

Greengauge 21

What will be the spatial effects of High Speed Rail in the UK?

Evidence submitted to the
Independent Transport Commission
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Executive Summary

High speed rail (HSR) can lead to a paradigm shift in the way development takes place across Britain. The impact derives from:

- Major uplifts in the accessibility and connectivity of the major cities served by HSR
- The capacity for greater local and regional use that will become available on existing railway lines, expanding labour market catchments, and benefitting a second tier of towns and cities.

There are two aspects to the shift to consider. First, there will be a response within each city region. This will see a new pattern of development increasingly switching away from development on the urban periphery and beyond towards city centre and inner city locations. High speed rail can underpin adoption of the 'Smart Growth' agenda already being adopted in the USA (partly in response to higher energy costs).

Second, there will be a regional-scale shift. This accords well with Government aims to re-balance the national economy, both in sectoral and regional terms, and take pressure off the congested South East. The regions will benefit hugely from transformed levels of accessibility to the capital and to major international gateways.

Greengauge 21 identifies three key features of the spatial/developmental impacts of HSR that will stimulate the economies of the key regional cities. These do not apply with equivalent strength in London.

International experience is reviewed with an emphasis on the evidence from France. This usefully shows up the need to adopt complementary measures to get the most positive economic development and regeneration benefits.

Finally, the UK research into this area is summarised. This includes a quantified examination of the effects of HSR on productivity at a regional level (work carried out by KPMG for Greengauge 21), and brief summaries of an interesting body of work carried out for the South West Regional Development Agency which identified a two hour journey time to London threshold, beyond which economic activity levels decline sharply.

Location is, of course, crucial for economic success. High-speed rail changes the basis on which locations across Britain will be evaluated for investment, for existing businesses as their customer base expands (sometimes, globally) and for start-ups.. There can be no certainty around quantitative forecasting in this area: other policies set both locally and nationally clearly matter to the outcomes in spatial terms.. But equally, it would be wrong to ignore the evidence which allows us, as summarised here, to set out why high-speed rail can be expected to lead to a stronger and better balanced pattern of economic expansion across Britain.

1. A National High-Speed Rail Network

Transport Ministers in successive governments have stated their intention to provide a HSR network for the nation. So far, a detailed plan has been developed for HS2, which would form (with the already complete HS1) the first stage of a national HSR network. Work on the design of HS2 was started in January 2009 with a remit to develop a scheme for London – West Midlands (and ‘possibly beyond’).¹ Those charged with developing the scheme (HS2 Ltd) subsequently saw their remit expanded into designing a second phase scheme which extends the route to Manchester and Leeds. A statement on the plan for this second phase is expected by the end of 2012.

In September 2012, the Secretary of State for Transport announced an intention to examine how high-speed rail can bring a 3-hour journey time between London and Glasgow/Edinburgh. This requires investment beyond that provided for in the two-stage HS2 plans.

HS2 is only part of the national network that is needed. In due course, a second north-south high-speed line, on the eastern side of the country will be required because, just like the West Coast Main Line, the East Coast Main Line will run out of capacity. This is the conclusion of Greengauge 21’s own studies – and of the Strategic Rail Authority’s first study into the case for high-speed rail² and Network Rail’s independent studies of the same question.³ Greengauge 21’s work has shown that Britain can and should have a HSR network linking all of the English core cities, together with Cardiff, Glasgow and Edinburgh with London and with each other; with all of the English regions inter-connected and with the major airports and HS1/Eurotunnel served by HSR too.⁴

