

Key Connections

INTEGRATING THE TRANSPORT NETWORK INTO HS2







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Foreword



By Stuart Andrew MP

HS2 is a sensible, pragmatic and essential option which I wholeheartedly support as co-Chair of the All Party Parliamentary Group on High Speed Rail. The current network is already running at capacity at peak times and many commuters experience terrible overcrowding on trains on a daily basis. Long distance inter-city travel has seen growth of more than 5% a year, despite a recession and, with the rising price of petrol, this is only set to increase.

While investment is needed to improve existing lines, incremental upgrades would not provide enough capacity to sustain demand in the long-term. A report produced by the All-Party Group clearly showed that incremental upgrades could not meet the capacity demand required in peak periods or in the long-term.

A new line dedicated to long-distance train journeys would mean that more paths are available on the existing lines for commuter travel and for rail freight – easing congestion on our overcrowded road network in the process. As a regular commuter to London I encounter overcrowding nearly every week and the train journey from Leeds can be at times unbearable, standing for hours as there are insufficient seats for the number of passengers. It is understandable why passengers, many of whom have paid a lot of money for their tickets, feel acute frustration with the capacity problem on our rail networks.

Critics have argued that a new line does not need to be high-speed and that the distances covered by the network are far too small for HS2 to be a valid option. However, a high-speed line will only cost 9% more than a conventional line and will alleviate pressure on existing networks.

The benefits of the project are very clear. HS2 will open up the North of England to investment and attract new business to northern cities. It will link eight of Britain's largest cities. Two-thirds of the population of northern England will be within two hours' reach of London's markets. HS2 will directly employ 20,000 people a year during construction, rising to a peak of 50,000 in 2029. A recent KPMG report clearly shows that the benefits of HS2 will be national – that while London benefits, the Midlands and North benefit twice as much, and the rest of Britain has an economic boost as well, of up to £15bn a year.

Critics of the scheme have been very vocal in raising their concerns over the impact on the countryside and the projected cost of the project. While I can understand their viewpoints, I cannot agree that HS2 should be dropped by the Government. No alternative suggestions come close to achieving the benefits which a high-speed line will bring and basic common sense dictates that if we need to invest many millions on a new line it might as well be one which uses the most up to date technology available. We are leaving a legacy for generations to come and it is vital that we get this right.



Economics



By Bridget Rosewell,
Senior Partner, Volterra

Let's start by declaring a 'vested interest' – we're in favour of investing in a High Speed Rail network for the UK. However, so far the case made for HS2 in the UK has been far from perfect. And the debate rages on.

We are happy that finally the discussion has moved from time savings to capacity. Of course we aren't investing £50bn in order to save half an hour on the travel time from London to Birmingham and indeed we don't dispute that some people work very productively on trains. We are not even just building HS2 to provide much needed new capacity on a creaking network that will very soon be full. We are building it to try to better integrate the whole of the UK and allow for the potential for a transformation in UK economic geography.

So why does this not come across in the business case made for HS2 that Government has put forward so far?

In the UK transport investments are evaluated by government guidance which assesses the time savings made by travellers, the frequency improvements, the reductions in accidents, and so on.

“It’s about better connecting the whole of the UK, enabling businesses to interact and places to attract investment and development that they might otherwise not capture.”

These are assessed based on a ‘value of time’. This means that if the HS2 eastern route goes to central Sheffield (Victoria station) instead of a parkway station (Meadowhall), making journeys from Leeds to Birmingham longer by six minutes, then this would dramatically reduce the business case, despite the fact research has shown jobs growth and business rate revenue would be higher if the station was located in the city centre. Clearly this can’t be the right way to evaluate it?

These models have their uses but this evaluation approach has received much criticism, and rightly so.

Back in 2000 Volterra pioneered new methods of appraising the case for Crossrail. Our arguments rested on the proposition that investing in this new commuter rail link would enable more people to commute into the most productive part of the UK, and enable more agglomeration to occur as more people do business, exchange ideas and trade.

This argument was won and guidance changed to include these sorts of benefits when evaluating large-scale transport investments. However, these approaches also aren’t the right ones to evaluate HS2 – the parameters and metrics were derived from relationships about commuters travelling 45 minute journeys.

And HS2 isn’t about commuting, it’s about better connecting the whole of the UK, enabling businesses to interact and places to attract investment and development that they might otherwise not capture.

