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Dear Sir

High Speed Rail Consultation

I have been instructed by the management committee of the Cubbington Action Group against HS2 to respond to the public consultation *High Speed Rail: Investing in Britain's Future* on behalf of our group.

Our comments against the seven consultation questions are set out in the enclosed Annex to this letter; this Annex was adopted as the official position of the Group by the management committee at a meeting held on 15th July 2011.

The Cubbington Action Group against HS2 was set up last year in response to the announcement of the HS2 proposals in March 2010. Its aim is to fight the HS2 proposals and to protect our village from its effects.

Despite our anti-HS2 stance, we have examined the evidence in the Consultation document and in the supporting documentation very carefully and have researched our responses very diligently, as indicated by the list of more than fifty referenced documents and articles at the end of the Annex. We trust therefore that our contribution to the public consultation will be seen as not just a routine input from the anti HS2 lobby, but rather as a genuine attempt to inform the public debate.

We are naturally very concerned about the impact that HS2 will have on our village and our local countryside. However, as taxpayers, we are also very disturbed about the £750m budget for HS2 in the current Parliament; this money will be spent long before a single sod has been turned. We see spending cuts all around, but spending on HS2 appears to be immune. We feel that Government priorities do not reflect the wishes of the taxpayer, in that many will regard many services that have been cut as having a higher priority than HS2.

We have been truly amazed as we have worked our way through the HS2 documentation and the documents that our research has uncovered just how fragile the case for HS2 appears to be. We have found nothing to change our opinion that the proposal represents a very bad economic and environmental proposition for the United Kingdom.

We also feel obliged to comment upon the standard of the Consultation documentation. We feel let down by this documentation in that the evidence that has been presented is selective and some of the benefits claimed for HS2 have not been adequately supported by properly researched evidence. We also feel that the drafting of the questions has not achieved the standard of impartiality that we would expect, in that a crude attempt appears to have been made in the wording to solicit the response desired by the Government rather than achieve a true test of public opinion.

We also claim in the Annex to this letter (response to Question 6) that the Appraisal of Sustainability is flawed and have cited eleven reasons why we feel this to be the case. These shortcomings in an important support document further undermine the credibility of the public consultation.

We trust that you will find our contribution helpful and ask that you regard the comments that we have made in this letter as an integral part of our response to the public consultation.

Yours faithfully

Peter Delow
Chairman, Cubbington Action Group against HS2
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Annex to letter from Cubbington Action Group against HS2, dated 18/07/2011

Response by Cubbington Action Group against HS2 to the Public Consultation on the HS2 Proposals

Question 1 – Do you agree that there is a strong case for enhancing the capacity and performance of Britain’s inter-city railway network to support economic growth over the coming decades?

No. The Cubbington Action Group against HS2 does not feel that the evidence presented in the Consultation document has succeeded in making a “strong case” for enhancing the inter-city railway network, nor has the case been made that to do so will “support economic growth”.

Further, it is clear from the evidence supporting this Question 1 that the Consultation document fails to distinguish between the case to enhance the inter-city network, such as it may be, and the argument for building a high speed network. Much of the evidence presented in Chapter 1 of the Consultation document, amounting to thirty-four out of the eighty paragraphs, promotes high speed rail; this is most unfortunate as it has, we feel, introduced ambiguity into the meaning of Question 1.

Our interpretation of Question 1 is that our opinion is being sought on whether the inter-city network should be enhanced, without being specific about the form that such enhancement should take. The subject of a high speed rail network does not appear in the text of the consultation questions until Question 2 and subsequent questions. Accordingly our response to Question 1, given below, ignores any evidence that has been provided that relates to high speed rail and we have deferred any comments on high speed rail until subsequent questions.

The Cubbington Action Group against HS2 is not opposed to public funds being invested in the inter-city network specifically, or indeed the railway system in general, but believes that investment should be proportional to the needs of the network, the gains that will be achieved and the number of people that will benefit. Such investment decisions should also be taken in the light of a clear overall transport policy to ensure that they represent the best use of available budgets.

We have considered the evidence that has been presented in the Consultation document in response to Question 1 and wish to make the following observations.

A Victorian Railway?

