



Submission to the Transport Select Committee consultation on High Speed Rail

12 May 2011

Dear Sir/Madam,

Please find below a submission from the TaxPayers' Alliance to the Transport Select Committee inquiry into the strategic case for High Speed Rail.

If you have any questions about our submission, please feel free to get in touch with myself (Matthew Sinclair) or our Research Director John O'Connell.

Yours Faithfully,

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Summary

- The TaxPayers' Alliance (TPA) strongly believes that the Government's proposed new high speed rail line (HS2) represents poor value for money and the project should be cancelled. Our position is that incremental investments in transport infrastructure, particularly in roads and commuter rail, would be a better priority for scarce resources. At the same time, with long term pressures on the public finances it is difficult to justify spending so much on a project that will predominantly benefit high earners.
- The business case is based on assumptions that are hard to justify and subject to three key flaws. Despite these flawed assumptions, the cost benefit produced still does not match the usual standard required for road projects, for example:
 - Forecasts for growth in demand are almost certainly overstated.
 - Zero passenger productivity during a journey is assumed.
 - An unrealistic comparator is used that ignores likely improvements on the West Coast Main Line if HS2 does not go ahead.
- Many towns and cities will receive a worse service if HS2 goes ahead on the basis planned. Avoiding that would require additional subsidies and further weaken the business case.
- Claims that the programme will create jobs are, in context, unimpressive for the scale of the spending planned.

This document will set out the TPA position on this project and then look at the business case; towns and cities likely to see worse capacity as a result of the project; and claims on jobs. It will then conclude by discussing other countries and why "me too HS2" has a poor financial record.

Priorities

The TaxPayers' Alliance is not hostile to infrastructure investment in itself. In our report with the Institute of Directors – *How to save £50 billion: Reducing spending for sustainable public finances* – we largely avoided cuts in investment expenditure, and instead focused on government consumption. We did so because the Government had “already set out plans radically to reduce net investment” and “transport and energy infrastructure should be the last items to cut”.¹

Our view is that the priority for scarce resources should be maximising additional capacity for every pound spent, to ease overcrowding with scarce resources. Opinion polling suggests that reducing cost, congestion and overcrowding is the public's priority for investment in the transport network.²

In our Manifesto ahead of the last election – intended to be a benchmark whoever formed the next Government – we included this item:³

“Refocus transport spending on high use commuter rail and roads

Despite motorists facing excessive taxation, far more is spent on railways per passenger kilometre. Resources should be focused where they will do the most to ease congestion. Approve a third runway at Heathrow.”

While there is a need for greater capacity on the West Coast Main Line, that can be addressed more effectively through incremental improvements. The case for high speed rail inherently depends upon prioritising greater speed, and the case for HS2 depends upon prioritising greater speed on the already fast West Coast Main Line. We do not think that is appropriate. While RP2 is not a perfect alternative, something along those lines would offer better value in our view.

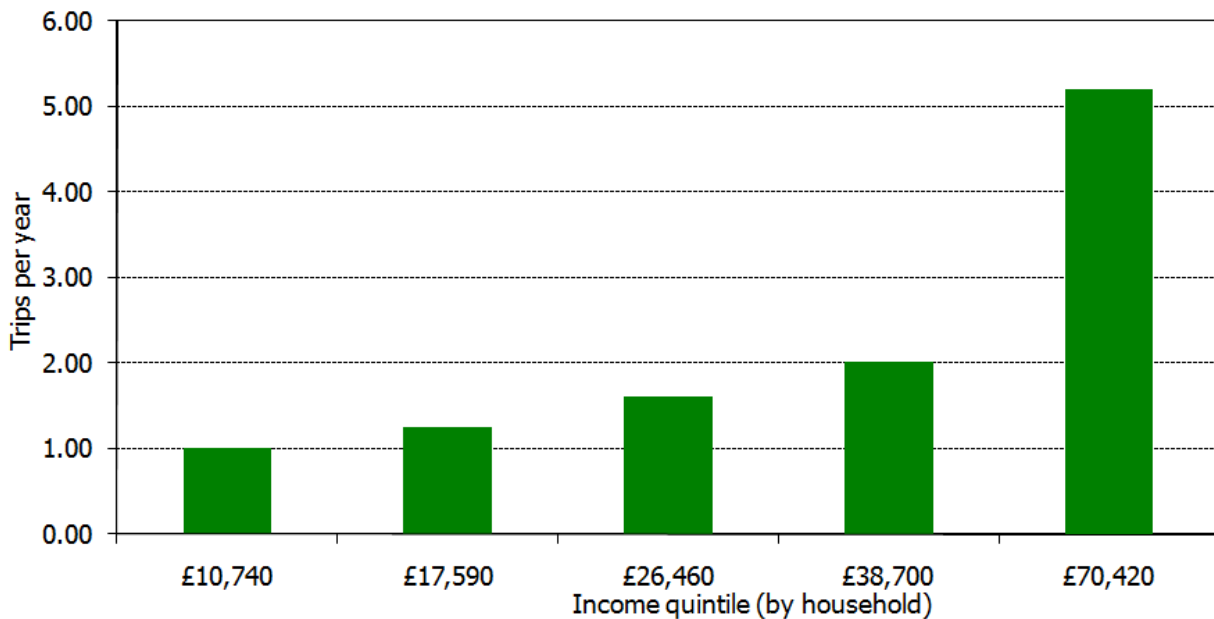
The business case for high speed rail relies upon business passengers in particular having a high income, as that increases the value of time saved with quicker journeys. More broadly, research shows that nearly half (47%) of long distance rail journeys in Britain are made by people from households in the top income quintile:

