

HS2 Consultation Response

- provided by South Northants Action Group (SNAG)

Executive Summary

The Government needs a long term transport policy to establish its vision. When high priority needs have been established, the Government should then plan its project in logical steps. As the above processes have apparently not taken place it has created a series of significant issues.

- The scheme has been based on selection criteria that are inappropriate and too narrow.
- A design speed has been selected which has not been justified; this has created constraints on choice of route, capacity (trains/hour) and will produce additional carbon emissions.
- HS2 will not address current standard class capacity issues for 15 to 21 years when solutions are needed much more immediately. It does not address capacity issues on many other lines and actually creates capacity issues on the Underground service at Euston.
- The route has been designed to pass close to Heathrow where the anticipated passenger demand is not significant (estimated by DfT at 2000/day). The DfT is unable to demonstrate that 18 trains/hour can be delivered using “proven European Standards”, and yet this is the basis on which the London Birmingham section has been planned.
- Stations should be in city centres and integrated with existing classic rail networks. This philosophy is not being followed in Birmingham nor for several stations for phase two.
- Several other countries in Europe and elsewhere in the World have discovered their demand forecasts for high speed rail were over stated. This has led to unexpected subsidy being required, excessive debt or services being withdrawn.
- HS2 will do nothing to help achieve the Government required 80% reduction in carbon emissions by 2050. It will create numerous ecological issues. It is unacceptable that the consultation process is taking place without any environmental impact assessment being available.
- The Government has not yet decided on a compensation scheme, and none of its proposals are satisfactory as they have been put forward.
- With a cost per mile for phase one which is four times higher than the European average for high speed rail, it will be perpetuating the deeply flawed Government procurement process highlighted by Sir Philip Green.
- The business case does not stack up for several reasons. The forecasting techniques are unsuitable, out of date and ignore the effects of the planned fare increases of RPI + 3%. They also do not differentiate between alternative routes by price. In assessing the benefits the erroneous assumption has been made that business travellers do not work on trains. When these factors are taken into account, the benefit cost ratio falls to 0.6 which is unacceptable to both the Treasury and just about any businessman.
- HS2 will require a subsidy of £17bn to build and an ongoing subsidy to run. This does not fit well with Sir Roy McNulty’s recommendation to reduce the current annual rail subsidy of £5bn.
- The UK has the highest debt level it has ever experienced along with an economy that has been flatlining. The Office of Budget Responsibility has indicated that additional fiscal tightening is likely to be required. That does not fit well with a planned £33bn spending programme.
- DfT documents indicate that over 70% of the jobs expected to be created will be in London. Several independent studies have indicated that most of the jobs created will be in the largest city in the network, which is not what certain members of the Government have been telling us.
- The consultation process has been flawed due to the way in which the questions have been structured. Furthermore there has been a lack of alternatives to choose from.
- There are many reasons why HS2 would not be in the national interest including the fact that such a small proportion of the population would benefit from it.
- The Government has decided to ignore an alternative which is available far more quickly, for a fraction of the price and in a way which can be provided on an incremental basis so reducing financial risk.

Based on the many significant shortcomings listed in this response, the HS2 project should be cancelled. We along with other groups such as HS2 Action Alliance have identified a solution which will address existing and future needs at a fraction of the cost of HS2. The Government should fully investigate this alternative.

Strategy

The Government needs a long term transport policy before it decides on a project such as HS2. As several witnesses at the Transport Select Committee pointed out, such a long term vision is not in place. The nation's travel needs across the whole spectrum need to be evaluated together on a long term basis.

One of the factors needed to be considered when reviewing future transport needs is the effect of new IT technology. The usage of video conferencing will continue to increase and it will also be possible for more people to work from home. Both of these factors will reduce the need for travel by some people.

In 2006 Sir Rod Eddington was commissioned by the Government to examine the long-term links between transport and the UK's economic productivity, growth and stability. In volume 3 of his report, you will find the following: "**4.166** Upgrading rolling stock and lengthening trains on congested rail links, combined with changes to timetables to increase frequency can significantly increase the effective capacity of existing rail lines. Evidence of illustrative interventions to increase variable capacity on inter-urban links into London by investing in new rolling stock, for example, suggests strong returns are possible from well-targeted interventions, with wider BCRs ranging between 1 and 13 and costs between £50 and £500 million but more typically between 1 and 3.28 The higher returns are largely driven by the ability to add variable capacity with minimal infrastructure requirements". That describes Rail Package 2 very neatly, a much cheaper option the Government is now choosing to overlook. We are proposing an Optimised Alternative.

The Genesis of HS2

The creation of a large and expensive programme such as HS2 would normally be expected to be able to demonstrate several key steps: a clear demonstration of need based upon good quality market projections, the creation of a range of options able to meet those needs, and a robust comparative appraisal of each option. In the information available within the DfT it is hard to find a clear audit trail demonstrating a rational project development process. Furthermore, when several DfT members of staff were recently questioned about this they were unaware of such a process having been undertaken.

In fact, the genesis of HS2 appears to have made an abrupt transition around the end of 2008. In the "Delivering a Sustainable transport system report...Nov 2008" the issues raised included the need for a cautious assessment of market trends and the development of cost-effective solutions. The report also recognised the substantial impact of the continuous growth of transport CO₂ emissions, and expressed the need to be able to "change the relationship between economic growth and transport demand". In other words it would be unsustainable to accept the unbridled growth of transport demand over the coming decades. The setting up of the National Networks Strategy Group in late 2008 was meant to provide a steer to the substantial and demanding task of creating a rational and justified plan across the whole of the transport infrastructure. The available literature sadly indicates very little output from this group's work and there is little evidence of the DfT following the pathway charted in the Nov. 2008 report.

It appears that Government & DfT simply took a decision in late 2008 that HS2 was the right way forward without any evidential process being visible. This was swiftly followed by the creation of HS2 Ltd and the confirmation of its remit early in 2009. It is completely unacceptable that a huge and expensive project such as this with enormous ramifications should be pushed through with such unseemly haste and based on such flimsy evidence. This matter needs to be challenged as a flagrant abuse of power.

Selection Criteria

The selection criteria as a whole were inappropriate, limiting and as a result had a profoundly negative effect on the outcome. The selection criteria determine the outcome and they were imposed by the then Secretary of State Lord Adonis (and never subsequently revisited). Andrew McNaughton confirmed the selection criteria given to them were (with equal weighting) 'Speed', 'Time' and 'All Other Factors'. Optimised speed and time are effectively the same thing when considering the distance between two points, and as a result of being 2/3 of the selection criteria it inevitably lead to the shortest/straightest line possible with the fewest stops. The routes derived by HS2 for consideration are therefore slight variations on a theme rather than alternative routes derived under different selection criteria.

Had the DfT rightly included the selection criteria of capacity, accessibility (in terms of widest appeal and usage), energy requirements, environmental impact, emissions targets, impact on existing services and cost to taxpayer and each being of equal weighting with speed/time then HS2 Ltd would have produced a vastly different result and one more relevant to future requirements.

