particular. The upgrade completed in 2008 simply revealed the true extent of the latent demand. It is no coincidence that, the following year, my predecessor at Network Rail announced the company's support for a new high speed line. The reality is that key sections of the existing main line are full and, despite the efforts of some of the best brains in the business, the whole line is feeling the strain. Train operators cannot run all the services they want, and peak-time trains are increasingly full as a result.

Already thousands of passengers have to stand, both coming into Euston in the morning, and leaving in the evening. Overcrowding also affects passengers into Birmingham and Manchester. And the problem is likely to get worse in the not too distant future, particularly for the commuter towns north of London. At stations such as Milton Keynes and Northampton,

“If we do it right, it can be a catalyst for fundamental change.”

it is increasingly likely that commuters at some stage will have to queue before they get on a train, with the resulting impact on end-to-end journey times and work/life balance. There is no sign of the rise in demand weakening, not least because the alternative is to join an already congested road network.

The fundamental reason for this rising demand is not individual decisions by individual commuters, but the unbalanced nature of the UK economy. The concentration of business, finance and commerce in London and the South East has brought significant benefits, both to the region and the UK as a whole – and will continue to do so. But, increasingly, this concentration is also becoming counter-productive, both for London and the rest of the country.

The key is not just where these jobs are, but the nature of the jobs. In the UK, the distribution of decision-making, top-end roles is unusually geographically concentrated, compared to other countries. One illustration of that is shown on the map opposite, marking the location of FTSE 100 companies in Britain.

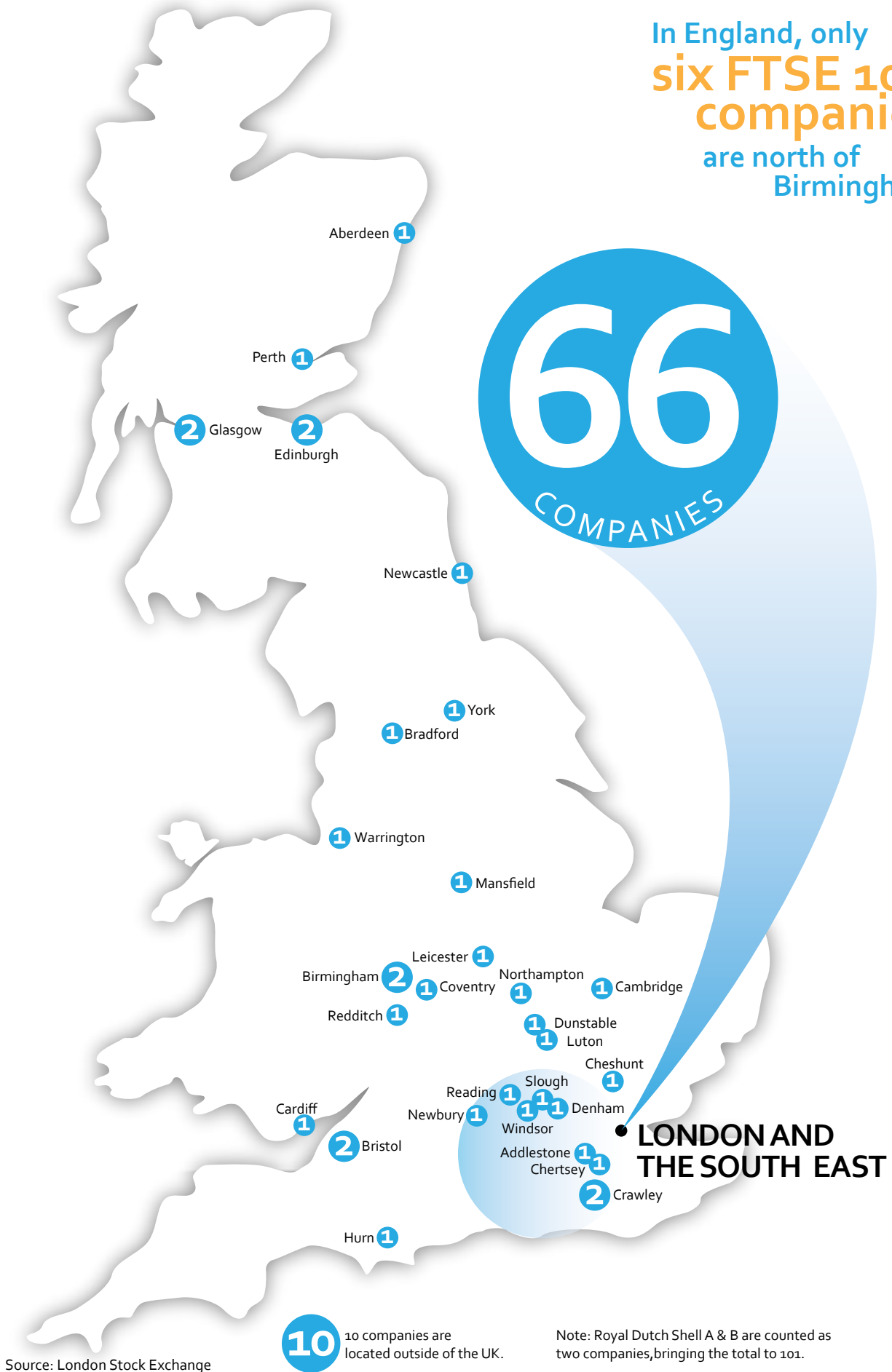
It shows that 66 of the 100 companies are located in London and the South East, and only six are located north of a line from Birmingham to Cambridge in England, with a further six in Scotland. Apart from the ten not based in Britain, most of the rest are within the broader London commuter belt. Clearly, for the vast majority of these companies, connectivity appears to matter. They feel they can only guarantee that in and around London.