¹ <http://www.taxpayersalliance.com/50bil.pdf>

² <http://www.ipsos-mori.com/Assets/Docs/Polls/transport-and-the-election-survey-rac-foundation-2010-toplines-and-trends.pdf>

³ <http://www.taxpayersalliance.com/TPAmanifesto.pdf>

Long distance rail trips by income (source NTS)



Source: 'Modelling Long-Distance Travel in the UK', Charlene Rohr, James Fox, Andrew Daly, Bhanu Patruni, Sunil Patil, Flavia Tsang. RAND Europe, NTS 2002/5, income data 2005/6 ONS

With long term pressures on the public finances, spending so much on a project benefitting a relatively small number of fortunate passengers is hard to justify.

Business Case

The business case for high speed rail is problematic on a number of grounds, which have been explored in a TPA report by senior railway executive Chris Stokes, *High Speed Rail*.⁴ The issues have subsequently been updated on our website and in research by other groups like the HS2 Action Alliance,⁵ after the updated business case was published for the Department for Transport consultation, so only a basic summary will be provided here. There are three principle issues:

- Forecasts for growth in demand are almost certainly overstated. While the assumed rate of growth is more moderate in the consultation business case it is projected even further into the future. That is clearly unreliable with a fixed elasticity model.
- Zero passenger productivity during a journey is assumed. The consultation document claims that the business case is robust to this issue as the new line will reduce overcrowding. With a more realistic comparator that is not the case though, as alternatives like RP2 will do more to reduce overcrowding.

⁴ <http://www.taxpayersalliance.com/highspeedrail.pdf>

⁵ <http://www.hs2aa.org/index.php/news/publications/category/11-business-case-post-consultation-launch-post-2822011?download=41%3Areview-of-the-consultation-business-case-for-hs2-v19-5-may-2011>

- An unrealistic comparator is used that ignores likely improvements if HS2 does not go ahead. It assumes there are no improvements for 30 years, even ignoring developments already planned by operators. It is important to compare to practical alternatives that can double capacity over time and deliver alternatives before 2026, rather than assuming that without HS2 the network is left in stasis.

Overestimating future demand, in particular, is endemic for major rail projects both in Britain and elsewhere in the world. Research by Danish academics in 2006⁶ states:

“for nine out of ten rail projects, passenger forecasts are overestimated; average overestimation is 106%”

Eurostar has captured the lion's share of London – Paris passenger journeys but the market is near saturation, and its passenger numbers in 2009 were 37% of the forecast for 2006. Manchester – London can be expected to show a similar pattern; there has been rapid growth since the dramatic service improvements in 2008, mostly at the expense of air. But this is a step change over three/four years, not a straight line ever upwards. Rail is also already dominant in the markets from Leeds and Birmingham to central London, so DfT's forecasts are only credible if there is evidence that there will be a step change growth in the demand for travel on these corridors; this has not happened for London – Paris.

DfT told the Public Accounts Committee that they would not repeat those mistakes, made with HS1:

“next time it considered undertaking a major transport project, it would factor more severe downside assumptions into its business case analysis”.

But it is clear that this has not been done for HS2.