There are examples across the world where HSR transformed places or increased development densities – Lille is the most popularly cited, but there are plenty of others. However, of course, for every positive example negative ones can be found too. Is it a silver bullet to narrow the north/south divide and rebalance the UK economy?

No, of course not. In order to maximise the benefits we also need to ensure that other transport networks continue to be invested in – the cities and stations served by HS2 need to be accessible to the city regions around them, so that as many people as possible are better connected to each other.

This requires continued and integrated investment in transport across the country, as well as integrated land use policy.

So how should we evaluate it? We need to use methods of estimating the potential for step change – the levels and densities that places could achieve, the scale of transformation that could occur as a result of HS2, in conjunction with other investments and pro-active strategies.

Volterra’s work for High Speed One estimated that even if only 5% of the regeneration benefits around the stations were considered ‘additional’ to the UK then this would amount to £10bn of regeneration benefits which would be more than double the benefit cost ratio.

Altering the way we evaluate big schemes so that we can invest in them when we need them, rather than 10, 20 or 30 years too late when the costs have soared and networks are grinding to a halt, is crucial if we are to maintain the UK as a competitive global economy, attracting international business and investment.

Rail Planning



By Jim Steer, Director,
Greengauge 21

While HS2 will bring superfast services into the heart of Leeds and Manchester (and possibly Sheffield), it also frees up capacity that can serve our 'second' towns and cities. These include in Yorkshire, for example, Bradford, Harrogate, Halifax, Huddersfield, Wakefield, Barnsley and Doncaster.

Some of these places already enjoy a good rail service to London – direct intercity trains. Here, there are anxieties about service reduction following HS2. Government has responded to this concern in the first of six principles that will guide the use of released capacity.

Others have limited or no London services because of the impossibility of fitting in more services on today's congested north-south main lines. Thus, both Shrewsbury and Blackpool remain without direct London services, despite applications to introduce them, under a Rail Regulator ruling in summer 2013². The application for access rights was turned down because it was assessed that even a very limited additional service would worsen overall service reliability. Punctuality levels on the East and West Coast Main Lines are well below target levels – and HS2 offers the prospect of respite.

“Our aim is that all towns and cities which currently have a direct service to London will retain a broadly comparable or better service once HS2 is completed.¹”

So what might be expected for these ‘second’ cities, once HS2 is implemented?

Keeping with Yorkshire examples, HS2 will remove the need for two (or, allowing for service expansion in the intervening years, three) Leeds to Kings Cross intercity services to operate over the East Coast Main Line (ECML): Leeds will have a much faster route to London via HS2. This frees up capacity on the congested Doncaster to Leeds route, as well as over the ECML from Doncaster to London. There is plenty of time to plan creative and valuable uses of this capacity.

In addition to providing extra commuter services, there is scope to introduce, for example, a fast and direct Bradford – Wakefield – Doncaster – London service. By re-instating the 200m Wortley spur, these trains could bypass Leeds. Bradford could be served by fast trains to London taking around two hours; Wakefield would retain its excellent service as well. Halifax could gain a fast service too, as an extension from Bradford.

Harrogate to London journeys may well in future be made most easily via York, which will have direct London HS2 services too. With fast services from the North East to London also operating over HS2, this means

there is scope to introduce other destinations for train services running from London to York on the ECML. This means that Harrogate could gain regular direct London trains (in place of its very limited service today).

For each of Barnsley and Rotherham, there will be the potential to extend some services that use the Midland Main Line to reach the capital (although if the HS2 plan remains to serve South Yorkshire via Meadowhall, that will be a much quicker alternative).

For Huddersfield there are several options – and one of the best arrangements would be to extend London-Stoke-on-Trent-Macclesfield-Stockport services direct to Huddersfield, avoiding Manchester, which, of course will have its own fast HS2 services.

The HS2 headlines may be about the nation’s largest cities, but the second cities across the north can benefit just as much.

¹Department for Transport The Strategic Case for HS2 October 2013, §4.2.6

²ORR, 2013, ORR decision on West Coast track access application <http://www.rail-reg.gov.uk/server/show/ConWebDoc.11219>

Skills



By Mark Froud, Managing Director, Federation for Industry Sector Skills and Standards

HS2 is a clear example of what the Government is asking for on its economic and skills agenda, encouraging employers to identify what skills they need in advance so that appropriate training can take place and ensure the HS2 contractors have the right people with the right skills when they need them.