That is why commercial office rents in London are amongst the highest in the world – a cost which is fed through to us, the consumers. It is also why the pressure on transport and the price of housing is continuing to rise. People feel they have to work, and therefore live, either in London itself or within commuting distance. It is a vicious circle that makes a difference to both people's daily lives and the hidden costs in our economy.

Successive governments, from all parties, have responded to that pressure by rightly committing large amounts of public money to address the transport capacity issues in London and the South East. The effort, commitment and finance involved have been immense, but, increasingly, two points emerge. Firstly, however great and right the effort, we will always be playing catch-up – it will never be possible to build all the transport and housing needed to meet demand in and around London. Secondly, there seems to be a growing disparity with infrastructure spend in the rest of the country, which is widening – not closing – the economic divide.

Number of FTSE 100 companies in Britain by location

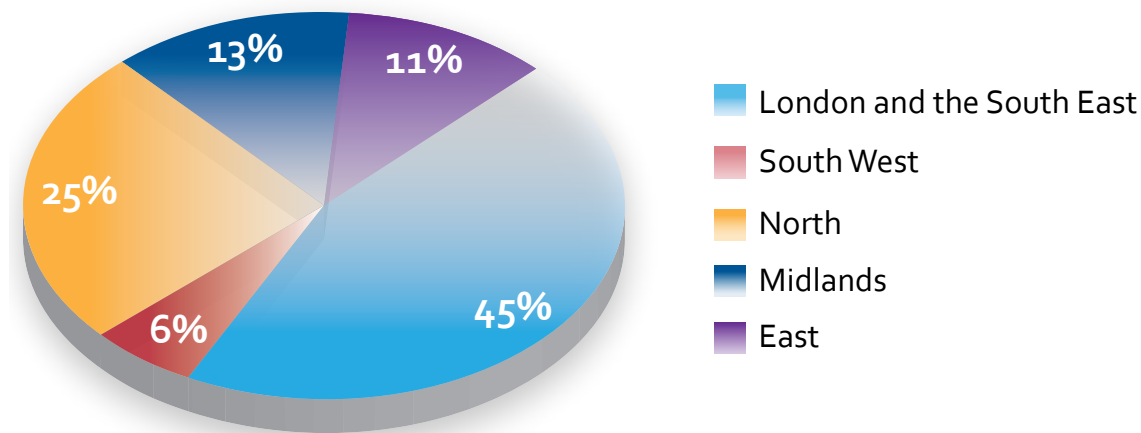
In England, only
six FTSE 100 companies
are north of
Birmingham



Source: London Stock Exchange

The same picture emerges if we look at overall public spending on transport in London and the South East, compared with other regions...