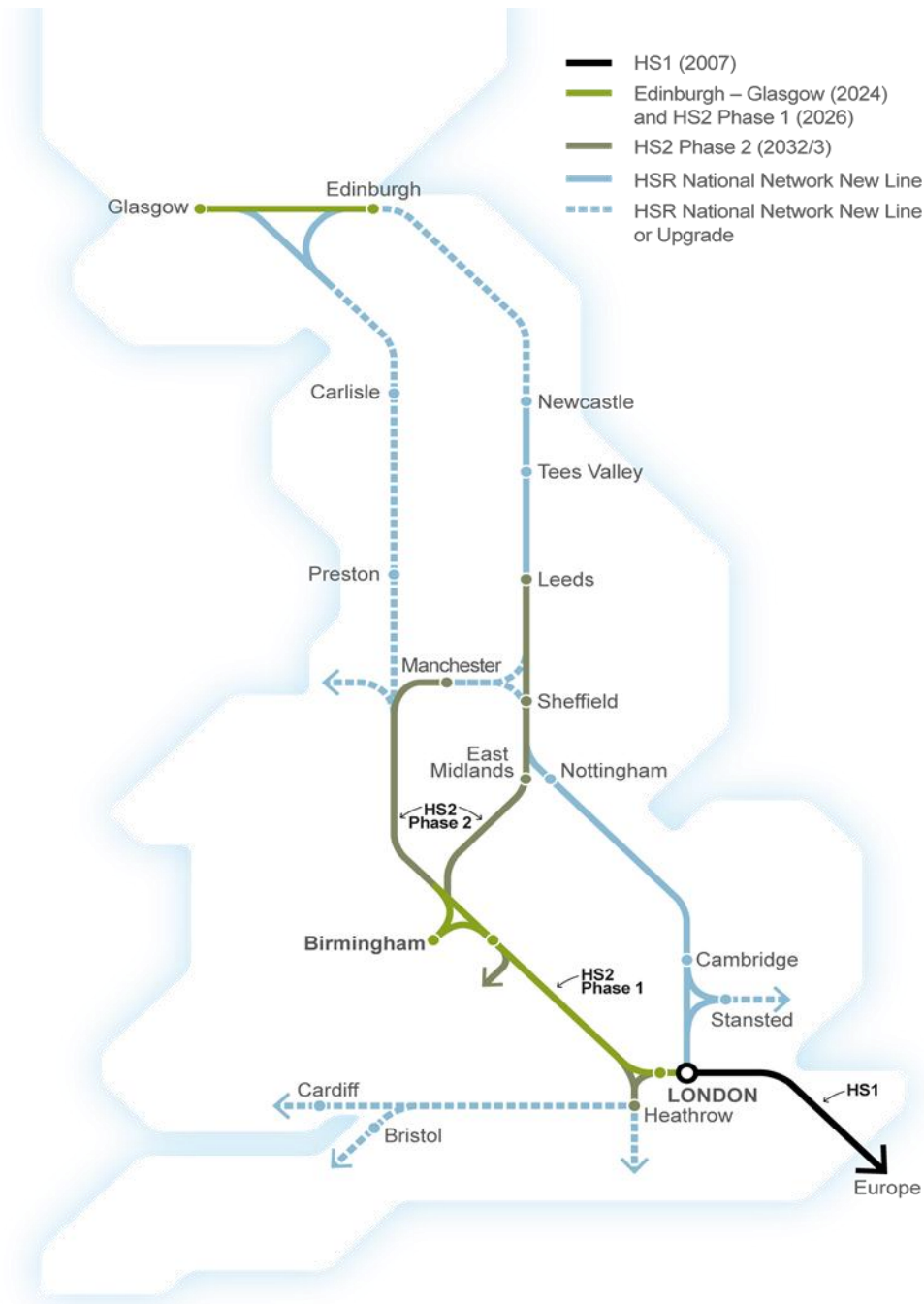
The distinction between the HS2 project and a wider HSR network is important because the spatial effects of a national HSR network will be different from the effects of a major single scheme. The effects will be larger, the number of cities receiving a significant accessibility boost greater, the differential effects with some regions losing out to others will be diminished and the level of improvement in the inter-connectivity between cities will be much greater too. The national HSR network developed by Greengauge 21 is illustrated below.