In April 2010, the rating agency Fitch looked at high speed rail projects. To quote from the report:

“Historically, the agency has observed that the assessment of rail demand has displayed a significant optimism bias, particularly for Greenfield projects”; and

“Rail projects are often high profile. This exposes them to “political entrepreneur syndrome” where the public authorities overestimate the benefits of the project to get it approved for the purpose of political gain”

⁶ Inaccuracy in Traffic Forecasts. Bent Flyvbjerg, Mette K. Skamris Holm and Søren L. Buhl, Department of Development of Planning, Aalborg University

Despite these assumptions HS2 still produces a cost-benefit ratio below that required for other transport projects, particularly roads.

Capacity

Another research note for the TPA by Chris Stokes looked at the towns and cities that would see a worse service.⁷ Here is a summary of some that lose out in the first phase.

Table 1: Impact of HS2 Phase 1

| Station | Impact |
|--|--|
| Milton Keynes, Northampton | Potential doubling of commuter capacity from around 2016 not taken forward in advance of HS2 |
| Coventry | Frequency reduced from 3 to 1 train per hour from 2026, with journey times extended by 10 minutes, as trains stop at Rugby, Milton Keynes and Watford Junction |
| West Midlands suburban network via Birmingham New Street | Implications for connections with the West Midlands suburban network - Frequency reduced from 3 to 1 train per hour from 2026, with journey times extended by 10 minutes, as trains stop at Rugby, Milton Keynes and Watford Junction. |
| Sandwell, Dudley and Wolverhampton | Journey times extended by 10 minutes |
| Shrewsbury, Wrexham and mid Wales | Journey time for connecting services from Wolverhampton and Birmingham New street increased by 10 minutes, and Frequency from Birmingham New Street reduced from 3 to 1 trains an hour. |
| Stoke-on Trent | No high speed service proposed. Frequency reduced from 2 to 1 train per hour. Average journey time lengthened slightly |
| Manchester, Stockport | A reduction in overall capacity on the route, from 1,767 seats to 1,650 seats per hour, despite Network Rail's forecasts that this route would have the highest growth. ⁸ |

And those that lose out in the second phase: the construction of the "Y".

⁷ <http://www.taxpayersalliance.com/hs2capacity.pdf>

⁸ This assumes 550 seats for HS2 units, as set out in the consultation documentation, and 589 seats for 11 car Pendolino sets.

Table 2: Impact of HS2 Phase 2

| Station | Impact |
|---|--|
| Wellingborough, Kettering, Corby, Market Harborough | Electrification, journey time reductions and increased capacity not taken forward in advance of HS2 (2032-33 at the earliest) |
| Leicester | Electrification, journey time reductions and increased capacity not taken forward in advance of HS2 (2032-33 at the earliest) Service frequency and journey times likely to deteriorate on completion of Phase 2 – Leicester currently has four trains an hour, two non-stop |
| Loughborough | Electrification, journey time reductions and increased capacity not taken forward in advance of HS2 Service frequency and journey times likely to deteriorate on completion of Phase 2 – Loughborough currently has two trains an hour, one non-stop from Leicester |
| Nottingham, Derby, Sheffield | Electrification, journey time reductions and increased capacity not taken forward in advance of HS2 Reduced frequency and increased journey times for existing city centre stations Loss of local transport interchange |
| Chesterfield | Electrification, journey time reductions and increased capacity not taken forward in advance of HS2 Service frequency and journey times likely to deteriorate on completion of Phase 2 – Chesterfield currently has two trains an hour, non-stop between Leicester and London |
| Peterborough | Service frequency likely to deteriorate on completion of Phase 2 – Peterborough typically has three/four fast trains an hour. |
| Doncaster, Wakefield | Service frequency and journey times likely to deteriorate on completion of Phase 2 |
| York, Durham, Darlington and Newcastle | HS2 documentation shows two High Speed trains an hour - no capacity increase on the present service |
| Berwick on Tweed | HS2 documentation shows no High Speed trains North of Newcastle |
| Edinburgh | HS2 documentation shows no High Speed trains to Edinburgh via Carlisle or Newcastle |

It is also worth noting that the new line will put significant pressure on certain existing choke points in the network. For example, far more passengers will terminate in Euston and its connections to the London Underground are likely to be unable to cope with the additional demand. Even with upgrades to the station, it is unlikely that the London

transport network will be able to cope with the amount of traffic being directed to Euston. Southbound Victoria line trains are already particularly overcrowded.