We note that the adjective “Victorian” has been used to describe the inter-city network in the Consultation document; it appears a total of five times in the whole document, including twice in Chapter 1. As an example (taken from paragraph 1.35):

Our current railway system dates back to the Victorian era and will not be sufficient to keep Britain competitive in the twenty-first century.

We feel that there is a danger of conveying the wrong impression about the inter-city network by the use of such words as this. Whilst it is undoubtedly true that the trackway beds of our railway network were laid down by our Victorian ancestors, the current railway and rolling stock are, by no means, a Victorian relic. It is only a few years since more than £8bn was spent on upgrading the West Coast Main Line (WCML) and this has delivered benefits in service reliability and passenger experience. It enabled Virgin

Trains to introduce their “Virgin High Frequency” timetable in December 2008, improving journey times and increasing capacity substantially.

The Pendolino trains operated by Virgin Trains have a maximum operating speed of 200kph on the current WCML, but have the potential to run at 225kph if in-cab signalling were installed; the same is true for the Class 91 trains that operate on the East Coast Main Line (ECML), hence the train brand “InterCity 225”. Even at the current 200kph limit, these services meet the requirements of European Union Directive 96/48/EC Appendix 1 for existing railways, allowing them to be classified as “high speed”.

The Pendolino trains have been in operation for less than ten years and, accordingly, offer a modern travelling experience. Carriages are equipped with mains outlet sockets and WiFi access to allow business passengers to work efficiently during their journey.

Sir Richard Branson, founder of the Virgin Group of companies, outlined his vision for the WCML in May 2009¹. He forecast, amongst other things, that a journey time between London and Birmingham of less than 60 minutes would be achievable and said that:

With a £1bn investment we could, within 3 to 5 years, see our trains running at 140mph with reductions in journey times between London and all West Coast destinations.

So far from being a relic of the Victorian era, the WCML supports a high speed train service of the 21st century that has benefited from a substantial recent investment programme and which continues to receive investment to improve its service level and capacity. The Cubbington Action Group against HS2 wishes to see this investment continue, at a level which is commensurate with demand and service requirements, in order to make best use of existing assets.

We welcomed the recent announcement that a new Pendolino train will enter service with Virgin Trains this summer². Commenting on this announcement, the Secretary of State for Transport said:

But this is just part of the Government’s plans to increase capacity for the West Coast main line - when all the new Pendolino vehicles and trains are in service in December 2012, there will be 106 new carriages in operation on the line.

Across the rail network we plan to deliver more than 2,100 new carriages by 2019. These carriages are already beginning to arrive and, by the end of the month, 140 additional carriages are expected to be in service.

In our view this investment is prudent and is to be applauded. It meets our criteria of being “commensurate with demand and service requirements” and making “best use of existing assets”. We would also like to see Sir Richard’s vision realised in the not too distant future, irrespective of any future franchising decisions.

This ongoing inter-city investment programme has succeeded in producing steadily improving service performance and reliability, as witnessed by the improving satisfaction ratings reported in the twice-yearly National Passenger Survey by the rail watchdog Passenger Focus³.

Occupancy Levels, Crowding and Demand Growth

Two further words that are used frequently in the Consultation document are “crowding” and “overcrowding”. This is identified as a general problem on inter-city routes northwards from London, but is claimed to be particularly acute on the WCML (in paragraph 1.47 of the Consultation document). Despite frequent use of the two words, no attempt appears to have been made in the Consultation document to set measures that define “crowding” and “overcrowding” or even to explain whether the two words are interchangeable or are meant to define different levels of passenger loading.

In an attempt to seek a measure of the extent of the problem we have researched the available documentation and have found, in a report written by Atkins for the Department for Transport (DfT), that in 2008 the all day load factor on WCML was 49%⁴. This means that, on average, half of the seats being provided were empty. It is interesting to note that the report seems to regard this as an acceptable level, because it appears to be considering ways of expanding capacity that broadly retain this level of load factor at 2033.

We consider 49% load factor to be very low and an uneconomic level. This compares very unfavourably with budget airlines, many of which achieve load factors that are well over 80%. By this measure of “crowding” the WCML is far from “overcrowded”. We submit that low load factor is an urgent matter that must be addressed before future investment is committed that seeks to preserve or lower further the currently achieved load factor.