¹ HS2 Ltd Remit DfT January 2009

² *High Speed Line Study: Summary Report* Strategic Rail Authority, Atkins *et al*, 2003

³ New Lines Report, Network Rail, September 2009

⁴ Greengauge 21 developed a national high-speed rail network on behalf of its Public Interest Group in 2008/9 published in *Fast Forward* and available at <http://www.greengauge21.net/publications/fast-forward-a-high-speed-rail-strategy-for-britain/>, based on a step by step economic analysis of alternative network shapes and elements.



Since the adoption of a policy to create a national high-speed rail network has been taken on a cross-party basis, Greengauge 21 believes that the ITC is right to propose assuming, for this analysis, that the Government’s January 2012 proposals are implemented *and* that there will be further sections of the network – we would suggest thinking in terms of the national network shown here.

2. The Accessibility Impacts of HSR

High-speed rail provides enhanced (in some cases, transformed) accessibility to those places with stations on the high-speed network. Typically these will be central city locations. There is no case to create high-speed rail stations in rural areas.

The spatial orientation of the HSR network which is likely to be developed over the period 2020-2050 is in marked contrast to the national motorway/trunk road program of the 1950-1990s, despite the interurban nature of both programmes. The motorway network was designed largely to avoid urban areas. It acted as a stimulus to a pattern of dispersed development on the urban periphery and beyond. HSR, on the other hand, is essentially a concept that links the very centres of the largest cities. It is therefore to be expected that the impacts on the pattern of economic development will be very different.

High-speed rail will have a major impact on business to business **connectivity**, most markedly those based in the larger cities, which are increasingly the drivers of the national economy. The connectivity advantages that an HSR network brings extend well beyond those places that are on the network itself. We illustrate below the much wider range of cities and towns that the national network illustrated above would serve. Thus is achieved by through running of HSR services beyond the limits of the new high-speed infrastructure on to the existing 'classic' network (requiring in some cases, electrification of the relevant lines).

National coverage of HSR services based on *Fast Forward* network



Source: Greengauge 21

The provision of HSR connectivity offers new **capacity** of a higher standard (speed, reliability, customer comfort and amenity) both on the high-speed network itself, and additional usable

capacity on the existing rail network, especially into the cities served by HSR. This liberated capacity effect has been studied by Greengauge 21 and others,⁵ and the beneficial impacts on city-regional economies are substantial, because of the scope to provide much enhanced commuter rail services at modest incremental cost. Improved city region rail services can expand employee catchments, improving productivity levels and bringing large agglomeration benefits; these commuting services are typically 'squeezed out' from the current rail network because of the need also to accommodate inter-city services. Once inter-city services are transferred to HSR, the existing rail network can be used to expand and improve local, regional and commuter services.

3. Spatial Development Implications

The effect of high-speed rail on cities and regions in spatial development terms will partly depend on what the nation wants those effects to be. That is to say, spatial development is not the result of 'pure' market behaviour, but the outcome of a complex set of interactions between businesses and the policies adopted by government and the agencies of government in its various forms. These are subject to trends and fashions like other areas of economic activity.

There is no national spatial strategy for England, yet it is clear that in order to foster a re-balanced economy, less reliant on the tax revenues of a financial sector in London, the pattern of development will need to shift at a national scale. The wider south east cannot be expected to accommodate an extra 10 million people projected by 2030, or anything like it. On the other hand, larger scale growth is more feasible across the Midlands and the North. But for the long-standing pattern of growth and development to shift away from its very strong south eastern bias, the locational disadvantages of the more northerly and westerly parts of the country need to be addressed. High-speed rail is an initiative that can significantly help reduce the locational disadvantages of peripheral regions.