The Government have responded to our report, but their claims have been misleading. In a Westminster Hall debate on 31st March 2011, Theresa Villiers effectively promised that there would be no service cuts on the existing network once HS2 is built. In response to a speech by Dan Byles MP, in which he said Coventry would see its fast trains to London cut from three to one an hour, she responded:

“This is simply not true. There are some indicative forecasts in the HS2 analysis about how services might be configured in the future. The reality is that Coventry is going to enjoy frequent fast services”

But the documentation is clear.⁹ The HS2 Business Case is based on an assumption that Coventry will only have one train an hour, which will be slower because of additional stops. If all the Birmingham passengers are on HS2, it would be extraordinary if the present 20 minute frequency continued, just for Coventry passengers. The HS2 business case includes a total saving of £5.4 billion for reductions to existing services.

Philip Hammond told the Daily Telegraph on 1st April that:

“Our proposed new high speed rail network would free up a huge amount of space on the current railways for more trains to operate. Building a whole new line would create scope for people who live on the current lines to have more frequent services that are less crowded – I would also hope that this additional competition could mean cheaper fares as well”

This is apparently very attractive. But the existing services are generally good, so faced with a choice of using HS2 to get to Birmingham in 49 minutes or paying half price to go on the existing trains in 82 minutes, many people will save money and take a bit longer, especially when they arrive at a station in the heart of the city, with good public transport connections. They already do this in Kent, where the “Javelin” high speed services to towns like Chatham are embarrassingly empty, and passengers continue to use the cheaper, slower alternatives.

These “promises” from Theresa Villiers and Phillip Hammond would have a major impact on the already poor financial case for HS2. Extra capacity and competition would certainly drive fares right down. But the published financial details assume no competition on routes

⁹ HS2 Technical Appendix, March 2010. Appendix 2, Page 23
<http://webarchive.nationalarchives.gov.uk/20110131042819/http://www.dft.gov.uk/pgr/rail/pi/highspeedrail/hs2ltd/technicalappendix/pdf/report.pdf>

served by HS2, and fares going up at RPI + 3% for the next three years and RPI + 1% for every subsequent year until 2033, a 36% increase above inflation. The overall additional revenue included in the HS2 business case¹⁰ is £27.2 billion (Net Present Value over 60 years). Unfettered competition will undoubtedly halve this, probably more, so we can assume it drops to £13.6 billion. And promises of “no service cuts” wipe out a £5.4 billion cost saving. Adjusting the total evaluation for these changes increases the net cost of the project to the taxpayer to £36.1 billion, much higher than the £30.4 billion capital cost.

If this really happened, it might be good news for the minority of the population who use rail and travel on this route, enjoying overcapacity and cheap fares. But it would represent an appalling cost to the taxpayer. A much more likely outcome is that existing services will be cut; fares on HS2 will be priced at a premium; and, as with Kent, fares across large parts of the network will be raised as well to plug the financial black hole created by HS2.

Jobs

An increasing number of major projects are promoted on the basis that they will create jobs. The number of jobs claimed can be impressive, such as the purported 40,000 jobs that will be created by a new high speed rail line – cited in the Department for Transport consultation document.¹¹ But they can be very misleading. There are two issues:

- The estimate of jobs created may be inaccurate in itself. For example, the estimate of jobs created by HS2 may be based on overly optimistic demand assumptions, like the wider estimate of costs and benefits.
- There are opportunity costs to any major investment, in the form of foregone opportunities to make other investments. Any investment on the scale of the £17 billion the Government plans to spend on the London to Birmingham high speed link would create jobs. But if that investment is not made, other investments, elsewhere in the public or private sectors, could lead to greater gains in employment.

In our research note on jobs, we assumed that the 40,000 jobs estimate is accurate. There are a number of reservations about that figure though:

- 9,000 of the jobs are in construction, and therefore likely to prove impermanent.
- Regeneration benefits may well come primarily from shifting economic activity around the country. Jobs created may therefore not represent higher employment, but come at the expense of fewer jobs elsewhere.

¹⁰ Economic Case for HS2 February 2011 Page 12

¹¹ Available here: <http://highspeedrail.dft.gov.uk/sites/highspeedrail.dft.gov.uk/files/hsr-consultation.pdf>

The second concern is particularly critical, as the Financial Times put it in a leader, 28 February 2011:

“To govern is to choose. Would the benefits of a shiny new high-speed line outweigh the less visible but valuable things that could be done with the limited funds available?”

