

High Speed 2

# **Review of wider economic impacts of HS2**

Review prepared by HS2 Action Alliance

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## Economic impacts of High Speed 2 (HS2)

### Summary

This note deals with the impact of HS2 on the economy, and the so called 'transformational' benefits. The main findings are as follows:

- DfT's approach combines savings to business identified through the conventional transport appraisal with Wider Economic Impacts (WEI). As estimated by HS2 Ltd, they are £16.1bn and £3.6bn respectively, but both are based on very substantial overestimates of the value of business time savings. WEI, at £3.6bn, are only 11% of HS2's total benefits. HS2 Ltd has also had the possibility of long distance 'agglomeration effects' investigated, but these proved to be very small.
- Regeneration impact has been considered by HS2 Ltd. This identified the best opportunity for the first stage of HS2 as Old Oak Common (ie in the London area not the Midlands).
- HS2 Ltd has also considered the potential for more general growth benefits that might be catalysed by HS2, through encouraging additional investment. This finds no clear case, with potential gains for locations served by HS2 likely to be off set to some extent by losses from other locations in the region, and risks to the regional economies from losing jobs to London.
- Work has been done for pro-HS2 groups and regional development bodies that attempts to estimate the economic benefits of better transport directly ('GVA techniques'), rather than through conventional transport benefits such as time savings. However, expert review (by LTS) of the methods used found methodological problems that cause the benefits to be exaggerated.
- The 70% of HS2 passengers projected to be leisure users will on balance bring money to London from the regions. This reflects the dominance of London as the destination for travel forecast by HS2 Ltd. For business travellers, because services are the economic activity most affected by high speed passenger travel, there are considerable risks of regional businesses losing out to London, because of London's pre-existing dominance and greater efficiency.
- Finally the frequently cited example of the Jubilee Line extension is reviewed. The extension does not seem comparable to HS2, and consequently provides no basis for expecting HS2 to underpin economic regeneration similar to that of London Docklands.

### HS2 and DfT's approach to economic effects

DfT's approach to economic appraisal focuses on welfare benefits, although it does encompass effects on GDP. The principle impacts on GDP are through the business time, reliability and cost savings that are assessed through the standard transport appraisal. However, there are some additional impacts on both welfare and GDP that are not captured in the standard transport appraisal. These are assessed as Wider Economic Impacts<sup>1</sup>. The table at Appendix 1 summarises the relationship between welfare and economic benefits under DfT's approach.

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<sup>1</sup> DfT have produced a useful summary of WEI issues, 'Transport, Wider Economic Benefits and Impacts on GDP', Discussion Paper, July 2005 <http://webarchive.nationalarchives.gov.uk/dft.gov.uk/pgr/economics/rdg/webia/webmethodology/sportwidereconomicbenefi3137.pdf>.

### *Business saving in the conventional appraisal*

HS2 Ltd assesses the business user benefits that apply to GDP to be about £16.1bn<sup>2</sup>. However, a separate report by HS2 Action Alliance argues that the business time savings in this conventional transport assessment are greatly over-estimated in value<sup>3</sup>. In short this is because DfT's approach incorporates out of date views on the productivity of time on board long distance trains (that it is all wasted), and on business passengers having very high earnings (that must reduce with greatly increased passenger numbers).

### *WEI*

In the case of HS2 these additional WEI (£3.6bn) are quite modest (11% of total transport user benefits). However, for some projects WEI may be very significant – as with Crossrail, which has a big impact on improving access to key employment districts. For HS2 the main benefits identified are from:

- Agglomeration with better transport creating greater economic density (this is a local, not long distance effect) – worth £2bn, 46% of which goes to London. This is from re-using freed up rail capacity for local services (and from road congestion relief) – not from faster long distance connectivity.
- Businesses operating under conditions of imperfect competition – worth £1.6 bn, which is assessed as 10% of the business time saving and reliability benefits.

Although within DfT's approach, HS2 Ltd did not see benefits from bringing more people into employment, people working longer, or people changing jobs to higher paid (hence more productive) work. This is because HS2 was not thought to significantly affect access to work or commuting.

HS2 also had the possibility of longer distance agglomeration investigated, with the help of a leading academic in this area (Dr D Graham<sup>4</sup>), but it proved in practice to be a very small effect (at most £8-10m/a).