The pattern of development for the last 100 years has been one of increasing spreading (or sprawl), with low density housing, retail and distribution centres, regional hospitals, business parks and other new employment zones all developed in rural and suburban areas, very often remote from established urban centres. This has created a new distribution of demand for travel that has been increasingly hard to serve with low carbon/low energy efficient transport modes (walk, cycle and public transport). It is a development pattern that has had a symbiotic relationship with ever higher car ownership and use and with lengthening car trip lengths. But in this era of high fuel prices, its economic sustainability as a development pattern has to be questioned. Its environmental sustainability credentials have always been poor.

A national high-speed rail network provides the opportunity to take a different and more sustainable course, one in which **development takes place in existing urban areas and not (except in extremely rare cases) elsewhere**. This was, more or less enshrined in planning policy (if frequently disregarded in practice), but the situation has been further weakened by the National Planning Policy Framework of 2011 and by the perceived need to liberalise planning processes to stimulate development. With high-speed rail, there will be fresh opportunities for the development community and for business expansion. It becomes

⁵ See *High Speed Rail: Capturing the benefits of HS2 on existing lines*, Greengauge 21 February 2011 and *High speed rail in Britain: Consequences for employment and economic growth* Greengauge 21 February 2010

possible to return to a position of much greater protection for undeveloped/greenfield sites without damaging economic growth prospects.

In other words, a national HSR network creates the opportunity to break away from permitting development to take place on the urban periphery where its environmental, social and long run costs are high, and instead puts a focus on urban centres (and the transport networks that help them function).

This is a prognosis of so-called ‘Smart Growth’ – a radically revised path for land use development developed in the USA⁶. Application of these principles to Britain has been developed by Jon Reeds.⁷ In Britain, there is a much greater preponderance of underused and unused property, brownfield and former industrial premises available in the major regional cities suitable for major regeneration than remains in the capital.

Smart Growth UK Principles

- Plan compact communities
- Strengthen and direct development towards existing communities
- Provide sustainable transport choices
- Protect the unbuilt environment
- Foster distinctive, attractive communities with a strong sense of place
- Mix land uses
- Encourage communities to flourish and grow
- Create a range of housing opportunities and choice
- Make development decision fair and economically inclusive

Source: Jon Reeds, Smart Growth p19 www.greenbooks.co.uk

The regional pattern and scale of spatial development that will take place over the coming decades when the HSR network is likely to be implemented will be driven by several factors. First, there is the simple demographic pressure⁸, which reflecting the trends of the last forty years, will see the majority of growth in the south east with other regions and nations showing much lower levels of growth, and sometimes outright decline in population. Population growth over the past ten years across the north of England has been modest. For example, while there has been some population growth in the Leeds City Region, Liverpool City Region has seen a small population decrease. Meanwhile, the south east has expanded rapidly, yet it is a region which, for all its economic strengths and advantages, is struggling to cope with the need, for example, to maintain sufficient water supply (even at existing population and activity levels).

If alternative patterns of growth and development were considered in terms of environmental sustainability, social cohesion and the relative costs of meeting essential needs (water supply, energy supply, food production, housing) at regional levels, Greengauge 21 believes

⁶ Smart Growth America was formed as a national coalition in 2000

⁷ *Smart Growth: From Sprawl to Sustainability*, Jon Reeds, Green Books 2011

⁸ Thus the majority of population growth over the period mid-2011 to mid-2021 is shown as being in the wider south east. See *Interim 2011-based subnational population projections for England 28th September 2012* Office of National Statistics

that such an analysis would show clearly the advantages of a better balance in approach across the nation as a whole. As economist Paul Ormerod recently put it:

“Britain’s regions...[]...need more trade, and this means better links and more connections with London and the South East. Modern network theory has been used to provide exciting new perspectives on the structure and patterns of world trade. The same principles apply within a country. More infrastructure connections would give the regions a chance to transform themselves. They could become prosperous areas again, as they were in the nineteenth century.”⁹

Business leaders see the need for the kind of shift identified. Thus, John Cridland, director-general of the CBI, sees the requirement in terms of the need to re-balance the economy. He suggested that the growth report published by Lord Heseltine on 31st October, 2012:

“offered the prospect of growth based on key regional cities. For the economy to be re-balanced, we need to get investment across the country and export growth across the country. Not all the growth can be from London and the south east”.¹⁰

Regardless of whether future governments adopt formal spatial strategies to achieve such a shift, an important question is how business location decisions will be made in future, in what will be an era of global competition and high levels of specialism. Businesses will undoubtedly take account of the changes brought by HSR – in the connectivity of different locations, ‘cluster’ effects and the costs, risks and opportunities of different development opportunities.