To test whether high speed rail is an efficient way of promoting employment, we can use a method deployed by two recent studies, which assessed the opportunity costs of major investments in the energy sector.

The paper *Study of the effects on employment of public aid to renewable energy sources*,¹² produced by a team led by Dr. Gabriel Calzada Álvarez at the Universidad Rey Juan Carlos in Spain, pioneered an attempt to understand this issue by comparing the capital stock per worker across the broader economy with the cost per worker of investment in renewable energy sources.

There has been criticism of that paper, but that criticism has mostly argued either that the estimate of jobs created by renewable energy support was wrong (Dr. Calzada used an estimate produced by a European Commission initiative) or that a better measure would be to look at the amount of employment produced for every dollar of investment in different sources of energy (which is obviously inappropriate when projects entail significantly increasing investment in a sector not previously promoted primarily as a source of employment). In the case of HS2, the estimate of jobs created comes from the Department for Transport.

It was followed up by a study by Luciano Lavecchia and Carlo Stagnaro for the Istituto Bruno Leoni in Italy.¹³ The researchers in that study summed up what the results imply:

“The only scope, and we dare to say the only result, of our study is to show that green investments are an ineffective policy for job creation.”

To produce a similar estimate for HS2, the first step is to calculate capital stock per worker in the broader economy. The Office for National Statistics put the total net capital stock of the UK – the total cost (at current prices) of replacing all capital assets in their current condition – at £3.182 trillion in 2009.¹⁴ They also recorded the total number of workforce jobs at nearly 31 million.¹⁵ That implies net capital stock per worker of £102,655.

¹² Available in English here: <http://www.juandemariana.org/pdf/090327-employment-public-aid-renewable.pdf>

¹³ Available in English here: http://brunoleonimedia.servingfreedom.net/WP/WP-Green_Jobs-May2010.pdf

¹⁴ Office for National Statistics *Capital Stocks, Capital Consumption and Non-Financial Balance Sheets*, 2 August 2010

¹⁵ Office for National Statistics *DYDC: UK Workforce Jobs SA : Total (thousands)*

By contrast, the proposed high speed rail line from London to Birmingham is expected to cost £17.8 billion and create 40,500 jobs – 9,000 in construction; 1,500 in operations and maintenance; and 30,000 from wider economic regeneration. That is nearly £440,000 per worker.

| Calculation | Wider Economy | Amount |
|-----------------------------------|--------------------------------------|--------------------|
| A | Net capital stock, 2009 | £3,182,000,000,000 |
| B | Employment, 2009 | 30,997,000 |
| C (A/B) | Capital stock per job | £102,655 |
| HS2 - London to Birmingham | | |
| D | Cost | £17,800,000,000 |
| E | Jobs created claim | 40,500 |
| F (D/E) | Cost per job | £439,506 |
| Comparison | | |
| G (D/C) | HS2 opportunity cost, jobs | 173,396 |
| H (G/E) | Ratio, opportunity cost/jobs created | 4.3 |

For every one job supposedly created by HS2, we could expect four jobs to be created in the wider economy for the same amount of money.

The fact that the wider economy generates more than four times as many jobs for every pound in capital stock suggests high speed rail is a deeply inefficient generator of new employment, and there is a significant opportunity cost to investing in it. High speed rail is capital intensive, not labour intensive, and for the Government to promote it as a means to increase employment is misleading.

Conclusions

In conclusion, the case for the new high speed rail line has not been made and, given constraints on spending and the likely distributional impact, HS2 should be cancelled.

It is often argued that Britain needs to adopt high speed rail to compete with other countries making similar investments. However there are increasing signs that countries investing in HS2 have seen poor value:

- Schemes taken forward as PPP projects such as in Taiwan and the Netherlands risk bankruptcy and have required government bailouts.
- High speed rail has been largely abandoned in the United States as state governors were concerned about the long term costs.



- Charles Lane recently wrote in the Washington Post that the Ministry responsible for high speed rail in China has \$271 billion in debt and the Minister has been arrested for embezzling on a substantial scale.¹⁶

It is increasingly clear that international adoption of high speed rail constitutes “me too HS2”. Taken up as a visible signal of political commitment to growth and development, it substitutes for more effective but less prestigious investments and proves extremely poor value. Britain should avoid making the same mistake and focus on incremental infrastructure improvements.

¹⁶ http://www.washingtonpost.com/opinions/chinas-train-wreck/2011/04/21/AFqjRWRE_story.html