We accept that some services on WCML, and other inter-city trains, are overcrowded to the extent that there are more passengers than available seats and that this is particularly acute on services leaving London on Friday evening. There is also a problem on some of the shorter inter-city journeys made by commuters into London. With the possible exception of these commuter journeys, where investment in additional infrastructure really does appear to be required, the problem appears to one of poor demand management.

There are two particular features of the way that train tickets are sold that are largely responsible for low load factors; these are the ability to travel without pre-booking (“turn up and board”) and artificial peaks in demand that result from the current fare structures. It is essential that there is an urgent review of the way in which train tickets are marketed in order to seek a more economic overall load factor. It is surely not impossible, in this age of ever more sophisticated IT systems, to use demand management to reduce the peak capacity problem.

The Cubbington Action Group against HS2 formed its policy of investment being “commensurate with demand and service requirements” and making “best use of existing assets” and of using demand management to make best use of available capacity before the McNulty Report was published. However, we have been pleased to discover that the authors of this report appear to be thinking along similar lines.

The report addresses what it refers to as a “predominance of infrastructure solutions, relative to operational or demand management solutions, that may not reflect the best value for money solution”⁵. It also says that “there needs to be less focus on capital and

infrastructure solutions” and that “there needs to be a renewed focus on making better use of existing capacity⁶”.

The McNulty Report recommends⁷:

To reduce incentives towards infrastructure solutions the Study considers that, in common with other transport sectors, there should be an end of “predict and provide” in the rail sector. In its place there should be a much greater focus on making better use of existing capacity, whether that is through better timetables, pricing or behavioural options, perhaps “predict, manage and provide”.

In considering whether to make any new infrastructure investment in the inter-city rail network, the Government would be wise to follow the advice of the McNulty Report. Reacting to the perceived overcrowding and capacity problem by seeking to maintain or reduce current load factors, particularly if this involves large investment in new infrastructure, is clearly an imprudent course; there is no virtue in vastly over provisioning rail passenger capacity.

In a section spanning paragraphs 1.45 to 1.57 of Chapter 1 of the Consultation document, which has been given the sub-heading *The long-term capacity challenge*, the possible future growth in the demand for inter-city services, on the WCML, the East Coast Main Line (ECML) and the Midland Main Line (MML), is examined. This section may be regarded, therefore, as associated with the “predict” part of the McNulty Report mantra “predict, manage and provide”.

The analysis in the Consultation document relies on four sources: Network Rail’s recent draft Route Utilisation Strategy (RUS), which predicts passenger growth on the WCML up to 2024⁸, the Network RUS from the same organisation, which predicts passenger growth on the long-distance network as a whole up to 2036⁹, work published by HS2 Ltd which makes passenger growth predictions for the WCML up to the year 2043, assuming a “do nothing” scenario¹⁰ and a study by Atkins (for the DfT) which makes passenger growth predictions for the ECML and MML up to the year 2043, for a “reference case” scenario¹¹.

The predictions in the Consultation document all have the same theme; forecasts of ever more passengers that are standing rather than seated. The comment in paragraph 1.55 on page 35 is typical:

HS2 Ltd’s analysis of future demand on the West Coast Main Line predicts that between 2008 and 2043 demand for long distance services will roughly double. Even allowing for planned enhancements, this would see the average daily load factor on the southern section of the line rise from around 57 per cent to more than 70 per cent. The consequence would be that in peak hours the vast majority of trains would be carrying large numbers of standing passengers for most, if not all, of their journey, and some passengers would have to stand on many other services throughout the day.

So are these predictions sound reasons to commit large sums to inter-city infrastructure improvements, including the possible construction of new lines, at this point in time?

In attempting to answer this question it is important to note the timescales that are involved. The Network RUS does not extend its predictions as far forward as the HS2 Ltd or Atkins work, but it cautions in the Executive Summary to the report:

Few things are certain when planning for the long term. The only certainty is that we don't know what the future will hold. 30 years ago few would have predicted that the railway would be privatised, the coach market deregulated, that London's rundown docklands would develop into a financial centre and that there would be an influx of hundreds of thousands of young workers from an expanded European Union. There will be similar uncertainties when we look forward 30 years from now.