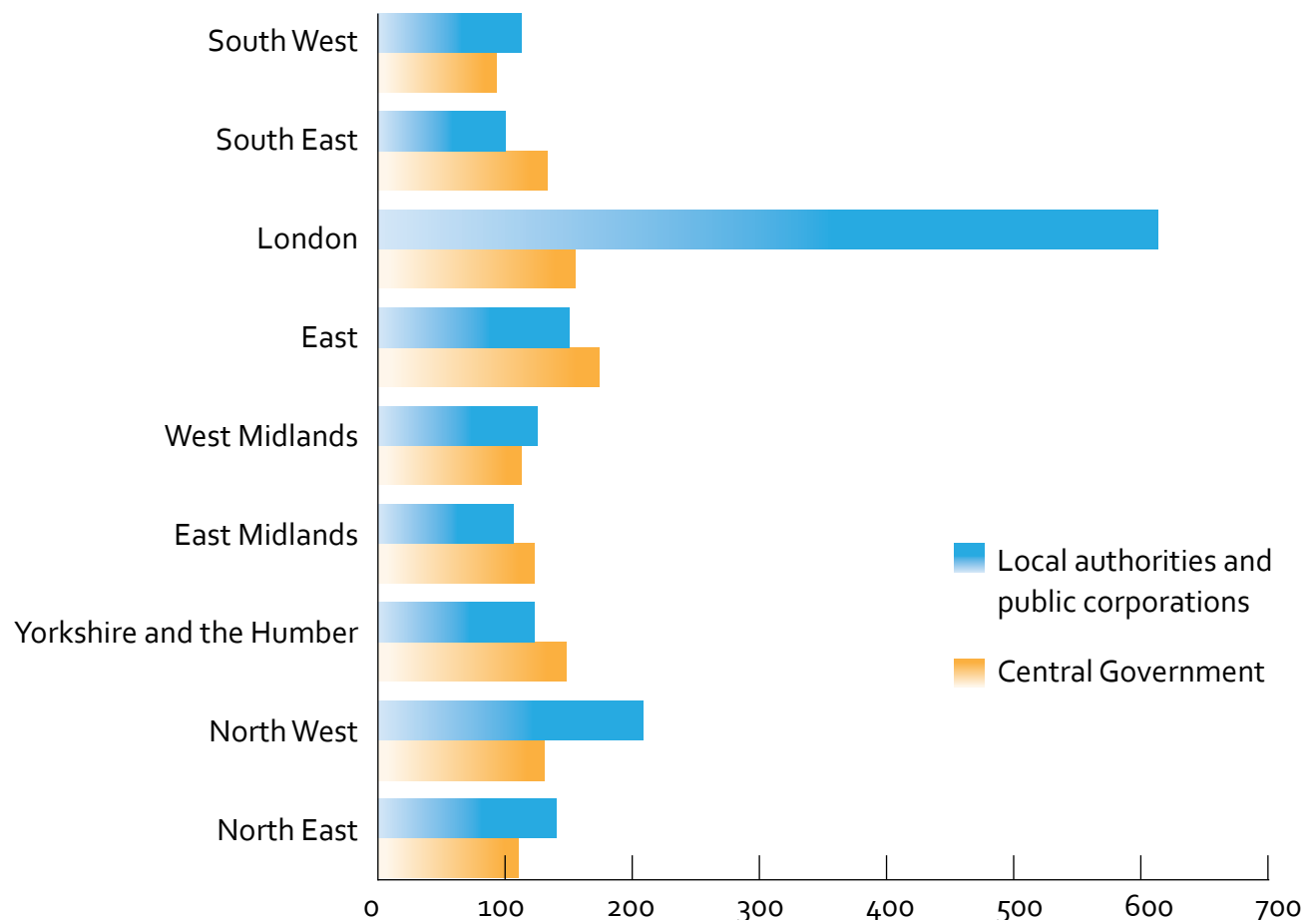
Total public expenditure on transport in England in 2010-11 (£)



Source: National Audit Office

...or at the amount spent per person around the country.