Speed

Speed appears to have been a more important consideration than capacity in planning for HS2. The rationale for choosing a design top speed of 400kph has apparently not been provided by the Department for Transport (DfT). Yet it has far reaching implications the choice of route, carbon emissions, capacity (trains/hour) and vibration damage. Such a high design speed necessitates much larger radius curves, i.e. the route has to be much straighter. This in turn reduces the choices of where the line can be built. Greater power will be consumed by a train running at 400 kph than a train running at say 250 kph due to increased wind resistance; the relationship between speed and power required is non linear. Until such time as all the electric power supplied comes from renewable sources, there will be greater carbon emissions for a 400 kph train than a 250 kph train. Trains travelling at 400 kph require a greater stopping distance than those travelling at lower speeds. Therefore greater distances are required between faster trains which in turn reduces the capacity of the tracks (trains/hour). Following some safety concerns, the speed of the high speed trains in China has been reduced from 380 kph to 300 kph. Trains travelling at very high speeds will create pressure and vibration waves known as the Rayleigh Effect. These vibrations are likely to have significant adverse effects on nearby buildings, the line infrastructure and the trains themselves. <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmtran/writev/rail/m53.htm>

In the context of speed it is worth pointing out some of the findings of a recent Eurobarometer passenger satisfaction survey. On travelling speed (i.e. length of journey time), the UK was placed 2nd out of 25 countries and was ahead of Germany, France, Spain and Italy. http://ec.europa.eu/public_opinion/flash/fl_326_en.pdf

Capacity

The biggest issue the UK has on its railways is a lack of standard class capacity at peak times. HS2 will not address this issue for the next 15 years (London - Birmingham) or 21 years (London - Leeds and Manchester). During HS2 phase1, Manchester and Stockport will have a reduction in seat capacity on their routes despite this route being forecast to have the highest passenger growth. It will not address standard class capacity issues for cities further north such as York, Durham, Darlington and Newcastle. While in theory the building of HS2 will free up more capacity on classic lines, there is no guarantee that additional or better services will be run. In fact there is a strong likelihood that existing services will be cut. The business case already assumes that there will be substantial operational savings on existing services, and quantifies these as totalling £5.4bn (NPV).

In addition there are standard class capacity issues on most lines into London at peak times and there are similar problems into other major conurbations such as Manchester and Leeds. HS2 will almost certainly detract from these much needed capacity increases as it absorbs such a significant amount of funding. For example, an announcement was made on 25th November 2010 that 650 additional rail carriages would be introduced between 2010 and 2014. However this represented a 50% reduction from 1300 of the number

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of carriages previously announced to be added in that time period. (Source: RMT). Similarly the funding of HS2 is likely to delay the much needed electrification of some major rail routes in other parts of the UK.

Another of the overcrowding issues is artificially caused by the cut off points for off-peak fares. For instance many passengers (leisure) will wait until after 19:00 to take advantage of lower priced tickets. This can cause queues on major stations and overcrowded trains. Having a progressive reduction in ticket prices in relation to time rather than a single cut off time would ease the problem.

In the same Eurobarometer survey referred to earlier, the UK was ranked 22nd out of 25 countries on the subject of sufficient capacity for passengers. This was easily the UK's worst ranking from five key criteria.

HS2 is going to create capacity issues at Euston when it is completed. This station is served by the Northern and Victoria lines which are the busiest and fourth busiest lines respectively in the Underground system. The underground rail services at Euston will not be able to cope with an additional 10,000 passengers per hour at peak times, which is more than double the existing volumes. (Source: possible passenger volume from HS2 Ltd Route Engineering Report). This issue has also been identified by Transport for London, during questioning by the Transport Select Committee. One solution is an additional underground line at Euston.

Route

It is necessary to question why the route for HS2 leaves London to the West rather than the North West. Was the route chosen so that it would pass close to (and eventually connect with) Heathrow airport? That would be a poor justification as passenger numbers estimated to travel to/from Heathrow are 2000/day according to the DfT. Business users in the North of England do not see HS2 as an alternative means of reaching Heathrow when they have an onward flight to make; they will fly from Manchester or Newcastle to Heathrow.

The implications of heading West from Euston are very significant additional tunnelling costs, costs of a spur to Heathrow which do not appear to have been identified yet and a route passing through the Chilterns which is an Area of Outstanding Natural Beauty. There are issues in connecting with HS1 which involve the use of a single track tunnel with two way traffic (three trains/hour in each direction) on the route between Old Oak Common and the North London Line. There are also issues raised by Transport for London in the shared use of the North London Line. The latter has apparently seen significant growth in demand and TfL appear to be reluctant to share the line (Source: Transport Select Committee 28th June 2011).

Another problem with the route is the bottleneck between Birmingham and London. The UIC (The international Union of Railways) has indicated that the maximum number of trains which may run per hour is 16 where the maximum speed is 350 kph (217 mph). Greengauge 21, the pro-HS2 lobby has admitted that the maximum is 15 trains/hour. In Europe the maximum scheduled frequency of high speed trains on any one track is 12. (Source: HS2 Action Alliance). On page 61 of the Economic Case for HS2 (Source: DfT), it indicates a peak hour schedule of 18 trains per hour on the section between Birmingham and London once the high speed lines to Leeds and Manchester are completed. It closely reflects the existing frequency of services at peak hours to the destinations listed. The HS2 schedule on page 61 does not include any trains for Heathrow, Europe (via HS1), or Edinburgh.

The consequences of this are as follows:

- Some cities may suffer a reduced train frequency with HS2 at peak hours compared to that which they currently experience.
- The existing peak hour train frequencies (WCML, ECML) may have to be further reduced on HS2 to cater for trains to Heathrow, Europe and possibly Edinburgh.
- There is absolutely no room for expansion (for more trains per hour) once the high speed lines have been built to Leeds and Manchester. This is an unacceptable shortcoming.

- Any train failure or breakdown on the section between Birmingham and London will have major knock on effects with trains separated by approximately three minutes and carrying up to 1100 passengers. Unlike on a classic rail line, there are unlikely to be convenient alternative tracks to pass a stricken train.

The Atkins report “Because Transport Matters” (published in 2008) contained the following remarks: “By contrast, the Full Network option is likely to require additional capacity on the southern core section of the route relatively quickly (Figure 2.3). This reiterates the conclusion that *a single HSR trunk connection to London is unlikely to provide the necessary capacity*” (our italics). The “Full Network” is virtually identical to HS2 as far north as Leeds and Manchester, and then has a single high speed route to Scotland up the east side of the country.

The DfT are unable to demonstrate that 18 trains/hour can be delivered using “proven European Standards”. The economic case and implementation strategy depend on this deliverability.

One solution to this very significant issue is to four track the line between Birmingham and London. A better solution would be to run a separate line between East Midlands and Kings Cross or St Pancras. This second solution would also have the benefit of taking some of the pressure off Euston and its Underground lines.