We are already facing a shortfall of key skills to develop the UK's rail infrastructure but HS2 will be the driving force to ensure that the rail sector and employers work together to help renew the skills base and increase the supply of qualified people needed to support the project. Indeed, The National Skills Academy for Railway Engineering (NSARE) published its 'Forecasting the Skills Challenge' report in January of this year that identified key areas for skills renewal.



As HS2 is being planned, it is crucial that key skills issues are identified to ensure that the rail industry and businesses in the UK are able to take full advantage of the HS2 project and leave a lasting legacy for rail sector skills in the UK. However, these skills can take years to develop, so planning needs to start now.

Working with the Sector Skills Council (Semta) and National Skills Academies, HS2 has started to put together skills development packages. Most of these are in skilled occupations that we already know about and have accredited training capacity in place for, but the development of HS2 will bring with it new skills challenges, both in terms of the quantity and the type of skills required. These are largely to do with rail infrastructure, rolling stock and rail traction engineering, signalling and overhead line construction.

NSARE and Semta addressed the HS2 Supply Chain Conference on 5th November 2013. Working with the CITB, Dundee University and Experian, the NSARE is already identifying the skills gaps that need to be filled. It has developed a training and accreditation system that will identify and deliver what HS2 needs. Many of the requirements are around skilled occupations for project management, signalling and engineering.

The HS2 project will provide a fresh impetus to the skills renewal that is taking place in the rail industry already. It is an industry that is forecast to require 10,000 newly trained employees (10% of the current workforce) in the next 10 years, but is one, partly because of HS2, that is looking ahead and planning to ensure there are no critical skills shortages. HS2 will light the "touchpaper" for a dash for growth for skilled workers in the rail industry that will leave a lasting legacy far into the future.

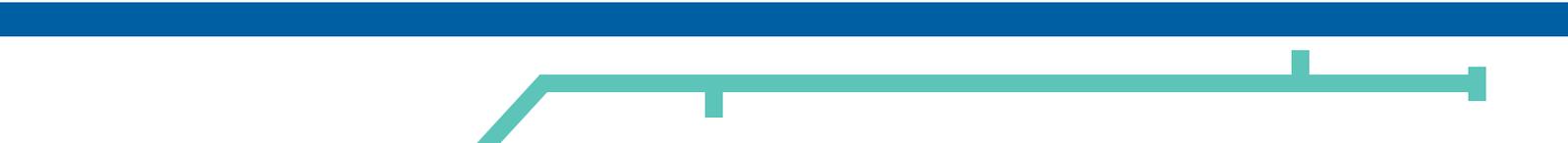
Governance



By Sir Albert Bore, Leader of Birmingham City Council

Our challenge is to get the most out of HS2 ensuring swift access to high speed rail from across the West Midlands region. We've recently called for a High Speed Rail Centre of Excellence to be built in Birmingham and we're already working with HS2 Ltd in the continuing development of the Birmingham Bacallaureate to ensure our school and university leavers are prepared with the right skills for jobs that HS2 will create.

We want to set the agenda for our region and beyond to deliver the maximum benefits from high speed rail. Our research reveals that supported by other connectivity enhancements, HS2 Phase 1 will deliver 22,000 jobs and £1.5bn per year* to our economy when we connect London with Birmingham. However, the benefits increase significantly when we improve links with the East Midlands, Yorkshire, the North West and beyond.



“In Birmingham city centre, ‘plugging in’ the new station so that it forms a seamless connection with public realm and transport networks will require potentially radical thinking and some bold decisions.”

To maximise these benefits and make Birmingham truly HS2 ready, we have to put the right infrastructure in place. We’re already extending Metro and the development of New Street Station is really taking shape. We must also ensure existing and new rail infrastructure is developed to increase our local, regional and freight services. We have a great opportunity to make use of the capacity HS2 releases on our existing lines and benefit stations and their communities across the West Midlands.

The most critical part of making all of this work is at the interface between the stations and the existing urban form. In Birmingham city centre, ‘plugging in’ the new station so that it forms a seamless connection with public realm and transport networks will require potentially radical thinking and some bold decisions.

This will not only form a truly integrated transport network but will also encourage further investment and economic activity in the area around the station and the wider city core.

Although the relevant governance structures are relatively new, and geographically complex, we believe that for the most part, the tools we already have at our disposal provide the necessary framework to deliver the emerging vision, and we will be looking to Government to support us in their use.