Public sector spending on transport per head in England, 2010-2011 (£)

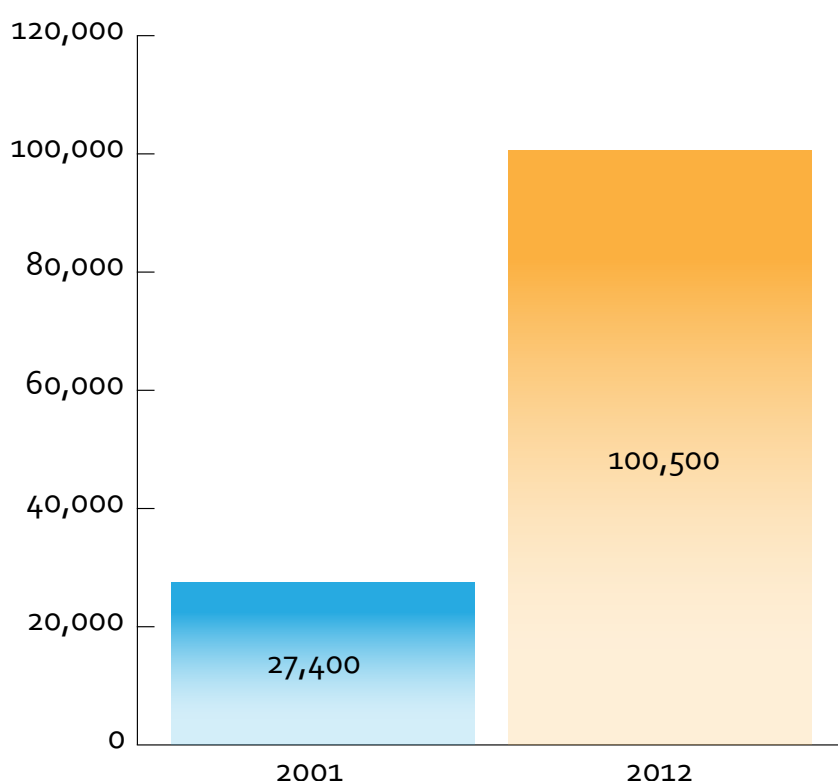


Source: PESA tables

That disparity is only likely to get wider unless addressed in a strategic way. The aim should not be to make London poorer, or to spend less on infrastructure in the capital, but to enable the other regions to grow as well – and infrastructure is key to that, both north-south and east-west.

In 1999, the Jubilee Line arrived at Canary Wharf in what was a run-down part of East London. Two years later, 27,400 people were employed in the area. In 2012, the number employed had risen to 100,500. The Jubilee Line did not create those jobs, but it gave employers the confidence to locate in Canary Wharf because it provided connectivity and frequency of service to the rest of London.

Employment in Canary Wharf



Source: Office for National Statistics

In contrast, connectivity in the North is poor, both between the region and London, and east to west – from Liverpool to Manchester, Manchester to Leeds and Leeds to Hull. The same is true of services such as Leeds to Birmingham. The incremental schemes of the Northern Hub project will improve that connectivity, but HS2 brings the opportunity to do much more. If the link between infrastructure and economic activity is accepted, then that is clearly a considerable disincentive to organisations to base their operations there, as the location of the FTSE 100 companies, referred to earlier, would seem to confirm.