Stations

There are several issues with the stations that have been planned. As has already been indicated, passengers would be more easily dispersed if there were two high speed lines feeding into London so that each station handled a smaller incremental volume of passengers. Transport for London have pointed out that external access for Old Oak Common station will be poor. The site itself is constrained by existing features.

One of the lessons learned by SNCF (the French rail operator) is that stations for high speed rail should be in city centres, not at parkway sites (Source: Transport Select Committee 21st June 2011). Yet a parkway station is planned for Birmingham Interchange, and probably also at East Midlands and South Yorkshire. While recognising that European trains use a different gauge to UK trains which results in a different height for platforms among other things, it is seen as unacceptable to plan two stations for Birmingham which are not integrated with the rest of the railway network. In the case of Curzon Street, it will necessitate a 10 minute or so walk to New Street to connect with the bulk of other trains. You do not find stand alone high speed rail stations in Paris or Brussels for instance.

There will be enormous disruption to Euston during construction of HS2 and additional disruption for users of the Great Western and Chiltern services for approximately eight years. Euston’s reconstruction has been likened to “open heart surgery on a conscious patient”.

Learning Lessons

One of the people providing evidence to the Transport Select Committee was a director of SNCF. We should be learning from an operator that has been running high speed trains longer than almost anywhere else. Stations should be in the centre of cities, not parkways, and the lines should continue rather than terminating in a city. Cities need to be of a certain size to justify having a station. If you are sure of the passenger volume, you should build or plan four tracks from the outset. It is now necessary to build an extra line from Paris to Lyon as the original TGV line is not capable of being four tracked.

There are other lessons we can learn from countries that have built high speed rail networks. One of the most common themes is the over forecasting of passenger demand. This is often apparently done to justify building the lines in the first place. Instances of this have occurred in Spain, the Netherlands, Taiwan and China amongst other countries. Fears of this happening in Florida caused the state governor

to turn down a \$2bn Government incentive to build a high speed line. More details of this are available in Annex 1.

There are lessons that be learned closer to home. HS2 has apparently not adopted the Kent Criteria used for HS1. Passenger numbers are running at approximately one third of those that were forecast (Source: HS2 Action Alliance). It is ominous to see services on classic lines have been slowed and made less frequent. It is also noted that there is a 20% price premium on all HS1 services from Ashford to London compared to using classic trains (Source: The Trainline for Ashford to London fares).

Environment

A train travelling at 400 kph uses significantly more energy than one travelling at 250 kph. If the power station generating the electricity is using carbon based fuels, it will create greater emissions than are necessary. Over 60% of passengers are expected to come from classic rail where speeds do not exceed 200 kph. The anticipated modal shifts from other forms of transport are projected to be very small: 7% of HS2 passengers will be from cars and 6% from planes. Those transferring from domestic flights will almost certainly free up slots at airports which can then be used for longer haul flights which will generate greater carbon emissions. 22% of passengers will be entirely new, i.e. we will be getting people to travel who would otherwise have not made a journey. This is not environmentally friendly. The Government has a legally binding target of reducing carbon emissions by 80% by 2050. HS2 should contribute towards that but it is not.

HS2 has a route which passes through the Chilterns, an Area of Outstanding Natural Beauty. Such areas are protected by law, but the Government appears to be ignoring its statutory obligations. HS2 is opposed by many organisations such as the Campaign to Protect Rural England, Green Party, Institute of Economic Affairs, National Trust, Ramblers, Royal Society for the Protection of Birds, The Wildlife Trusts and Woodland Trust.

Four Wildlife Trust reserves, 10 Sites of Special Scientific Interest (SSSIs), more than 50 ancient woodlands and numerous local wildlife sites lie in the route of the proposed HS2 route. A significant population of rare Bechstein's bats has been discovered in Buckinghamshire - in ancient woodland either side of the proposed HS2 route. This species of bat is one of the rarest mammals in the UK and they, their roosts and their breeding sites are strictly protected under UK and European law.

HS2 will sever at least 150 footpaths and bridleways; 66 have been identified in Buckinghamshire alone. It appears that very few of these will be reconnected with bridges or tunnels.

HS2 will destroy several hundred homes and businesses. None of the property owners directly affected by the proposed route for HS2 have been directly contacted by DfT, as far as we are aware.

HS2 will also divide many communities. HS2 will also be a visual blight as it leaves a scar across the countryside with its electric pylons gantries and cables, security fencing and noise mitigating fences. Noise contour maps have been promised but not provided.

It is unacceptable that an environmental impact assessment has not been made available during the consultation process.

Compensation

The principles on which compensation will be based have not yet been determined, even though many homeowners have suffered property blight for more than one year. One of the compensation schemes being considered will not provide any compensation until 2027 (phase 1) or 2033 (phase 2). We are hardly encouraged by the workings of the Exceptional Hardship Scheme when 60% of the applications made so far have been rejected (Source: Guardian 15th May 2011). The compensation arrangements are a totally unsatisfactory.

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Instead we support the Property Bond Scheme as proposed by HS2 Action Alliance. This is detailed in Annex 2.

Value for Money

Sir Philip Green carried out a brief Efficiency Review in the autumn of 2010 looking at procurement <http://download.cabinetoffice.gov.uk/efficiency/sirphilipgreenreview.pdf>. He quickly found six clear reasons why “the Government conducts its business so inefficiently”. That was obviously too late to affect HS2 planning. While acknowledging that the proposed route of HS2 will have more tunnels than many other lines, its cost between London and Birmingham works out at £130/mile. This will be at least four times more expensive than the average European high speed line (Source: Financial Times 28/02/2011), eight times more expensive than a recently opened Spanish high speed line and one of the most expensive rail lines anywhere in the World. The build time does not appear to be particularly quick – 8 years for the London to West Midlands section; more time tends to mean more money. Government procurement must take on board the shortcomings identified by Sir Philip Green including “There is no motivation to save money or to treat cash ‘as your own’”. Such a lack of concern in this case for ensuring value for money for taxpayers is unforgiveable.

Business Case

While the DfT’s latest forecasts for HS2 now show a rail passenger growth of 216% (was 267%) by 2043 (was 2033) for HS2 routes, the forecast is flawed for several reasons. Sir Rod Eddington has said that the model used should not project forecasts for more than 10 years. Out of date forecasting factors have been used; PDFH v5.0 should have been used. The historic base 2008 base numbers have been changed. Demand for travel is saturating; this has been ignored. The effect on demand of the planned increase of fares by RPI + 3% for several years has not been taken into account. The above information comes from HS2 Action Alliance.

What has been most surprising to learn recently is that the DfT’s modelling “does not differentiate between alternative routes by price” (Source: letter from Alison Munro to HS2 Action Alliance 26/06/2011). Chiltern Railways charge approximately 30% less than Virgin trains on the London – Birmingham route, and their Evergreen 3 project will soon cut journey times on this route so that they are within 6 minutes of those on the West Coast Main Line. By excluding the effects of a lower priced alternative, it means that demand on both the WCML and HS2 is likely to have been overstated.