We suggest that the evidence points towards high-speed rail helping to change the pattern of spatial development, re-balancing the British economy and setting the nation on a more sustainable path of development.

4. The Market Response to High-Speed Rail

Businesses may respond rapidly to the opportunities on offer once HSR plans are firmed up and committed. The development effects of HS2 – the first phase of which is due to open in 2026 – could well be felt before the end of current decade. The French experience has been that development around planned TGV stations takes place over a period of fifteen years or so, but the period of physical construction of the new developments typically starts about seven years before the TGV line and services are open.

Outside London, the cities served by HSR have much lower land values and rents, but these will shift upwards because of the enhanced accessibility HSR offers – but probably not to London levels. Property development, which in several sectors has, through the period of recession, retrenched to a ‘within-M25 only’ activity, will spread to other cities. True, these other cities may not have all of the attractions that a London location can offer (proximity to Government, excellent global air service connectivity, diverse leisure/entertainment sector, high tourist volumes), but typically they will have, like London, major universities nearby, an established urban public transport network and a substantial workforce. And in contrast to London, these cities have lower housing prices and a greater appetite (if not the resource

⁹ Paul Ormerod, City am, Wednesday 7th November 2012

¹⁰ The Guardian 1st November 2012, p32

needed) for major urban regeneration. Other attributes, such as access to global gateways and the financial institutions based in the City of London, are addressed by the development of high-speed rail which will give provincial city centres not dissimilar journey times to central London as those from outer London suburbs.

We can distinguish three major inter-related forces that will affect development patterns in provincial cities as a result of HSR:

1. increased accessibility to the facilities that are uniquely available in the nation's capital city, enhancing business productivity (this includes London's airports/Eurostar services, as well as its businesses and Government)
2. much improved connectivity with other provincial cities, creating wider markets for businesses. There will be better connections between cities on the HS2 network and for those cities that lie beyond the new infrastructure but which will be served by new HSR services extended over the 'classic' rail network, and there will also be better connections between towns and cities on the classic network which get the benefit of reduced network congestion (e.g. Milton Keynes and Coventry)
3. the creation (at marginal cost) of much wider rail commuter catchments through better services using the spare capacity freed up on existing railway lines, with better services enabling more employees to get to work reliably and free from road congestion.

These factors will each have a strongly positive impact on development in the cities and city regions that high-speed rail serves. Collectively – and with the right complementary policies at a local and national level – they are a transformational prospect. Together they will have the effect of enhancing value in land and created in property development in each provincial city served by the network – both immediately adjacent to HSR stations – and in the wider city and city regions that HSR serves, and along corridors where the new HSR lines liberate capacity on existing lines

Three factors benefitting the key regional cities

1. better connectivity with London & global gateways
2. better connectivity within the regions
3. better commuter rail networks

together, enhancing land and property development value

As we argue below, London will also receive *some* of this set of benefits from the adoption of HSR. But others have suggested that simple consideration of the 'two-way road' effect means that London's benefits will outweigh those of the regions. The greater connectivity provided, this argument runs, creates the opportunity for the economies of scale that come through centralisation, to the disadvantage of local (peripheral) production.

There are two problems with this position. The first is that, it assumes that the advantages to businesses of centralising activities remain yet to be realised. While this may be hard to assess, it is certainly widely observed that Britain is one of the most centralised economies in the world. In a country where people and goods traffic is highly dependent on the roads sector, the national motorway network radiating from London which was developed over the

last 50 years has most likely already created the opportunity to seize the benefits of centralisation efficiencies that depend on relative transportation accessibility.