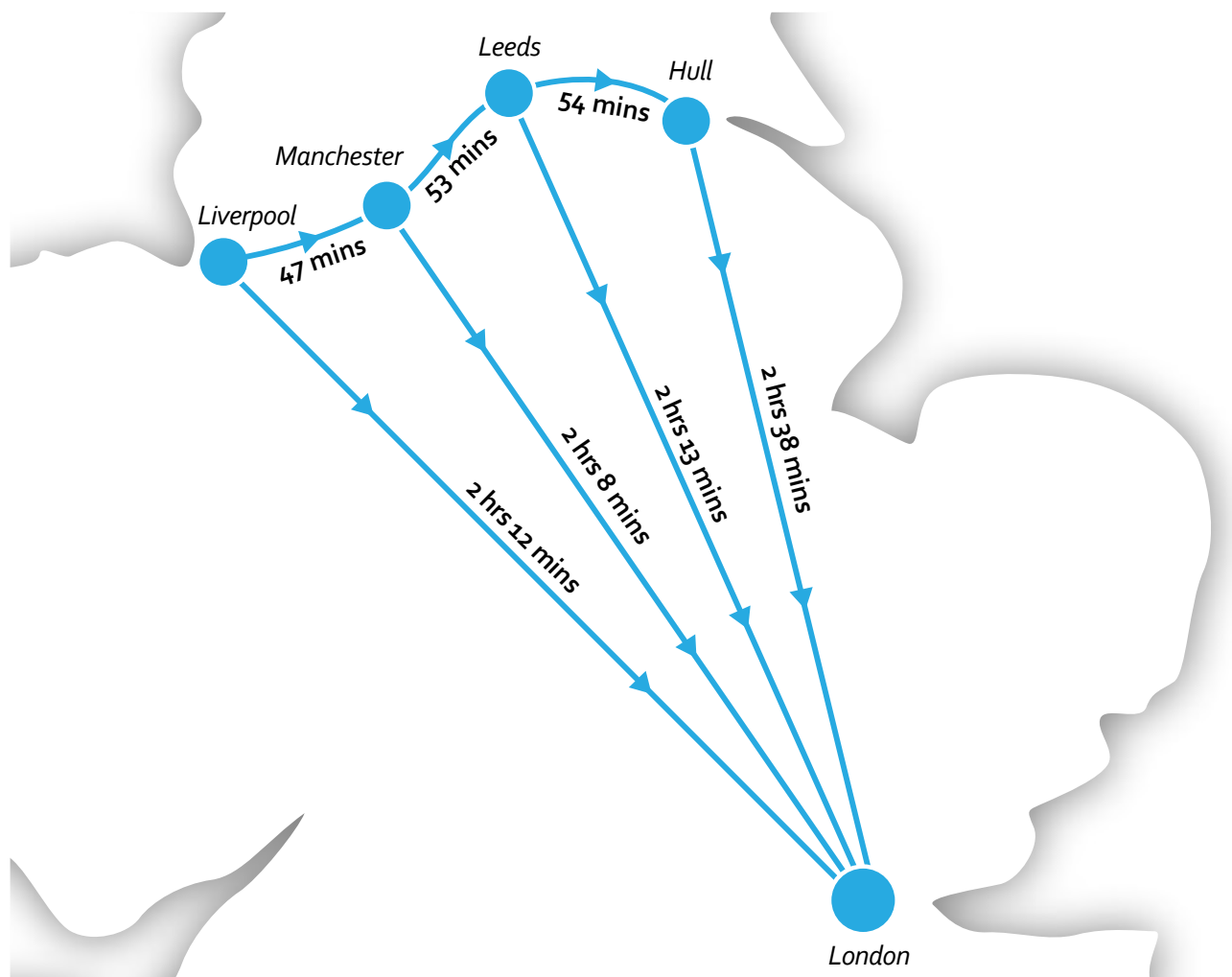
“The disparity is only likely to get wider unless addressed in a strategic way.”

“Connectivity between the North and London is poor.”

Passenger traffic, for instance, between Greater Manchester (population: 2.7 million) and the Leeds city region (2.2 million) is much less than you would expect between two cities of such size and significance, 40 miles apart. Less than 0.5% of commuters into Manchester come from Leeds, and vice versa. Common sense suggests that there is huge untapped potential for much more trade and commerce across the Pennines, but that would require better connections than currently exist.

That is the status quo, and if you compare it to the key principles I set out at the start of this report, then clearly it fails the test. Our infrastructure has not stood the test of time: it is a series of imperfect compromises which have not provided a strategic answer to the needs of the country. It has not maximised local synergies and it has reinforced the imbalance in the national economy, rather than acting as a catalyst for change. That is the problem: HS2 Plus can be the answer.

Fastest current journey times: Liverpool, Manchester, Leeds and Hull



Source: HS2 Ltd

HS2 – the catalyst for change

HS2 can change the status quo. It can address the underlying issues in a way that no other infrastructure project has done or can do. Whether it is congestion in the South; the disincentive that the journey time to London poses for companies contemplating establishing their businesses in the North; or the poor east-west connectivity that appears to inhibit trade, commerce and development, HS2 can help resolve those issues.

The benefits of Phase One in terms of extra rail capacity south of Birmingham are obvious. Put simply, more track means more trains and therefore more space for commuters, long-distance travellers and freight. HS2 will ultimately provide up to 18 long-distance train services into London every hour. It will be the equivalent of a motorway. And, by separating long-distance traffic from local services and freight, it will free up capacity on the existing network. Whilst it is still too early to talk about precise timetables, Milton Keynes could get 11 trains to London per hour, compared to six now; Northampton six trains an hour instead of the current four; whilst places such as Rugby, Leighton Buzzard, Watford and Harrow & Wealdstone could all get more non-stop journeys. The immediate benefits for commuters are obvious, but so too are those for long-distance travellers, who would not only get more frequent services and shorter journey times, but also enjoy a more reliable service on a modern, purpose-built railway.