### *Total impact*

The impacts on GDP that DfT's approach gives are the business time and cost savings identified in the conventional appraisal plus the GDP impacts found in the WEI assessment. For HS2, the WEI GDP impacts are the agglomeration and imperfect competition benefits, summing to £3.6bn. This gives a total impact of £19.7bn. However, by far the greater part of this disappears on an up to date view of the value of the business time savings (as discussed above).

DfT's approach is concerned with net national benefits, and does not address re-distributional effects, where there is growth at one place at the expense of another.

### **Regeneration**

DfT's approach to WEI assumes constant land use, as there is otherwise the need to consider the investments to change land use. However, regeneration opportunities are recognised – ie where the transport investment makes it particularly attractive to make other investments that would involve land use changes, eg building new offices or shopping centres etc.

For the first stage of HS2, HS2 Ltd identifies Old Oak Common as the best regeneration opportunity<sup>5</sup>

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<sup>2</sup> Total business user benefits are £17.6bn, but GDP impacts exclude crowding benefits. Estimate derived from spreadsheet supplied under FOI request FOI10/029 to Dr J Savin, 4 June 2010

<sup>3</sup> 'Review of the business case for HS2' HS2 Action Alliance, December 2010

<sup>4</sup> 'Advice on the assessment of Wider Economic Impacts: a report for HS2' Daniel Graham and Patricia Melo, March 2010

HS2 Ltd considers the evidence that HS2 would stimulate economic growth as a result of investments encouraged by its building, ie in the area of its stations<sup>6</sup>. It reviews the considerable volume of material in this area with the assistance of a leading academic Prof Vickerman, and Reg Harman (author of a report in the same area for Greengauge 21). The conclusion is summarised:

*‘..... It concludes that the key for a high speed rail station being a catalyst for significant local and regional development is the integration of that station into a coherent wider spatial strategy for the city or region. However it also notes that this will not be a win-win conclusion. Some areas within a wider region may lose out, and it is possible a region itself may lose with some activity encouraged to relocate towards London. Whether such impacts materialise and how significant they are will depend on the economic structure of the cities, as well as the actions of regional and local planning authorities.’ (page 159)*

Its final conclusion concerning the economic benefits is also illuminating:

*‘... They are in essence the manifestation of time savings that are already captured in transport appraisal.’*

HS2 Ltd’s summary does not seem to be a minority view, with Professors Overman and Tomaney echoing this conclusion in their Select Committee evidence<sup>7</sup>.

*‘...Claims about the “transformational” nature of transport investments for particular areas should be generally discounted in assessing these benefits because they have no convincing evidence base to support them.’ (Professor Henry Overman)*

*‘...I broadly agree with Henry on the point that the evidence that HS2 will have a positive impact on rebalancing the national economy, to use the current jargon, is not really there.’ (Professor Tomaney)*

Interestingly a number of witnesses to this Inquiry who spoke in support of HS2 having major regeneration benefits that may redress regional disparities did not refer to academic studies, or the opinions of experts, but said that ‘our members tell me’. While a number of eminent people espouse belief in the transformational benefits, the basis for these claims has not been made clear.

The conclusion by HS2 Ltd that coherent wider spatial strategies for cities and regions would be necessary in promoting regeneration is significant. A further report<sup>8</sup> argues that these strategies would have to be extremely wide ranging, slanting all ‘regionally relevant’ public expenditure to support disadvantaged areas, and involving devolution of decision making to regions. Such strategies would appear to be extremely unlikely in the foreseeable future as there is no indication that government is taking this approach to public expenditure and regional agencies such as RDAs and Regional Offices are being run down.

## **GVA assessments**

There is a body of work that seeks to identify the economic impacts of transport infrastructure improvements directly (rather than through the workings of business cost savings and welfare effects modelled by DfT). Greengauge 21, the Northern Way, and others have had work done that tries to identify the scale of such benefits.

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<sup>5</sup> ,High Speed Rail London to the West Midlands and Beyond A Report to Government by High Speed Two Limited, section 4.2.52 page 183

<sup>6</sup> ‘HS2 Demand Model Analysis Appendix 3 High Speed Rail and Spatial Patterns and Strategies in Cities and Regions

<sup>7</sup> Select Committee for Transport, Inquiry on Transport and the Economy, 19 October 2010

<sup>8</sup> Complementary measures to facilitate regional economic benefits from high speed rail. Urban and regional Consultancy for Greengauge 21, 2009.