The second problem is that this is not a narrow transport economics question, but one where the consequential effects are likely to be large and diverse. The three impact areas identified above and their consequential effect on development will not apply equally to capital and provincial cities. By considering their applicability to London in turn, it is possible to shed some light on the potential for regional re-balancing and the 'bridging the north-south divide' question.

The first factor – better connectivity to the capital city and its amenities, including the airports and access to the channel tunnel – does not apply to London.

The second, enhanced connectivity to provincial cities will bring *some* of the same benefit to businesses located in London. The journey time saving between London and the provincial cities is an advantage regardless of the origin of the journey. But London will not share in the transformational change that HSR will bring to inter-provincial city connectivity. The key regional cities are in many cases closer to each other than they are to London but suffer from relatively poor inter-city connections now so that journey times are disproportionately long. A high-speed rail network and the consequential changes to the classic network will bring much improved connections between the key regional cities and bring them substantial agglomeration benefits; these effects are not going to apply to London to anything like the same extent.

The third factor will offer London the same type of commuting and agglomeration benefits that will arise in provincial cities: HS2 will lead to much better commuter services from the Chilterns and from the Milton Keynes/South Midlands growth area using capacity freed up on the West Coast Main Line, for example.

On the question of whether HSR-induced development value can be created in the capital in the same way as will arise in provincial cities, the evidence to date would suggest that yes, it can be. This effect is already well-illustrated in London by the case of the Kings Cross and Stratford railway lands that HSR can bring a development stimulus. HS1 has led to over £10bn private sector investment in the capital and the Thames Gateway. These are examples of where high-speed rail has led to large-scale development that otherwise would have not taken place, and it is quite possible that further such development could take place in the capital, prompted by HS2 and subsequent stages of HSR network development. But there are no 'railway lands' left for development – and while the Old Oak Common is discussed as an equivalent opportunity, actually, much of the site is already spoken for (mainly by new depot facilities for Crossrail and the IEP trains fleet), and much of the remainder will be taken up by the very large HS2/Great Western station planned for the site. So while these effects will arise in London, the scope for major land redevelopments is limited and much less (in area terms) than exists across the regional cities that high-speed rail will serve.

So on balance, the accessibility and connectivity gains that HSR brings might be expected to help stimulate development and the economies of the provinces proportionately more than London, since some of the beneficial effects do not apply to the capital.

Summary of HSR impacts: provincial cities and London

Provincial Cities	Capital city
Better connectivity with London and global gateways	
Transformed connectivity with other provincial cities	Better connectivity with provincial cities
Enhanced commuter catchments	Enhanced commuter catchments

The net advantage is weaker in London, and the availability of land for new development and regeneration is also much more limited.

5. International Experience

The evidence from France was studied by Greengauge 21 in 2006¹¹ and the Transport Select Committee took evidence on this subject in 2011.¹² In summary we would describe the lessons from the French experience with the development of the TGV network as follows:

1. for Lyon – the advent of TGV, with the first line halving the journey time between Lyon and the capital, led initially to some centralisation of business activity in Paris to Lyon’s disadvantage, but, after a period, this process reversed, and businesses sought greater presence in Lyon¹³
2. French cities and regions have lobbied strongly to be served by TGV because of the perception that this benefits their localities; this continues to be true today, where there are major debates over the risk that TGV services will not be extended west of Rennes when the new TGV line is opened, a concern to the west Breton authorities
3. Lille benefitted from being a HSR hub station, and secured major advantages in redevelopment terms. Lille is at the centre of an area of major job losses through de-industrialisation; its civic leaders saw the opportunity to create new development exploiting the accessibility gains TGV offered. There is significant scope with the wider HSR national network in Britain to create a number of centres where there will be widespread connectivity gains – not just to the capital – and these might offer the same style and level of benefits that Lille has experienced
4. Locations where TGV has served provincial cities through remote park and ride style stations have generally failed to ignite related development
5. On the other hand, where TGV has been accommodated in the traditional city centre locations using existing stations, there had been the opportunity to interface with newly established light rail networks to spread the benefits across the wider city region
6. Those French cities that have embraced the potential of TGV and worked to identify and attract the type of business development that can exploit its connectivity benefits