From a current perspective and looking forward, the list of uncertainties would surely include: Government policy on rail fares and subsidies in the light of the recent decision to increase regulated fares by RPI+3% and the recommendations of the McNulty Report, the impact of information technology on the need/desire to travel, population growth trends, future trends for the economies of our region and the World and the price of crude oil and other fuels.

It cannot pass without comment at this point that the DfT, whilst predicting a large increase in rail passengers, has a parallel exercise aimed at reducing travel in the "Alternatives to Travel" initiative. We feel that, given the necessary encouragement and promotion by the Transport Secretary, this scheme could make a major contribution to reducing travel demand and any consequent overcrowding of transport facilities.

There is also a danger that future growth predictions are being influenced too much by growth rates that have been achieved in the last 15 years. There is little doubt that specific factors, favourable to growth in demand, operated over this period. This is commented upon in a research paper by Wardman¹²:

... there is evidence of an otherwise unaccounted for stimulus to demand resulting from privatisation. It is here concluded that it is better to isolate this and regard it as a temporary phenomenon rather than allowing its effect to be built into forecasts in perpetuity.

The methods that have been employed to predict demand have also been questioned. The suitability of the model utilised and the validity of assumptions made have been queried by Weston¹³, who has also made an alternative assessment of demand and arrived at much lower growth figures.

It is also important to recognise that we are not facing a "do nothing" scenario on the WCML. Measures are already planned or are in hand to increase the capacity of WCML services, such as providing new train sets and lengthening many of the existing sets. These measures will provide more seats to accommodate demand growth for a considerable period. It would however be very wasteful of resources to react to this perceived problem of overcrowding by vastly over provisioning services.

We have only to look at the demand predictions that were made for the HS1 project to see how imprecise demand forecasting can be. These forecasts anticipated that demand would now have reached about 25 million passengers, whereas actual traffic has grown only slowly and has now reached around 9 million passengers nearly 15 years after the original forecasts. The House of Commons Committee of Public Accounts queried the demand overestimate for this service with the DfT in 2006 and reported that¹⁴:

The Department has told us that it has now learned from this experience, and that the next time it considered undertaking a major transport project, it would factor more severe downside assumptions into its business case analysis.

We fear that the signs are that this undertaking to the Public Accounts Committee has been forgotten in the enthusiasm to promote HS2.

We feel strongly that the Government should not be drawn into reacting to these predictions, which could be very wide of the mark, by making a massive investment in a single project that requires a long lead time to bring to fruition. The more prudent approach is to invest step by step, reacting to changes in demand that are detected within a reasonable timescale and without the risk of wasteful over provisioning.

It is also an important point for the health of our general environment that investment in the existing inter-city infrastructure is likely to be a far more environmentally sustainable solution than building a new line.

Promoting Economic Growth

The second part of Question 1 postulates that investing in the inter-city rail network will “support economic growth over the coming decades” and the evidence for this assertion is given in a section spanning paragraphs 1.29 to 1.34 of Chapter 1 of the Consultation document, which has been given the sub-heading *Investing in transport infrastructure*.

Paragraph 1.30 refers to a survey of UK businesses carried out for the Association for Consultancy and Engineering and the Civil Engineering Contractors Association¹⁵. The paragraph correctly reports that the survey “found that 95 per cent of companies agree that the UK’s road and rail network is important to their business and its productivity”. What the Consultation document fails to report is that the survey asked those companies to rate the importance of rail and road networks separately. The outcome is reported, thus:

When asked to differentiate between the importance of road and rail, 75% of companies felt rail was important in terms of its significance compared to 90% for roads.

It is not difficult to see why these companies rated road as the more important transport facility. Data from the DfT¹⁶ indicates that in 2009 only 8% of the total passenger kilometres travelled in Great Britain were by rail and that this figure has been below 10% every year since 1965.

Perhaps the indications are that if the Government wants to invest in transport infrastructure with the aim of promoting economic growth, then the most fruitful area would be road transport. There is little evidence, if any, in the Consultation document that the investment of large sums in the inter-city rail network will deliver spectacular economic growth, and there is even less evidence that it will do anything to contribute towards closing the north-south divide. This will be particularly the case if this investment in the inter-city network leads to over provisioning capacity on rail links.