The, Northern Way (a Greengauge 21 supporter), asked researchers at the Institute for Transport Studies (ITS) at Leeds University, James Laird and Peter Mackie, to review the KPMG work and that done by the Spatial Economic Research Centre (SERC), at the London School of Economics. The KPMG and SERC studies purport to identify considerably larger economic benefits than those assessed by the conventional DfT approach. However, as a result of identifying a variety of methodological issues, the ITS review concluded:

*‘..... it remains clear that further work on methods and techniques will be needed before GVA assessment could become part of ‘mainstream’ appraisal.’*

Three of a number of issues that ITS identify are:

- the approach only takes account of the transportation investments not the other investments that are necessary to deliver the economic benefits, eg concerning land use etc.
- the tendency for transport to be developed as a response to demand (ie as a response to economic activity rather than the cause of it) inflates the estimates of the effect of transportation improvements made, as the methodology does not recognise this direction of causality and ascribe it in the opposite way round.
- the approach does not identify a net national increase in GVA, but focuses on local effects that are recognised as being predominantly re-distributive (ie at the expense of surrounding areas).

To illustrate the first point, the GVA approach would see the regeneration of London Docklands as a transportation effect and ignore the costs of the non-transport investments, rather than as an integrated property development project, the success of which turned on its proximity to the financial centre of the City of London. Thus the GVA technique ascribes the London Docklands benefits to transport.

It is generally accepted that redistribution of growth is a major element in this, with specific better connected places growing at the expense of nearby but less connected locations.

It is notable that while Northern Way has published the ITS report on its web site, it still gave the numerical estimates which it questioned to the Select Committee for Transport Inquiry on Transport and the Economy. No reference was made to the conclusions of the ITS analysis.

## **Transformation and HS2**

So what conclusions can we draw about what HS2 might do to the differences in economic performance between London and the North?

In HS2 Ltd's demand model, demand growth is largely driven by economic growth, with people spending an increasing proportion of their incomes on long distance rail travel. However this approach sees greater growth for people living outside London wanting to go to London than the reverse. Because the income elasticity for trips to London about twice that of trips out from London, passengers with London as the destination should grow at twice the rate which should lead to greatly more than twice the increase<sup>9</sup>. The consequence is that London is increasingly the destination of the trips made.

HS2 itself is forecast to increase the numbers of journeys made, creating 38,000 entirely new journeys to and from London a day. For business travellers, it is not obvious what this means, but for leisure travellers it is.

### *Leisure travel*

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<sup>9</sup> If GVA/capita growth is 2.5%/a, and the income elasticities are 1 and 2 for from and towards London respectively, growth in passengers would be 2.5%/a from London and 5.0% towards London. Over 20 years this gives a 64% growth from London but 165% growth to London.

70% of HS2 travellers are leisure travellers, who will move expenditure from their origin to their destination – spending money in shops, restaurants and attractions. As the trips to London are forecast to greatly outweigh (perhaps by twofold) those from London, this can only worsen the North South divide.

### *Business travel*

For business, faster transport to and from London may reduce a barrier to competition – particularly in areas such as financial services. HSR is seen as having its greatest impact on service industries<sup>10</sup>, in which London is both dominant and more productive than the regions.

A reduction in barriers to competition seems most likely to extend London businesses' access to markets in the West Midlands, and North West. This again would be to the disadvantage of those regional businesses that are brought into closer competition to London.

It is a brave gamble to seek better connectivity to London as an opportunity for regional businesses to take the market from London rather than the reverse.

### *Business relocation*

A potential source of jobs for out of London locations is the possibility of relocation of back-office functions from London, encouraged by the reduced travel times for management etc. A problem with this model is that while office space is cheaper outside London, typically access to an appropriately skilled and efficient workforce is crucial.

### *Long distance commuting*

Philip Hammond proposed that a high speed network would open up the possibility of commuting from Newcastle to London. Such commuting might conceivably make a minor contribution to economic performance (primarily in London), but would do so at a serious personal cost in terms of the quality of life for those affected.

Furthermore, the highest paid City jobs are hard to perform in combination with even relatively local commuting, due to the exacting hours that they involve.

### *Technology and transformation*

For business generally, travel may well decrease, as more productive means of communicating displace travel – eg video conferencing. Similarly the internet makes access to information easier, improving competition, and making physical location less relevant to the performing of numerous professional, managerial and clerical functions.