Phase Two, as currently planned, would also bring huge benefits to the North, substantially cutting journey times. The journey from London to Manchester would be cut by an hour, whilst that to and from Leeds would be substantially reduced as well. Similar savings would be achieved on the routes to and from other key northern cities.

But hugely significant as those changes would be, both for Phase One and Phase Two, I believe that if you apply the principles I set out at the start of this report, then we need to go further in relation to both phases if we are to deliver something that will stand the test of time and be a real catalyst for change in our country.

“More track means more trains and therefore more space for commuters, long-distance travellers and freight.”

Crewe: an interchange that will be a real agent of change in the region

HS2 – sooner and better

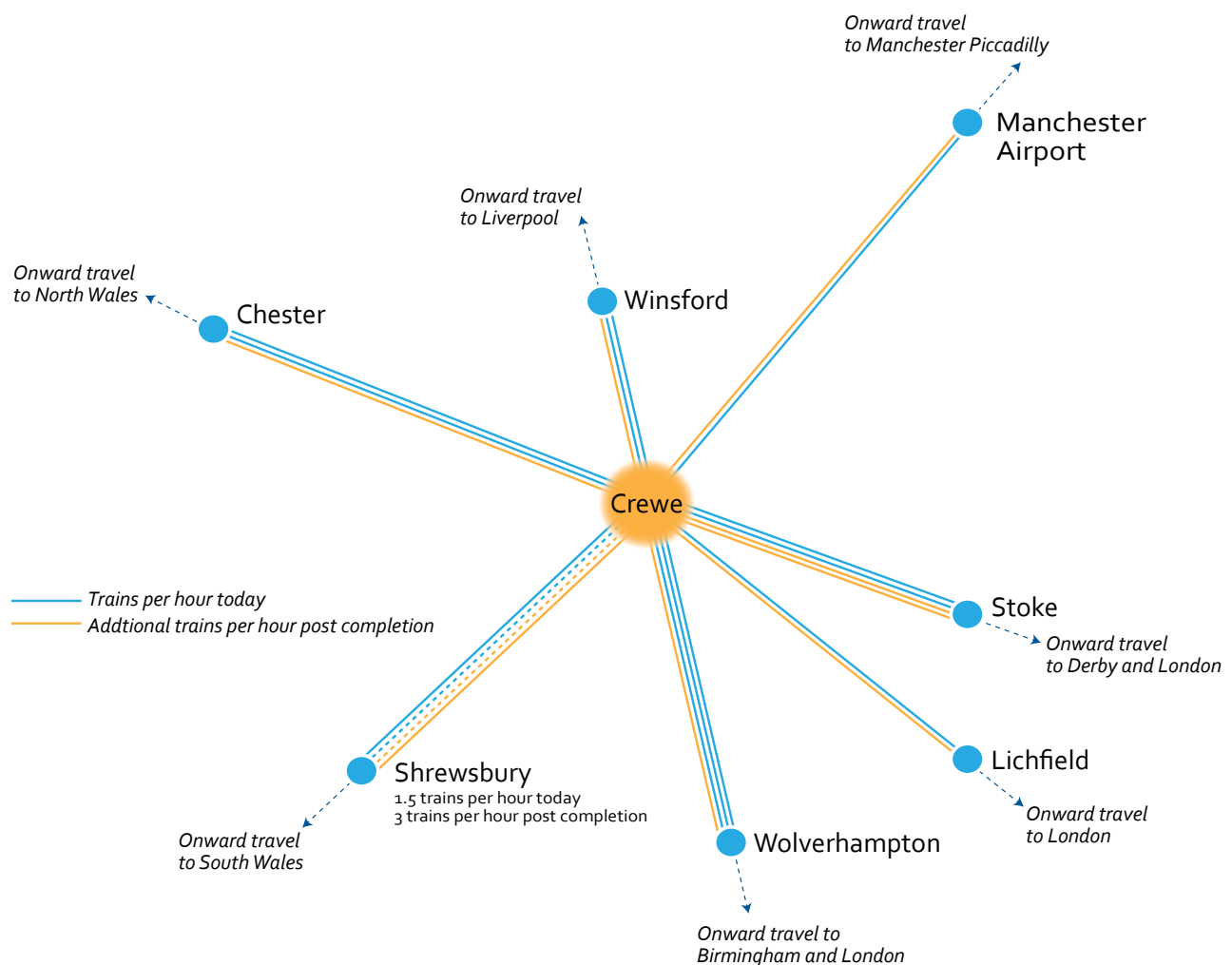
Crewe

The existing Phase One plans contained in the hybrid Bill will clearly be transformative.