In 2006 Aalborg University made a study of 210 infrastructure projects in 14 countries; they found 90% of rail projects had overestimated passenger forecasts. The average overestimate was 106%. By 2009, Channel Tunnel rail passengers (9.2m) had reached approximately one third of those originally forecast for 2006 (25m).

Fare levels have not been provided in the HS2 consultation documents. However they have a very direct bearing on whether a user chooses to travel by high speed rail or classic train. On HS1 in Kent, the high speed fare premium appears to be 20%. (Source: The Trainline for fares from Ashford to London). This has discouraged a significant number of regular commuters from switching to HS1 from classic trains. Consequently South Eastern Trains have taken a number of the Javelin carriages out of use as demand has not met their expectations. (Source: <http://www.metro.co.uk/news/824624-140mph-train-service-is-reduced-after-complaints> <http://www.telegraph.co.uk/journalists/andrew-gilligan/8423638/High-speed-rail-Britains-first-link-hasnt-worked-as-planned-say-critics.html>).

Kent rail travellers on conventional trains have been very upset by the slower trains (more stops), less frequent service and higher prices since the HS1 Javelin service was introduced. Over 2000 of them signed a Downing Street petition and their MP Roger Gale even asked questions in the House of Commons. http://www.kentonline.co.uk/kentonline/news/2010/march/11/trains_in_the_commons.aspx

In making the case for HS2, it has been assumed that business travellers do not work on trains. Therefore it is argued that any time saved by a reduced train journey is an economic benefit. The logic applied is clearly wrong as anyone travelling on rush hour trains will see passengers using laptops, mobile phones or preparing for meetings by reading through presentations. This error seriously undermines the business case.

The benefit cost ratio for HS2 lies between 0.3 (phase 1) and 0.6 (phases 1 and 2) when corrected figures are used for demand and benefits – see Annex 3. That is well short of HM Treasury requirements where the minimum value is 2. This ratio is one of the most critical when assessing the viability of a project. As Lord Wolfson said at the Transport Select Committee (12th July 2011), if a project does not have an acceptable benefit cost ratio, it should be rejected.

Subsidy

The subsidy required for HS2 has been calculated as £17bn by HS2 Action Alliance in their review of the DfT's Business case. The amount may surprise some people but the fact that a subsidy is required should not. In 2009, the US Congressional Research Service reported: *'..... Experts say that virtually no HSR lines anywhere in the world have earned enough revenue to cover both their construction and operating costs'* (Source: 'High Speed Rail (HSR) in the United States' David Randall Peterman, John Frittelli, William J. Mallett, December 8, 2009). Bearing in mind that high speed rail will predominantly be used by the affluent, why should their travel costs be subsidised by all taxpayers?

The UK's railways are currently subsidised by £5bn per annum. Sir Roy McNulty identified that our rail operating costs are 30-40% higher than they should be; one of his recommended actions is to reduce rail subsidies. <http://assets.dft.gov.uk/publications/report-of-the-rail-vfm-study/realising-the-potential-of-gb-rail-summary.pdf> Therefore there can be no logic to embark on a project which will significantly add to that existing subsidy. Economically it is unsustainable.

The impact of lost revenue on the classic network following the introduction of HS2 is likely to mean that it will require increased subsidy (in addition to that required for HS2 itself).

Affordability

The UK economy (GDP) flatlined between October 2010 and March 2011. Its growth in the first quarter of 2011 was 0.5%, which was below that for Greece (0.8%) and the eurozone (0.8%). The European Commission has downgraded its forecast for the UK's economic growth to 1.7% for 2011.

The UK national debt is in the order of £910m currently and is still increasing on a monthly basis. The Office of Budget Responsibility has recently said: *"..... policymakers and would-be policymakers should certainly think carefully about the long-term consequences of any policies they introduce in the short term"*. The "main lesson" of its analysis is that future Governments are likely to have to undertake some additional fiscal tightening beyond the current parliament, it said. (Source: Telegraph 13/07/2011).

Bearing in mind the comments made earlier about benefit cost ratio, the Government must seriously question spending £33bn on a project particularly when there are much better value for money alternatives available.

Regional Benefit

There have been a number of comments, including those from Philip Hammond, on the regional benefits in terms of jobs that HS2 is expected to provide. It appears some of the claims may have been overstated. A review of the submissions made to the Transport Select Committee has revealed the following comments made on this subject.

Professor John Tomaney has produced a 17 page report which focuses on the local and regional impacts of high speed rail. He reviews high speed rail networks in Japan, France, Germany and Spain and their effects on regional economies. His work is very well researched listing 43 reports in his bibliography. Among his conclusion are the following: *However, we observed contradictions in the government's argument and its use of theory and evidence, with barely any weight given to the role of inter-regional rail investments in contributing to local growth in the analyses of BIS, while they appear central in the arguments of DfT. We reviewed the theoretical and empirical literature on the local and regional impact of high speed rail around the world. The clear balance of this literature suggests that these impacts are ambiguous at best and negative at worst. It is very difficult to find unambiguous evidence in support of the contentions that are being made about the potential impacts of HS2 on the cities and regions of the UK. We noted the theoretical and empirical evidence that suggests investments in intra-urban and intra-regional transport systems may provide more local benefits than high-speed North-South links.*

Ian Waddell has closely examined the unemployment rates in Lille and its surrounding areas using data from the French National Institute of Statistics – INSEE. He observes that unemployment has increased both in absolute terms and relative to the rest of France since the arrival of TGV. He finds a similar picture for Lyon when analysing the department and region in which it is based. He concludes: *Therefore there appears very little evidence that investment in high speed rail in France has had any significant impact in reducing regional and local economic disparities based on the most obvious yardstick – unemployment. Over a period of nearly thirty years since TGV services started running, there has clearly been no "transformational" effect, in fact the evidence shows that disparities appear to have worsened.*

Joanne Staton observed: *OECD report concluded that there was no evidence in Europe of regeneration resulting from High Speed Rail investments. Interestingly, 'Paid-for' vested reports support regenerative effects (e.g. Centro), academic reports (e.g. Imperial College, Warwick University, OECD) do not.*

Consultation

A consultation process on an important and far reaching set of proposals such as this should aim to follow the guidelines in the Government's own code of practice. The first guideline is that consultation "should take place at a stage when there is scope to influence the policy outcome". This means that it should be constructed in a way that will not prejudice the responses and in an environment where is some prospect of influencing the outcome. The current exercise has completely failed this most important criterion.