The link with London has inevitably received much of the attention, but we realise the importance of looking north too. It isn’t often reported that Birmingham’s journey to Manchester is cut from 90 minutes to 41 minutes with HS2, or the journey from Birmingham to Leeds is halved from two hours to 57 minutes. We fully support the high speed rail network stretching to Scotland. And of course, we

mustn’t overlook our desire to ensure the West Midlands is linked to Paris, Brussels and beyond with high speed rail.

HS2 provides rapid, direct links between eight of our 10 major cities, but it also releases capacity for more local and regional services on our increasingly congested existing lines. It is the West Coast Main Line, in particular its southern section, for which HS2 Phase 1 is intended to provide relief in anticipation of the route becoming overloaded by the early 2020s. There is already serious overcrowding on this route: in 2011, during the morning peak there were on average 4,000 people standing on arrival into London Euston and 5,000 people standing on arrival into Birmingham.

We’ve seen passenger numbers double in a decade in the West Midlands and, in figures released in July 2013, the Office for Rail Regulation reported a rise of 14 per cent in one year for passenger journeys in the West Midlands. Doing nothing or patching and mending our overloaded existing network is simply not an option. We must build HS2 and our challenge is to make sure we put the right infrastructure in place to deliver the best possible return for the West Midlands.

*depending on publication date, updated figures for HS2 Phases 1 and 2 plus full West Midlands Connectivity Package may be available

City Region



By Ben Still, Chief Executive,
Sheffield City Region LEP

Here is a brave statement: Sheffield city region will be one of the biggest beneficiaries of High Speed 2. This is not a local view from advocates to silence the critics, but that of the Government's advisor – KPMG. Its analysis shows that our 'change in labour connectivity by rail' will rise by 32% from high speed rail – over double the change from the next conurbation (the West Midlands, at 16%). Our 'business to business' and economic output benefits are also amongst the highest of all the city regions.

Why is this, and why should Sheffield city region be such a beneficiary?

The answer fundamentally comes down to the fact that Sheffield and its surrounding urban centres are just not that well connected at present either internally, or to London or to other regional cities.

High speed rail can be the catalyst to change all that. And in so doing it will unblock potential productivity benefits to businesses to specialise in supply chains, better match skills to jobs, better match suppliers to customers and allow trade much more efficiently over wider areas. All this means our firms will have stronger competitive advantage in national and international markets.

“It is about ensuring released rail capacity on the East Coast Main Line is used to yield new destinations accessible to Doncaster and Retford, and competitive travel times to London. And using the Midland Main Line to develop fast town-to-town links, complementing and not competing with high speed.”

Now KPMG has been heavily criticised for some of its assumptions in its work – in particular that transport connectivity is the only relevant supply side constraint – and that others, such as land, finance and skills are all freely available. In Sheffield city region we know that other supply side factors are relevant – so while we have plenty of sites, we know our workforce skills levels need to rise (incidentally that is why our city region deal with Government focused on skills).

But surely getting these supply side issues sorted is what we need to do to ‘maximise the opportunity’ from high speed rail? And frankly Government has given us long enough to prepare.

So this is what links high speed rail so centrally to our Economic Growth Plan. The central objective of our growth plan is about increasing the size of our private sector – we have set ourselves the target of generating growth of 70,000 jobs over the next 10 years. This will only be achieved in full with Sheffield city region firms increasing their exports and through more firms moving into the city region, and accessing the factors of capital (including a skilled workforce) to enable them to grow and want to stay in the city region.

Business growth in turn will need improved connectivity to national and international destinations. That is why it is important for certainty about high speed from Government as quickly as possible, so we can prepare the ground, and to put in place the local connections that the city region will need to link people to jobs and business.

And not all of this is about getting to London. The 32% growth in labour connectivity is not about access to the capital, but access to jobs and markets in surrounding cities. The high speed line will more than halve journey times to Leeds, Nottingham and Birmingham from Sheffield.

Locally it needs a holistic network-wide approach to rail planning – e.g. expanding our innovative trial tram/train network across the city region, potentially using this to link the high demand areas of south Sheffield, Chesterfield and Rotherham with the high speed station. Freight capacity should also benefit. Better overall rail planning is part of the reason Northern cities are working together to take over the northern franchises from Government.

It is about ensuring released rail capacity on the East Coast Main Line is used to yield new destinations accessible to Doncaster and Retford, and competitive travel times to London. And using the Midland Main Line to develop fast town-to-town links, complementing and not competing with high speed.