By separating long-distance passenger traffic from freight and local services, they will allow more services across the board, providing real benefit to commuters, a faster and more reliable service for long-distance travellers, and more room for freight. That extra capacity will be created both on HS2 itself and on the existing network.

But those benefits could be spread further north sooner if Phase Two were accelerated and the line were extended to a new regional transport hub at Crewe by 2027, six years earlier than planned. This would bring together road and rail services for the region as a whole, allowing faster services sooner to Manchester, the rest of the North West and to Scotland.

Crewe: potential benefits from an integrated connectivity approach



Source: HS2 Ltd based on information provided by Network Rail

Although final decisions must await the outcome of the recent consultation, I believe it is the right strategic answer for the long term and, by combining road and rail services in one interchange, it would also act as a real agent of change in that region. It would be for the Government and Parliament to decide how that might be achieved in terms of legislation, but I do not believe this needs to be a lengthy process.

HS1-HS2 link

These improvements, in my view, are a bigger priority and will deliver more benefits to more people across the country than the proposed HS1-HS2 link. It is the most cost-effective solution for linking the two networks. But it is an imperfect compromise because of the effect it would have on existing passenger and freight services and the local community. It would also use up HS2 capacity that could be better used on services to more areas, such as North Wales. The HS2 platforms at Euston will be a short distance from those at HS1, and one stop on the Underground. That is the equivalent of transferring from one terminal to another at Heathrow. I believe the Government should, therefore, consider whether the cost – at around £700 million – is good value or whether it would be better to consider an alternative, which would deliver the benefits of a link without compromising existing services.

Euston

At Euston, the proposed solution is, again, technically feasible. However, as the Chancellor has observed, the real question is whether it is ambitious enough. Does it meet the principles of standing the test of time and acting as a catalyst for change in helping to regenerate the local area? Does it deliver the best value to both the local area and the national economy?

The developments at St Pancras, and now King's Cross, have demonstrated how a strategic approach can not only deliver an integrated transport hub and better facilities, but also transform and regenerate the local area. We believe there is a unique opportunity to do the same at Euston.

The geography, layout and context of Euston make it a particularly difficult site, and I understand the reasons behind the current scheme. However, an alternative proposal that the Government could consider is a level deck design, which would enable access from one side of the station to the other, better connecting the station to the local area and the community. It could also create the potential for considerable over-site development, which could combine housing, retail and commercial development. As in St Pancras and King's Cross, this would maximise both the aesthetic and

Euston: is it
ambitious
enough?

“The key to improving east-west journeys is to integrate HS2 into the existing network.”

jobs impact of the development. Further work can and should be done to develop this alternative – and explore, in particular, how the private sector would help deliver a Euston that lasts, without additional contributions from the taxpayer.

Phase Two

In my discussions preparing this report, I have repeatedly been urged both to deliver the benefits the line will bring to the North sooner, and to start work there earlier. That is why I am proposing to extend the line to a new hub at Crewe by 2027, so that services through that interchange can be better and faster, sooner. I also believe that the rest of Phase Two is vital to realising the potential of the North as a whole; but it can only do that if it is done right.

For some areas in the North, capacity is as much an issue as in the South, but the bigger problem is connectivity – journey times are too slow. The key to improving those, particularly east to west, is to integrate HS2 into the existing network to improve connectivity between cities such as Liverpool and Manchester, Manchester and Leeds, Leeds and Hull, as well as Birmingham and Leeds. HS2 can help to address those issues – as the proposed route already does – but it cannot be the complete answer. HS2 and the future of the existing network need to be considered together to maximise the synergy between them – and both need to be considered as part of a much wider overview of how to regenerate the North as a whole.