The first two consultation questions concern the need for additional high speed lines and the possibility of alternatives being able to meet the presumed demand. It is quite reasonable that valid answers to these questions could indicate that no further expansion of the high-speed rail network is required. However, all of the remaining five questions presume a positive answer to the first two and there is a clear implication that views opposing the HS2 project are of no further interest. Furthermore, and even more damning, are the remarks made to the media by the Prime Minister just before the start of consultation that indicated clearly that HS2 would go ahead. The Secretary of State for Transport has continued this approach by his strong support for HS2 during the consultation period, frequently making claims which are not supported by evidence. On both these counts, predetermination appears to have existed before and during consultation.

The questions themselves are frequently complex and rely upon a level of knowledge unlikely to be possessed by the majority of the population, the consequences of which will have been to discourage many people from participating. This reaches its peak in question 6 that addresses the sustainability question. Almost every commentator has said that the document offered to answer this question falls a long way short of the requirement for a full environmental impact assessment in order to properly address the critical sustainability issues. The inadequacy of the information offered to the public was further compounded by the inability of the road-show staff to provide convincing explanations to the thousands who turned out to these events, the majority of whom felt that an attempt to "pull the wool over their eyes" had been made.

The complete process has been fundamentally flawed and disrespectful of the genuine concerns of the population. It should therefore be considered for challenge.

National Interest

Several claims have been made that building HS2 would be in the national interest. Such claims are ill founded because:

- The proportion of the UK population that would benefit from HS2 would be approximately 2% or maybe less.
- The corrected benefit cost ratio is 0.6
- There is a likelihood that major items such as trains and maybe steel will be imported so helping the economies of other countries rather than the UK.
- The costs of building HS2 will be added to our very significant national debt for many years when we need to reduce our debt.
- It is not in our national interest to pay a price (cost/mile) which is four times higher than the average in Europe (for high speed rail)
- Measured as a job creation scheme, it is four times more expensive than the average for such schemes in the UK (Source: <http://www.taxpayersalliance.com/hsrjobs.pdf>).
- Many more deserving causes both locally and nationally are being sacrificed to allow HS2 to go ahead.
- Other users of the existing rail system will have to wait longer for investment in carriages (to deal with existing overcrowding) and electrification, based on what has happened in France.
- HS2 will add to the subsidy required to run the UK railways.

Alternative Solution

It is possible to provide for more than a doubling of demand with little or no infrastructure investment. It would be available within the next five years or less and can be added incrementally. It consists of:

- Extending existing Pendolino trains on the WCML to 12 carriages (except Liverpool – 11 carriages)
- Converting one first class carriage per train to standard class
- Providing a small number of extra Pendolino trains

These changes will provide a 130% increase in peak time capacity of standard class seats.

Additional infrastructure work at six identified pinch points would raise the above figure to 139%. Most critical of these is a grade separated junction at Ledburn (cost £240m) which with the above changes would allow a doubling of the fast commuter trains to Milton Keynes. More details are available in Annex 4.

These changes can be provided at approximately one quarter of the cost of HS2 to Birmingham, and do not necessitate waiting until 2026.

Similar principles could be applied to East Coast Main Line and Midland Main Line when the Government considers it can afford such upgrades.

Contact

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This action group has around 1000 affiliates.

Annex 1

Some countries are facing problems with their high speed railways

There are those that suggest we should build more high speed rail in the UK to keep up with other countries. Let us look at a few of them before returning to the UK.

Portugal

The Portuguese Government has decided to suspend construction of its 3.3bn€ Lisbon-Madrid high speed rail link. This was debated in their parliament on June 30th and July 1st, following their 78bn€ bailout by the International Monetary Fund and European Union. Suspending this project is not a requirement of the bailout, but the idea is to guard against possible external and internal risks. Portugal's debt as a proportion of GDP was 93% at the end of 2010. In the UK the figure was 52% at the end of last year, and is now believed to have risen to 60%.

[http://www.guardian.co.uk/world/2011/jul/05/portugal-spain-rail-plan-more!](http://www.guardian.co.uk/world/2011/jul/05/portugal-spain-rail-plan-more)

http://www.ukpublicspending.co.uk/downchart_ukgs.php?year=1900_2011&chart=G0-total&units=p#copypaste

Spain

From July 1st, Spain will be axing the high speed train running between Toledo, Cuenca and Albacete. This high speed line, which cost 3.5bn€, was opened last December; however only 9 passengers (on average) used this route per day. The failed route was costing 18,000€ per day to operate. This is one of several austerity measures intended to drastically shrink public spending and reduce Spain's borrowing costs.

<http://www.telegraph.co.uk/news/worldnews/europe/spain/8603392/Spain-cuts-high-speed-ghost-train.html>

http://en.lacerca.com/news/castilla_la_mancha/high_speed_madrid_albacete-73451-1.html

France

France's plans for TGV expansion are running into financing problems because of the recession and the country's high budget deficit. *We risk having longer and longer high-speed lines which are used less and less*; so said the president of the SNCF, Guillaume Pépy. He thinks that France is going too fast in its further construction of high speed lines. TGV fares have increased by 100% in the last decade compared to about 30% for car travel. Pépy went on to say: *The whole basis of the high-speed rail revolution – that the TGV should be the "normal" means of travel, not just something affordable by the business elite – is under threat.* The SNCF president also described the state railways as: *Decaying... facing a financial impasse... and heading for the wall.* He should know better than most.

<http://www.independent.co.uk/news/world/europe/life-on-the-fast-track-thirty-years-of-the-tgv-2265455.html>

Netherlands

Earlier this year Reuters reported: *The Dutch high-speed train operator could face eventual bankruptcy unless steps are taken to boost its viability, after little more than a year of full services.* However passenger numbers have increased, from a low of 15% occupancy on some trains, following the decision by the operator to reduce its price premium for high speed rail tickets.

<http://www.reuters.com/article/2011/02/01/netherlands-rail-idUSLDE71025P20110201>

<http://www.foreyard.com/en/news/Dutch-high-speed-rail-faces-financial-woes-govt-2011-02-01T182016Z>

Plans for a high speed line from Amsterdam to Germany (HSL-Oost) have been suspended. The scope of the project has been reduced, and the Dutch have no plans to run high speed trains on this route in the near future.

http://en.wikipedia.org/wiki/High-speed_rail_in_the_Netherlands

Taiwan

In 2009 it became necessary for the Taiwanese Government to take over the running of the Taiwan High Speed Rail Corporation as it was almost bankrupt, two years after it first started running its high speed

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trains. One of the contributing factors to the financial problems was that passenger numbers were approximately one third of those that had been forecast.

<http://ccsenet.org/journal/index.php/ijbm/article/view/6370/6325>

Taiwan's high speed rail system is suffering from subsidence on some of its lines, which is reckoned to be between 5 and 7cm per year. It is now planning to spend US\$18bn to seal off 1000 wells to reduce further subsidence.