And it is also about ambitious and visionary masterplanning to encourage inward investment and a place for business to thrive. And this planning, if it is to be transformative, has to start now.

These are investments we have to make ahead of high speed rail. With certainty that high speed is coming, we will ensure the right infrastructure is in place alongside the right economic growth policies to increase employment and get our businesses ready.

Our Local Enterprise Partnership and City Region Leaders Board have debated high speed rail in depth. The city region has come out firmly in favour of high speed rail, and is now focused on how to use it as a catalyst and opportunity for new supply chains, new skillsets, new transport networks, and an increased international perspective for our businesses. Only in this way can forecasts such as those made by KPMG be made to come true.

Franchise Operation



By Alistair Gordon, Chief Executive Officer, Keolis UK

The key battleground in the debate between those fighting for and against HS2 in the UK is economics and specifically whether the benefits will outweigh the significant capital cost required to deliver it.

To ensure that HS2 can truly deliver its potential as a growth enabler, over the next 25 years the focus has to be on delivering good connections – both within the greater urban areas which will surround each stop, as well as to neighbouring towns and cities.

In search of best practice, we have to look overseas for a high speed network which is comparable in scale to the proposed HS2 line.

In France, major investments were made into the local transport networks of towns on the high speed routes, such as Lyon and Bordeaux, before the first TGV pulled in at the platform. Not only were networks upgraded and expanded, they were also integrated with high speed services.

Once a passenger arrives at the station, they can almost immediately connect to a local light rail, metro, bus service or even car share or cycle hire scheme.

Key to the ongoing success of the high speed lines is continual research and analysis of passenger behaviour to such an extent that the local operators can pre-empt future changes to travel patterns and ensure their services are geared up to respond.

In Lyon, our colleagues in France conducted a study of passenger needs to revise the bus timetable to work around the tram and metro timetables, yielding a nine per cent uplift in passenger numbers.

On a smaller scale here in the UK on HS1, which we operate through our Govia partnership, integration has been key to the scheme's success and in winning over its once vocal opponents. As soon as passengers arrive at St. Pancras station, they can board a bus, Underground or connecting rail service within minutes.

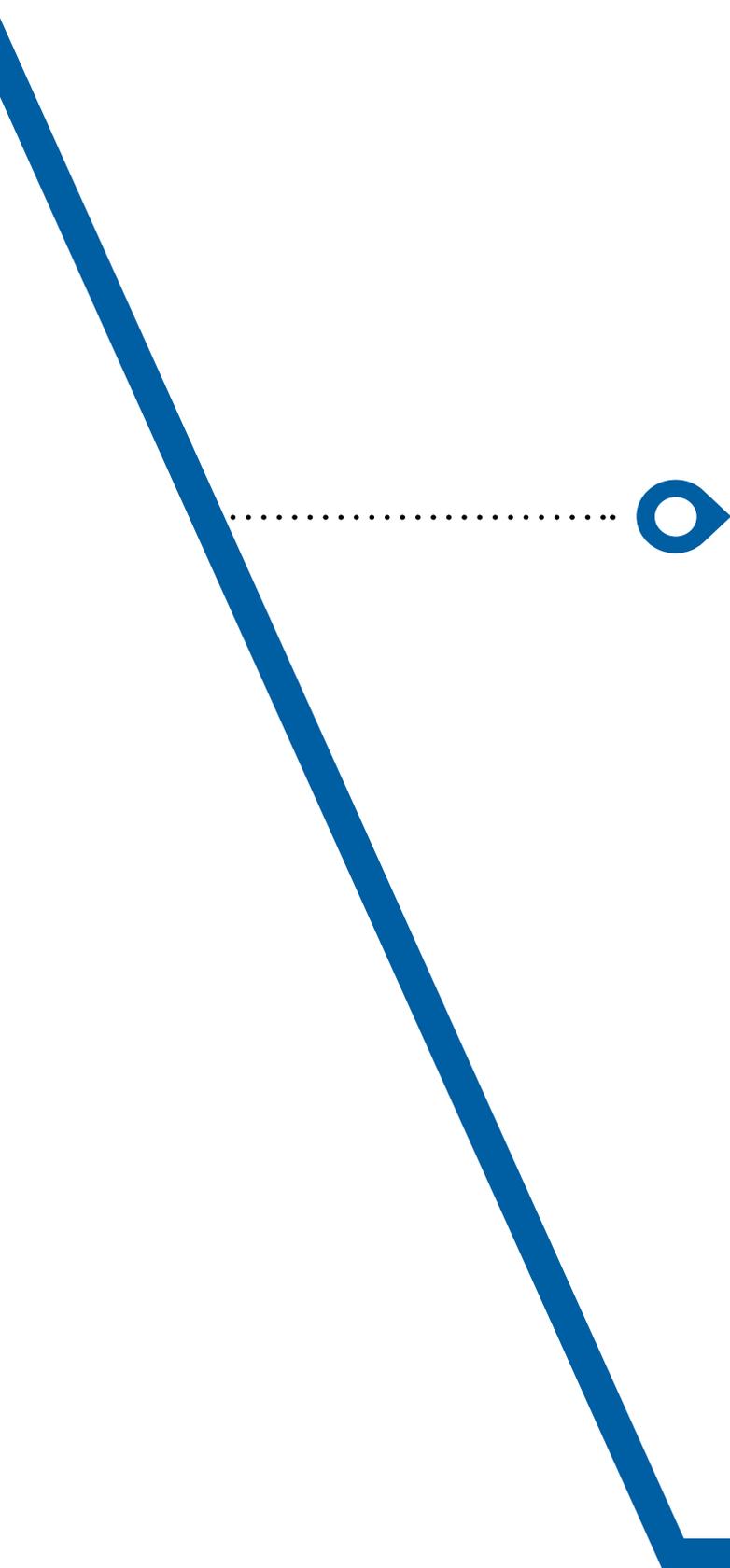
London itself is a great example of an integrated transport hub. The expansion of its Overground network in recent years has made connections across the city better and more reliable. Crossrail will only further enhance passenger options and experiences.