I have been struck by the growing recognition by civic leaders of the potential transformational effect that HS2 could have on the North, not just because of improved access to and from London, but also to increase the linkages, trade and development across the region, east to west and north to south. To date, the discussions about how to realise the potential of the second phase of HS2 have tended to focus on the line itself, and there have been bilateral discussions between HS2 Ltd and individual cities and local authorities. This underestimates both the transformation that HS2 could bring to the entire region, and the potential for change if HS2 is seen as part of the wider transport network. Issues such as how to considerably improve the trans-Pennine line between Leeds and Manchester; or whether to re-open the Wortley Curve to improve services to Bradford and Wakefield; or the potential for electrification from Leeds to Hull; or the impact of the East Coast upgrade are not within HS2's remit, but are hugely relevant to final decisions on the route.

Equally, each local authority will want to develop its own vision of how best to use HS2 to regenerate its local area by planning development around stations and interchanges. This, too, needs a holistic approach.

It need not be a hugely lengthy or costly process, but rather a matter of clarity and co-ordination. HS2 Ltd, Network Rail and the DfT have already established a tripartite process, and work such as the Yorkshire Rail Network Study has been commissioned. That work, plus consideration of the responses to the Government's consultation, needs to be considered before Phase Two is finalised. I would strongly recommend that the civic and business leaders in the region are brought into the discussion, which should be conducted on a regional, rather than an exclusively bilateral and local basis. The aim should be to develop HS2's second phase alongside Network Rail's Strategic Business Plan for the five-year control period starting in 2019. If that is done successfully, then legislation to enable Phase Two could be introduced as early as 2017, with significant impacts on delivering benefits to the North sooner – up to three years earlier than currently planned. The key is not just to reach a consensus across the North, but to do so within a reasonable timescale.

“I have been struck by the growing recognition of how HS2 could transform the North.”

The more certainty
there is about the
timescale,
the lower the
costs will be

Timescale and cost

Hugely complex projects such as HS2 inevitably take time. This is not just because of the technical issues involved, but also because of the legislative process. At heart, however, there is one simple truth: the linkage between time, certainty and cost. Put simply, the shorter the timescale, and the more certainty about the timescale, the lower the costs will be. Less inflation is imported into the project, and contractors can achieve greater economies of scale because they can plan ahead.

Looked at in those terms, the earlier a decision is taken – for instance, to take the line to Crewe – the more cost savings can be achieved, as well as delivering the benefits of the line further north up to six years earlier.

The key variable, however, is the length of time that legislation will take; that is a matter for Government and Parliament. Only they can determine the balance between:

- the need to deliver HS2's benefits in terms of capacity, particularly in the South, and connectivity in the North;
- the need for proper Parliamentary scrutiny of the impacts HS2 will have in terms of noise and the environment and the proposed mitigating measures; and
- the need to keep costs under control by providing as much certainty as possible, as soon as possible, to ensure that the maximum economies of scale can be achieved.

At each stage of the project, it is vital that this balance be borne in mind. Additional time spent debating the legislation will translate into extra uncertainty about the construction timescale – and therefore about its cost.

That is why, in considering the first phase, I consider that it would be irresponsible to reduce the substantial contingency included. I believe that the resulting Phase One budget of £21.4 billion, plus £3 billion for trains, is enough to deliver Phase One. Inevitably, given the early stage of the project and the degree of uncertainty around the legislative process, there is an element of judgement involved in making that assessment and some variance on quanta and allocation according to the original figures. Overall, however, I am confident that the budget can be made to work – and the basis for that calculation is set out in the attached set of slides.

The Government has set aside a further £21.2 billion for the second phase of the project and that, plus the money to be allocated as part of Network Rail's two control periods running from 2019 to 2029, should form the basis for a fully integrated plan as outlined above.

“*The key variable is the length of time for legislation.*”

If done right,
HS2 can stand the
test of time

Conclusion

As a country, we face a choice. On the one hand is the status quo: ever-increasing pressure on transport, the cost of housing and commercial property in London and the South East; and poor connectivity to and within the North. On the other are the strategic opportunities offered by HS2 and the potential it unlocks. An incremental approach can make only marginal improvements, often at the cost of unacceptable disruption to the existing network for decades to come – and we shouldn't kid ourselves otherwise.

If done right, HS2 can provide an answer that does stand the test of time, and addresses the issues of congestion in the South and lack of connectivity in the North. The cost and impact have to be recognised and acknowledged, but so too do the cost and impact of doing nothing. Without HS2, the people of this country will continue to face the failures of our transport system on a daily basis. With it, they will begin to see a strategic answer that can deliver real benefits within the foreseeable future. That is why, I believe, HS2 is a project which, despite the issues it raises, is in the national interest.