There seems greater prospect of reducing the relative disadvantage of the regions through virtual co-location of business activities through ultra-fast broadband, so that co-workers can be tens, hundreds or even thousands of miles apart than trying to reduce domestic intercity journey times.

Less travel, and travel being less important to conducting business will diminish any possible benefits from reduced journey times.

Technology is also increasing the usefulness of time on board trains, making reduced journey times largely irrelevant to productivity, and reducing its impact on the real costs of business travel that relate to the unproductive time of getting to and from the long distance train. Increasing productivity and hence real wages will put increasing pressure on businesses to avoid travel entirely, not because the time on board is unproductive (which it won't be), but to avoid the time costs of the travel at either end of the journey.

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<sup>10</sup> Harman (2006), High speed trains and the development and regeneration of cities, Greengauge 21 ([http://www.greengauge21.net/assets/European\\_Regeneration\\_Experience.pdf](http://www.greengauge21.net/assets/European_Regeneration_Experience.pdf))

## *Examples*

While the Government has not given evidence for the likelihood of transformational benefits, they have given examples of transport investments which they say have been transformational, with the sub-text that HS2 would be like them.

The Jubilee Line extension has been mentioned repeatedly as the catalyst in the regeneration of London Docklands. This is curious as the extension to serve Docklands was not started until 1993 and not completed until 1999<sup>11</sup>. Furthermore the final route was chosen because of the success of the Docklands redevelopment, rather than being the cause of it. The developers of Canary Wharf actually made a contribution to the extension's cost. While it has contributed to the continued development of Docklands, chronology suggests that the extension has not been the cause.

The case is better made for the Docklands Light Railway, which was built as part of integrated plans to redevelop Docklands, and was started in 1987, with the Canary Wharf construction started in 1988. The first buildings in the development were completed in 1991, including 1 Canada Square. But it is clear that the redevelopment was a property development project entirely driven by the proximity of derelict land in close proximity to the most expensive property in the UK. Land redevelopment and transport links were developed as part of a single a co-ordinated plan.

While the Docklands re-development could not have been successful without the required transport links, to identify the transportation investment as transformational is to mistake one of a number of necessary investments as determinant. One could as well regard the investment in providing the electricity supply, telecommunications infrastructure or indeed the sewage system as transformational. It is wrong to attribute all the benefits to any one of the investments: all were necessary. But none of these created physical proximity to the City, and potential for ready access to the financial services labour force that works there. Were similar investments to be made in another city, they would not be guaranteed similar results.

Whatever one concludes about the role of transport for Docklands, it cannot be a model for what would happen with HS2. HS2 is not creating ready access to previously derelict land in the close vicinity of the UK's financial services centre, nor is there any prospect that it could make other cities as accessible to London's commercial centre as Docklands now is.

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<sup>11</sup> Jubilee Line Facts, Transport for London

## Appendix 1

**Table 1: The DfT approach to welfare and GDP benefits<sup>12</sup> applied to HS2 (using HS2 Ltd's figures)**

benefit	welfare (£)	GDP (£)
1 Business time savings\$	Yes (£17.6bn)	Yes (£16.1bn)
2 Commuting time savings^	Yes	
3 Leisure time savings^	Yes (£11.1bn)	
<b>total transport user benefits (conventional appraisal)</b>	<b>1+2+3 (£28.7)</b>	
4 increase in labour force participation		Yes (£0)
5 people work longer		Yes (£0)
6 people move to more productive jobs		Yes (not assessed)
7 agglomeration benefits	Yes (£2.0bn)	Yes (£2.0bn)
8 increased competition	(Yes)# (£0)	(Yes)# (£0)
9 imperfect competition	Yes## (£1.6bn)	Yes## (£1.6bn)
10 exchequer consequences of increased GDP*	Yes (£0)	
<b>additional to conventional appraisal (WEI)</b>	<b>7+8+9+10 (£3.6bn)</b>	
<b>total (including WEI)</b>	<b>1+2+3+7+8+9+10 (£32.3bn)</b>	<b>1+4+5+6+7+8+9 (£19.7bn)</b>

\$ Measured as the cost of time to employers

^ Measured as willingness to pay

# Typically zero

## Assessed as 10% of value of the business time (and reliability) savings

\* 40% of GDP 4, 30% of (GDP 5+GDP 6)

<sup>12</sup> derived from DfT's 'Transport, Wider Economic Benefits and Impacts on GDP', Discussion Paper, July 2005, Table 1 page 18