¹¹ *High-Speed Trains and the Development and Regeneration of Cities* Greengauge 21 June 2006

¹² Transport Select Committee, Tenth Report *High Speed Rail*, November 2011

¹³ Pierre Messalun, oral evidence, Transport Select Committee, 21st June, 2011

have seen a spur to development; but those that have not adopted complementary development strategies have seen less or no benefit in the local economy.¹⁴

The question of the types of businesses that can benefit from HSR is an important one. Activities that require good connectivity, that rely on face-to-face contact and which involve meeting customers and other businesses would be expected to have most to gain. These businesses are in areas of high-tech industrial production, in business mediation activity including the financial and legal sectors, research activity in any sector that relies on networks across multiple institutional and academic bases, knowledge based industries and the creative design, communications and media sectors.

And it is also the case that HSR will bring significant benefits to the tourism sector too and stimulate development in tourism-based infrastructure and heritage. Increasingly, for international tourist visits, HSR is seen as a means of ‘covering the ground’ in an appealing way. And the parts of the world that are generating huge increases in tourism demand are well versed in using high-speed rail. For Britain, there is the prospect of a distinct re-balancing of international visits, taking people to places beyond the established and under-pressure attractions, many of which are in London.

6. UK Research Evidence

The Transport Select Committee considered the question of the wider impacts of HS2, and took evidence from a number of academics and others, including Greengauge 21.¹⁵ Some evidence can be adduced from the HS1 experience, but HS2 Ltd and DfT forecasts for HS2 have all assumed that there is no effect on land use at all. This is likely to have the effect of depressing the business case, and is particularly critical when there are major shifts in accessibility created by a transport project. The same simplifying assumptions were made in the project appraisals of the Jubilee Extension project in London, and so its *ex ante* benefit cost ratio was estimated to be only 0.95:1. In practice, it led to the expansion of the Canary Warf development in particular and the *ex post* project appraisals show a much higher benefit cost performance, with a transport benefit:cost ratio, even after allowing for the higher than budgeted outturn costs, of 1.75:1; wider economic benefits, not included in this estimate were estimated at over £6bn.¹⁶

Greengauge 21 has commissioned work in this area by KPMG, the only attempt of which we are aware to quantify the wider effects of a national HSR network (beyond the standard DfT Wider Impacts Effects which assume there can be no change in land use arising from a transport investment).

KPMG’s analysis estimated that HSR could support growth in average wages of £409 per annum, encouraging an additional 25,000 people into work and underpinning economic growth of some £17bn per annum. To this can be added a further £29bn per annum (by 2040) ascribed to the capacity liberated on existing lines for additional commuting. This work concluded:

¹⁴ Systra *Interim Report Number 2*, Greengauge 21, 2009

¹⁵ Transport Select Committee, *op cit*

¹⁶ See *Quantification of the non-transport benefits resulting from rail investment*, David Banister, Transport Studies Unit, Oxford University Centre for the ENVIRONMENT Working Paper No. 1029, October 2007.

“All areas of the country see a benefit as HSR expands business market catchments and supports the agglomeration of business activity. The largest impacts are seen in the northern core cities and in Edinburgh and Glasgow. In this sense, HSR really does spread prosperity across the country”.¹⁷

The correlation between regional productivity and distance/travel time to London has been studied and there is very clear and strong correlation: the remoter the region, the weaker the economy and its productivity.¹⁸ It has also been found that there is a consistent correlation between areas that experienced the strongest productivity growth and their degrees of connectivity.¹⁹ The obvious importance of this finding is the possibility that reducing access times to the capital would have a beneficial effect on regional economies, and help foster their development.