<http://www.freemalaysiatoday.com/2011/07/26/taiwan-to-seal-1000-wells-to-save-high-speed-rail/>

<http://www.taiwantoday.tw/ct.asp?xItem=172854&ctNode=445>

China

China has incurred a vast amount of debt during the building of its high speed rail network. The debt was estimated to have reached 2 trillion yuan (US\$304 billion) by the end of 2010. The Chinese Railways Ministry is required to pay interest of up to 120 billion yuan (US\$ 18.26 billion) each year. Apparently the railway system is currently only able to pay interest on the debt, and is unable to repay any of debt itself. One comment reported by Reuters may strike a chord: *Professor Zhao cited the line from eastern Henan province's capital Zhengzhou to the Shaanxi city of Xi'an as the perfect example of a white elephant rail project. "It is basically empty," he said. In the first six months after its launch in February 2010, the railway reported 1.98 million passengers. It was designed for 37 million a year.*

Following some safety concerns, the speed of the trains has been reduced from 380 kph to 300 kph.

<http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1502&MainCatID=15&id=20110301000115>

<http://www.reuters.com/article/2011/06/23/uk-chinas-railway-boom-hurtles-into-the-idUSLNE75M04520110623>

<http://www.ft.com/cms/s/0/3d859f1e-a1a1-11e0-b9f9-00144feabdc0.html#axzz1Qe9CBRd8>

On 23rd July one high speed train came to a halt after a lightning strike disrupted its power supply. The following train crashed into it as its electronic safety system apparently failed to operate. More than 30 people were killed.

<http://www.bbc.co.uk/news/world-asia-pacific-14289033>

http://www.msnbc.msn.com/id/43865656/ns/world_news-asia_pacific/

USA

In February this year, Florida's governor Rick Scott turned down a \$2bn government incentive to develop a high speed rail link from Tampa to Orlando. He believed passenger numbers to be overestimated, and that the state would have to pick up the bill for subsidies because the line would be unable to pay for itself. His decision follows very similar decisions made in Ohio and Wisconsin.

<http://www.nytimes.com/2011/02/17/us/17rail.html>

<http://www.reuters.com/article/2010/12/09/us-usa-infrastructure-highspeedrail-idUSTRE6B860B20101209>

The House of Representatives has recently voted to rescind more than \$1bn of funding previously earmarked for high speed rail to allow greater financial aid for flood relief efforts in the Midwest.

<http://www.buffalonews.com/city/politics/article490818.ece>

Brazil

Brazil wants to build a high speed rail line between Rio de Janeiro, Sao Paulo and Campinas; this includes two of its major cities. It has made three attempts to auction the rights to build and operate the proposed line, but has so far received no responses from potential bidders. Any private company taking on the work would be expected to recoup its costs in 35 years.

<http://www.nasdaq.com/asp/stock-market-news-story.aspx?storyid=201107111526dowjonesdjonline000282&title=brazil-receives-no-proposals-for-high-speed-train-auction>

<http://www.nce.co.uk/news/transport/brazil-high-speed-rail-project-to-be-split-in-two-after-no-bids-received/8617262.article>

<http://www.nce.co.uk/news/transport/brazil-high-speed-rail-project-to-be-split-in-two-after-no-bids-received/8617262.article>

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United Kingdom

We only have the experience of HS1 to draw on. Some may remember that 18 Javelin carriages were taken out of service four months after the line was completed in 2009 due to low passenger usage. In April 2011 a Telegraph reporter noted there were more than 200 empty seats on a peak time train leaving St Pancras at 6:10pm. Off peak usage was described as 90% empty.

<http://www.metro.co.uk/news/824624-140mph-train-service-is-reduced-after-complaints>

<http://www.telegraph.co.uk/journalists/andrew-gilligan/8423638/High-speed-rail-Britains-first-link-hasnt-worked-as-planned-say-critics.html>

Annex 2

Recommended Property Bond Scheme and approach to compensation

1. Scheme Objective

'...Where a project which is in the national interest imposes significant financial loss on individuals, I believe it is right and proper that they should be compensated fairly for that loss.'

Philip Hammond, House of Commons, 20 December 2010

The Government appear to accept the principle that where the blighting of properties is a consequence of HS2 it should be a cost to HS2 and not to the individuals who are affected.

The objective parallels the model of 'the polluter pays' – commonly perceived as what is fair.

2. Approach to compensation

DfT invited comments on their proposed approach to compensation. The prime purpose should be to compensate those who have losses imposed on them and focus on what is necessary to prevent them suffering that loss. To achieve this, DfT's proposed criteria should be amended to:

1. *Fully compensating those whose properties lose value* (to be the prime criterion)
2. *Enable normal functioning of property market so people can move or re-mortgage*
3. *Supporting mortgage lenders accept unblighted values for lending/remortgaging purposes*
4. *Reassuring now that fair compensation will be paid*
5. *Enabling people to stay in their homes and communities*
6. *Avoiding the government unnecessarily owning large number of properties*

The Council of Mortgage Lenders and the British Banking Association have said they could only support a property bond approach, not the hardship and compensation bond ones.

3. Recommended Property Bond Scheme (PBS)

Eligible property owners apply to HS2 Ltd for a Property Bond that transfers with their property and applies until one year after HS2 is operational. The Bond will guarantee that HS2 Ltd will purchase the property at an 'unblighted value' (in their role as purchaser of last resort) if:

- The HS2 project has reached a specified trigger point, e.g. planning approval date; and
- No private buyer is found at the unblighted price when the owner wants to sell.

Eligible properties to be stamp duty exempt for the life of the bond (encouraging private sales). The Bond can also be used for re-mortgaging purposes.

Any unused Property Bond that applies at termination (i.e. in 2027) to a blighted property entitles the then owner to 'loss in value' compensation (as distinct from current statutory compensation).

4. Recommended Scheme rules

Eligibility: property owners who suffer a 'loss in property value' due to HS2, and who move, remortgage or remain in their property until a year after HS2 is built (2027 earliest)

Process: eligible owners can apply to HS2 Ltd for a Property Bond anytime after the start date, provided they meet the 'general conditions'. The bond can only be redeemed from HS2 Ltd (for the 'unblighted value') when the trigger point has passed – only private sales apply until then.

There would be no qualifying reason for sale, restrictions on proximity, noise etc, or threshold loss. The sole test would be there being a financial impact on market value due to HS2.

Operation: to inhibit groundless sales applications some 'general conditions' must be met

- A property must have been marketed for a minimum period (determined by price bands)
- No 'serious offers' at blight-free value (with evidence to justify this value) be made
- The belief that its reduced value is due to HS2 must be reasonable and evidenced

'Loss in value' is market determined i.e. blighted price is based on what people will offer to pay.

'Unblighted value' is professionally estimated e.g. RICS 'red book' valuations. If the unblighted value is not more than the best serious offer received, the owner pays the evaluation costs.

Appeals: an independent appeals process to operate for eligibility, process and valuations

Annex 3

Benefit Cost Ratio

In their review of the DfT's business case which was released in February 2011, HS2 Action Alliance identified a number of discrepancies in calculating the benefits and forecast demand. We have reproduced their findings from their review v1.12 which materially alter the benefit cost ratios.