But there is no reason why this should be limited to London. To make HS2 a true success, passengers stepping off trains in Birmingham, Manchester, Sheffield or Leeds must have the same options open to them.

Certainly, more investment will be needed to make this a reality, and each city must now look at ways in which they can deliver new or expanded infrastructure alongside HS2.

It will then be the responsibility of the franchise operator to work in partnership with local stakeholders and other transport operators to deliver a fully multi-modal offering in every location along the route.





The Way Forward



By Sir Mike Hodgkinson,
Chairman, Keolis UK

The new HS2 route does not stop and start with the construction of a new line, stations and delivery of new trains. There will be significant changes and additional investments needed over the next generation to ensure that, once completed, it can truly become the catalyst for economic transformation that we firmly believe it can be.

While each of our contributors has shared their perspectives on what they feel these plans should look like, there are also some themes which are common to many of the essays in this report.

It is from these that we can pull together a set of key points that should frame the debate around how this key infrastructure project is delivered.

Connectivity and integration

Every contributor to this report touched on the need for greater connectivity between the stops on the HS2 route and their surrounding locations, as well as integration of the line into existing networks, such as through collaborative timetabling between transport providers.

While HS2 will no doubt serve the cities along its route well, it cannot exist in isolation. In light of this, it is heartening to hear people such as Sir Albert Bore and Ben Still discuss the expansion of existing local infrastructure to prepare for the arrival of high speed services.

Governance

Though the Government must drive HS2's delivery, there is a big role to play for the cities on the route in helping to realise greater connectivity and integration.

New powers from central Government through City Deals have given them greater autonomy over taxation from transport investment and these should be used to help forward fund the expansion and upgrade of existing networks, following Manchester's lead.

Similarly, neighbouring local authorities should explore ways of working together so that they can bid together to attract outside investment, be that from the state or elsewhere.

Skills

Amid the heated debate around HS2, little is said of the significant amount of employment and training opportunities the project will create in the UK. Every major infrastructure project of modern times, from the Channel Tunnel to Crossrail, has helped to sustain thousands of jobs and led to the development of new skills within the supply chain – some of which is then exported overseas.

HS2 will be a project like no other during the modern era in terms of its size and scale and as such, its potential to deliver significant employment benefits are substantial. Ensuring we make the most of this boon and its benefits has to be a key area of focus.

The skills issue also extends beyond the physical delivery of the project, because a high-speed network and additional rail capacity will create a more agile workforce, enlarging the talent pools of employers across the North, Midlands and South East.

Thank you

Lastly, I'd like to thank each of our contributors for their engaging and thought provoking essays which have been instrumental in helping create this report.

I hope you can draw as much insight and value from their important pieces as I have done.

[Sir Mike Hodgkinson](#)

We would like to hear your thoughts about this report so please email us at comms@keolis.co.uk to share your views.