But correlation does not imply causation and it is only with the emergence of spatially disaggregated data that researchers have been able to explore the various factors that might explain this remoteness-productivity effect. Greengauge 21's work for the Great Western Partnership identified useful work carried out in this area on behalf of the South West England Regional Development Agency.²⁰ In summary, this work suggests that there are several important factors explaining regional productivity variations, and that transport times to London and other major provincial cities is one of them, accounting for 7% of the productivity gap. It also points to a major time threshold of two hours travel time from London beyond which the prospects of inward investment and business retention decline rapidly. In this context, evidence from businesses in South Wales suggests that it is connectivity to the international hub airport (Heathrow) which is as important as connectivity with London itself.²¹

This implies that the spatial impacts of HSR will be affected by:

1. The extent to which provincial cities can be brought under an approximate two hour journey time threshold to the capital
2. Whether connectivity is being offered by HSR directly to Heathrow/international hub airports
3. The degree of improved inter-connectivity with other provincial cities.

Work carried out by the Northern Way examined the question of agglomeration benefits.²² These are generally understood to diminish rapidly as a function of distance. But this work showed that, using DfT standard assessment approaches, and despite the decline in

¹⁷ *HSR in Britain: Consequences for Employment and Economic Growth*, Greengauge 21 report, KPMG, February 2010

¹⁸ See for instance, *The Impacts of High-Speed Trains on British Economic Geography:*

A Study of the UK's IC125/225 and its Effects Chia-Lin Chen, Peter Hall University College London 2009/11/20

¹⁹ IPEG/CUPS *The Northern Connection: Assessing the comparative economic performance and prospects of northern England*, Newcastle, Northern Way 2010

²⁰ See Great Western Partnership *Conditional Output Statement*, Greengauge 21, March 2012; *Meeting the Productivity Challenge 2: Update 2006 – Report of study carried out for the South West of England Regional Development Agency* University of the West of England and University of Bath; Rice P. and Venables A.J. *Spatial determinants of productivity: Analysis of the regions of Great Britain* CEP discussion paper 642, 2004; *Great western Main Line Economic Assessment Final Report*, South West RDA, Halcrow Group, June 2005

²¹ Great Western Partnership *op cit* p19

²² Steer Davies Gleave *High Speed Rail and Agglomeration Benefits Update* Reflecting DfT's Published Guidance on Wider Impacts Technical Report, October 2009, The Northern Way

agglomeration effects with distance, a national high-speed rail network would generate £12.9bn of agglomeration benefit that was being ignored in DfT appraisals.

There are qualifications that need to be made, because – reflecting the French experience with TGV – improved connectivity on its own may not be sufficient to lead to the kind of spatial development changes discussed here. Thus IPPR North and the Northern Economic Futures Commission’s interim report of April 2012 concludes:

“While transport and connectivity are necessary for growth, they are not sufficient. Research by the Work Foundation²³ shows that the relationship between connectivity and skills is key.”

A similar conclusion was reached in work commissioned by Greengauge 21 that highlighted the need for complementary policy measures, particularly a national spatial strategy, to ensure that the benefits of high-speed rail in terms of supporting regional development are realised.²⁴

Since that work was carried out in 2009, it has become government policy to seek a re-balancing of the economy, both in sectoral and regional terms. While the necessary instruments to bring it about may still be at the development stage, it is reassuring that the impact of HSR in the development market-place leads in exactly the direction that Government is seeking.

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²³ Hutton W *Building Successful Cities in the Knowledge Economy: the role of Soft Policy Instruments*, London Work Foundation, 2008

²⁴ *Complementary measures to facilitate regional economic benefits from high-speed rail* 15 June 2009, Alan Wenban-Smith for Greengauge 21