With the information provided and the analysis of the March 2010 business case¹, it is clear that correcting the business case for unrealistic assumptions on demand and benefits would reduce the BCRs of both the first phase and full "Y" Network to be below 1 (making it poor² value for money – with the subsidy exceeding benefits). See Table 1 and 2 below

Benefits adjustments: The adjustments made are necessarily indicative, but stem from the evidence discussed in this report. The main adjustments (summarised below Tables 1 & 2) are:

- Removing the productivity savings to business travellers and valuing the time savings to business travellers as for leisure travellers (which themselves are reduced to reflect the increased usefulness of their time on board)
- Reducing (by one third) the unit value used to assess the saving to businesses (that affects all the different time savings) to reflect the sixfold increase in business travellers since the earnings data was last calibrated ten years ago
- Removing the crowding benefit given it is an artefact of the 'do minimum' comparator and HS2 is actually more crowded than either RP2 or the best optimised comparator
- Reducing (by half) the reliability benefits for phase 2, due to issues with achieving 18 trains/hr (see section 7.4) as it depends on technology that is not yet even developed.

Demand adjustments: use of the indicative revised forecast (of background growth and HS2 uplift) of 81% increase over the 2008 base (i.e. near doubling) in place of DfT forecast of tripling (i.e. + 209%)

Table 1 summarises the adjustments for Phase 1 only, and Table 2 for the full 'Y' network. Adjustments are shown for benefits and demand separately and then combined in column 9. The basis of the adjustments (as described above) is shown below Table 1. Table 1 and 2 show that adjusting the benefits alone and leaving demand as DfT forecast

- Causes a more than halving of the benefits: the adjustments remove more than £26bn of the £44bn of benefits for the full "Y" network, reducing to just £17.3bn (and for Phase 1 they reduce from £20.6bn to £9.9bn)
- Results in the BCR reducing from 2.2/2.6 (without and with WEI) for the Y, to just 0.7. 1.0 i.e. poor value (with a similar effect for Phase 1)

Adjusting the demand alone (with benefit assumptions unchanged) has a similar effect on the BCR. The combined effect (of benefits and demand) removes more than £30bn from the benefits and reduces the 'Y' benefits to just £12.6bn and a BCR of 0.3/0.5.

However, with the relatively modest increases in demand forecast in the corrected case, the reduction to the average salary of business users may be too large. However, a BCR in the region of 0.4 is very poor value for money – well below 1 (the threshold for 'poor').

Applying these corrections and so making more realistic assumptions reduces its value for money (BCR) to between 30 pence and 50 pence for every £1 of subsidy.

¹Review of the business case for HS2'. HS2 Action Alliance, Section 2.8

²DfT Guidance on Value for Money (DfT website). 'Poor' value for money is below 1; 'low' is 1 to 1.5; medium is 1.5 to 2; and 'high' is over 2

Table 1: Adjusted DfT results for London -West Midlands (Phase 1): revisions to benefits only, demand only and effects of revising both

All £bn NPV at 2009 prices	DfT Feb2011 (Phase 1)			Revisions to benefits <u>only</u> (see basis in table below)			Revised demand only	Revisions combined
	2	3	4	5	6	7	8	9
Coll	Business	Leisure/commut	Total	Busin ess	Leisure/commut	Total	Total	Total
1.1 Rail journey time saving	5.7	1.7	7.3	0.4	0.8	1.2	4.5	0.7
1.2 Improved reliability	1.8	0.5	2.3	1.2	0.5	1.7	1.4	1.0
1.3 Reduced crowding	0.7	1.9	2.6	0	0	0	1.6	0
1.4 Waiting time	1.4	1.4	2.8	0.9	1.4	2.3	1.7	1.4
1.5 Other impacts e.g. access	0.3	0.4	0.6	0.2	0.4	0.6	0.4	0.3
2. Road decongestion	1.2	0.6	1.8	1.2	0.6	1.8	1.1	1.1
3. HS1 link			0.4			0.4	0.2	0.2
Total transport user	11.1	6.4	17.9	3.9	3.7	8.0	10.9	4.9
Reduced tax			-1.3			-1.3	-0.8	-0.8
Net transport benefits			16.6			6.7	10.1	4.1
4.1 WEI - agglomeration			3.0			3.0	3.0	3.0
4.2 WEI - imperfect competition			1.0			0.2	0.6	0.1
Total WEI			4.0			3.2	3.6	3.1
Total net benefits incl WEI			20.6			9.9	13.7	7.2
Additional revenue			13.7			13.7	8.4	8.4
Capital and operating cost			24.0			24.0	24.0	24.0
Net subsidy			10.3			10.3	15.6	15.6
Benefit cost ratio (excl WEI)			1.6			0.6	0.6	0.3
Benefit cost ratio (incl WEI)			2.0			1.0	0.9	0.5

Notes: Basis of revisions to benefits (col 5 - 7), demand (col 8) and combined (col 9)

1.1: *Business*: productivity gain from shorter on-board journey time reduced to zero. Time savings valued at adjusted leisure value. *Leisure*: time savings value is halved to reflect the usefulness of on-board time

Business time unit value is reduced by one third to reflect less elite nature of rail business travellers with the major increases in business volumes. Affects items 1.1, 1.2, 1.4, 1.5 and 4.2

1.2: *Reliability* benefits for phase 2 assumed to be halved due to issues about achievability of 18 trains/hr in the peak. No adjustment is made to phase 1 (when 14 trains/hr)

1.3: *Crowding* benefit removed: realistic comparator of uprating WCML e.g. RP2 is less crowded than HS2

1.4: *Waiting time* is not reduced although a realistic comparator would have higher train frequency than 'do minimum', as RP2 does.

4.2: This item reduces automatically as valued at 10% of all business time savings and reliability benefits

Benefit adjustments (col 5-7): DfT demand forecast unchanged (i.e. +209% increase); effect of applying revisions to basis of benefits is pro rata to DfT demand for all items except 1.6, 4.1 and costs

Demand adjustments: (col 8): DfT benefits basis unchanged; uses an 'indicative revised forecast' of 81% increase over 2008 base (incl. "background growth and **HS2 uplift), instead of DfT forecast of + 209%

Revisions combined (col 9): the effect of revising the basis of both DfT benefits and DfT demand forecast

**Background growth*: 38% at 2033 and remaining at this level (compared with DfT 102% at 2043); based on *PDFHV5,0* income elasticities; DfT 2011 annual growth rate capped at 2033. *With HS2 uplift*. 38% is increased to 81% (with HS2 uplift) at 2033 and remaining at this level (compared with DfT 209% at 2043); based on WCML uplift of 36%

Table 2: Adjusted DfT results for full "Y" network: revisions to benefits only, demand only and effects of revising both

All £bn NPV at 2009 prices	DfT Feb 2011 (full "Y")			Revisions to benefits <u>only</u> <i>(see basis in table below)</i>			Revised demand <u>only</u>	Revisions <u>combined</u>
	2	3	4	5	6	7	8	9
Col 1	Business	Leisure/ commut	Total	Business	Leisure/ commut	Total	Total	Total
1.1 Rail journey time saving	14.1	4.3	18.4	0.9	2.2	3.1	11.2	1.9
1.2 Improved reliability	4.4	1.3	5.7	1.5	0.6	2.1	3.5	1.3
1.3 Reduced crowding	1.5	3.6	5.1	0	0	0	3.1	0
1.4 Waiting time	2.0	2.0	4.0	1.3	2.0	3.3	2.4	2.0
1.5 Other impacts e.g. access	0.5	0.6	1.2	0.4	0.6	1.0	0.7	0.6
1.6 Released capacity benefits			1.3			1.3	1.3	1.3
2. Road decongestion	2.7	1.3	4.0	2.7	1.3	4.0	2.4	2.4
3. HS1 link			0.4			0.4	0.2	0.2
Total transport user	25.2	13,1	39.9	8.3	7.3	15.1	24.9	9.7
Reduced tax			-2.7			-2.7	-1.6	-1.6
Net transport benefits			37.3			12.5	23.3	8.1
4.1 WEI - agglomeration			4.1			4.1	4.1	4.1
4.2 WEI - imperfect competition			2.4			0.8	1.3	0.4
Total WEI			6.5			4.9	5.4	4.5
Total net benefits incl WEI			43.8			17.3	28.7	12.6
Additional revenue			27.2			27.2	16.6	16.6
Capital and operating cost			44.3			44.3	44.3	44.3
Net subsidy			17.1			17.1	27.7	27.7
Benefit cost ratio (excl WEI)			2.2			0.7	0.8	0.3
Benefit cost ratio (incl WEI)			2,6			1.0	1.0	0.5

Annex 4

Summary of Alternatives to HS2: using existing lines to meet capacity needs

The McNulty report stressed the importance of 'sweating existing assets'. There is substantial scope to do this for the West Coast, East Coast and Midland Mainlines.

Given that the benefits of faster speeds are small (see independent Oxera report to Transport Select Committee, and the 2011 Eurobarometer survey for UK passenger views), the primary benefit of HS2 is to add to capacity. However, this can be done more quickly and more affordably by developing the existing lines.

The table below gives the arithmetic for increasing West Coast Mainline intercity capacity from London for three options:

- The (unrealistic) DfT 'do minimum' used as the comparator for HS2
- The DfT alternative to HS2, 'Rail Package 2' (RP2), which has many benefits but is not 'optimised' and there is no immediate need for much of the engineering work suggested
- An 'Optimised Alternative'.

The table shows that RP2 more than meets the doubling in demand that is forecast by HS2 Ltd to happen, but also that the 'Optimised Alternative' can achieve this (with 121% extra capacity overall) largely before the need for infrastructure changes.

Resolving commuter over crowding problems

It is worth noting that the grade separation at Ledburn junction (at 2.1 in the table) will, with new trains, also be able to double the fast commuter train capacity (not shown in the table) to Milton Keynes and Northampton. This is an overcrowded service that needs to be dealt with now. It cannot wait for HS2 in 2026.

Providing sufficient peak time capacity

Questions have been raised over the extent that train lengthening etc. can provide extra capacity at peak times. The 'Optimised Alternative' suggests a timetable that increases the base timetable in the period 16:30 to 18:29 from 19 Intercity and 4 fast commuter trains (in the 2007/8 base) to 24 Intercity and 8 fast commuter trains. This shows the doubling of the fast commuter trains (i.e. Milton Keynes) capacity while at the same time (as the table shows) increasing the number of standard class intercity peak time seats from 5,736 seats (18x9 car Pendolinos and 1x10 car Voyagers) to 13,700 (18x12 car Pendolinos, 4x11 car Pendolinos and 2x10 car Voyagers), a 139% increase.

So its not just that overall capacity increases with the 'Optimised Alternative', or even that standard class capacity increases, but peak standard class capacity does too.

Conclusion

Capacity needs can be therefore be met incrementally (hence with less risk given the uncertain demand) and much more affordably, and given that the benefits of speed are small, there is no justification for the very high costs of HS2.

**Alternative elements for intercity WCML capacity (i.e. excl commuter services)
(On same basis as the background growth in demand i.e. over 2007/08 base)**

	Alternatives:			'Optimised' capacity increase over 2007/8 base (cum. figures)			Comment
	'do minimum'	RP2	'Optimised'	Total	Standard class		
					total	Peak*	
WCML 2007/8 base	88,544	88,544	88,544	88,544	59,298	5,736	16hr/2way seats in traffic
1. Train investment (with little/no infrastructure investment)							
1.1 Dec. 2008 timetable change	Y	Y	Y	+36%	+38%	+23%	Not in 2007/8 base
1.2 Evergreen 3 Chiltern speed improvements	N	N	Y				From autumn 2011, scope for extra capacity
1.3 Extra Pendolinos (by 2013)	Y	Y	Y	+63%	+79%		Being implemented; benefits peak & off-peak capacity
1.4 2013 timetable change	N	N	Y	+75%	+92%	na	Increases off-peak capacity only
1.5 Reassign 1 Pendolino car to standard class	N	N	Y	+84%	+127%		Very low cost: benefits peak & off peak capacity
1.6 Full 11-car on WCML	N	Y	Y			+106%	Benefits peak & off peak capacity
1.7 12-car WCML (not Liverpool)	N	N	Y	+121%	+181%	+130%	Benefits peak & off peak capacity
Trains total: (% incr. in capacity)	133,328 (+51%)	149,725 (+69%)	195,432 (+121%)	195,432 (+121%)	166,908 (+181%)	13,179 (+130%)	Seats in traffic Increase over 2007/8
2. Infrastructure investment	9 tph	12 tph	11 tph				Trains per hour
2.1 Grade-separated junction between Leighton Buzzard/Ched'ton	N	Y	Y				Needed to relieve peak crowding on commuter services
2.2 Stafford area by-pass	N	Y	Y				Benefits peak & off peak
2.3 Extra 3 Euston platforms	N	Y	N				
2.4 Extra platforms at Manchester (with Ardwick grade separation)	N	Y	N				HS2 has same train frequency to Manchester without these changes
2.5 4-tracking Attle'burgh/Brinklow (incl. freight works at Nuneaton)	N	Y	Y				Benefits peak & off peak
2.6 Northampton area speed improvements	N	Y	Y				Benefits peak & off peak
2.7 4-tracking Beechwood Tunnel – Stechford	N	Y	N				Benefits peak & off peak
3. Total after all	133,328	222,080	218,538	218,538	186,648	13,700	Seats in traffic

investments: (% incr. in capacity)	(+51%)	(+151%)	(+147%)	(+147%)	(+215%)	(+139%)	Increase over 2007/8
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*16.30 to 18.39

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