If investment is to be made with the aim of stimulating the economy generally or, more specifically, addressing the north-south divide, then it needs to be done in the light of evidence that can direct such expenditure to the most efficient use. Evidence to support the view that investment in the inter-city network will be an efficient way of stimulating our economy appears to be sadly lacking from the proposition set out in the Consultation document.

Even if investment in inter-city rail links can be shown to be an efficient way of producing the desired economic stimulus, then further work needs to be done to

establish which inter-city links should be the beneficiaries of this investment. This has clearly not been done. The proposition seems to be: “The answer is HS2, now what was the question?”.

If the Government wishes to invest a huge sum of money with the aim of stimulating the economy, there is no shortage of projects that should be considered to benefit. Perhaps the regions will benefit more from investment in other rail services, such as commuter links and regional services. As mentioned above, investing in another transport mode rather than rail may be a more efficient way of producing an economic stimulus. It is even possible that more direct investment in economic regeneration projects is a more efficient way of achieving the required stimulus.

Fairness

Moreover, it has been pointed out by the Sustainable Development Commission that spending public funds on transport is inherently unfair, since:

The richest 10 per cent of the population effectively receive four times as much public spending on transport as the poorest 10 per cent¹⁷.

The SDC cautions:

In a time of extreme public spending constraint, with families across the UK experiencing hardship and uncertainty, the issues of affordability of fairness policies, and their acceptability by the public, do need to be considered¹⁸.

And, specifically refers to the HS2 proposal:

... those in the highest income quintile are the greatest users of rail. Despite commitments to ensure that new high speed services would not be offered at premium prices it could therefore be argued that higher income groups would stand to benefit most from large scale investment in a high speed rail network¹⁹.

Mainline/Evergreen III

Finally, we wish to mention the favourite route to London for many of us who live in Warwickshire. This is the Chiltern Line. An upgrade programme for this line, known as “Mainline/Evergreen III”, is currently being undertaken, but it merits barely a mention in the Consultation document. Although this project has suffered some management problems and will be delivered late, it will bring a real improvement in passenger service when the initial phase comes into operation later this year. The main benefit will be a reduction of 15 minutes in the Birmingham-London journey time.

This project is significant to this current public consultation in that it is an example of investment in our rail infrastructure at no cost to the taxpayer; the cash to fund the £250m price tag being raised solely from private sources. This line provides an alternative Birmingham-London route that is very price competitive and its promotion and possible further future investment could provide another way of finding additional capacity between England’s first and second cities.

Question 2 – Do you agree that a national high speed rail network from London to Birmingham, Leeds and Manchester (the Y network) would provide the best value for money solution (best balance of costs and benefits) for enhancing rail capacity and performance?

No. The Cubbington Action Group against HS2 does not believe that the proposed national high speed rail network would provide the best value for money solution for enhancing rail capacity and performance. Our main reasons are summarised below and further evidence follows addressed to the specific topics covered by Chapter 2 of the Consultation document:

1. HS2 is a *grand projet* of the type that appeals to politicians wishing to leave a legacy; recent history is littered with examples that have been proved to be folly rather than inspirational. It is a massive overreaction to the perceived problems with the inter-city network that were addressed by Question 1.
2. The timescales of HS2 mean that it will come too late to address the medium term inter-city capacity problems forecast in the Consultation document. Other solutions to capacity will have to be implemented to fill this gap and these solutions will have the capability to continue to satisfy demand into the much longer term, removing the need to build a new railway.
3. The running of HS2 “classic compatible” trains on the WCML north of Staffordshire will bring with it new capacity problems on this section of the route.
4. There is evidence that reduced journey times are not a major priority for rail passengers and may not necessarily be a strong selling point.
5. The HS2 proposal is high cost and high risk. It is a “single shot” solution to capacity problems. An incremental approach to enhancing capacity, which can be adjusted if demand projections prove to be over estimates, would be far more prudent.
6. There is little evidence that HS2 will have a “transformational” effect on the economy.
7. The HS2 proposal runs contrary to the recommendation of the McNulty Report that “there should be a much greater focus on making better use of existing capacity” rather than relying on capital and infrastructure solutions.
8. The Government has been too keen to dismiss lower cost and lower risk alternatives that are based upon investment in the rolling stock and infrastructure of the existing inter-city network. It is difficult to see the motive behind this attitude as anything other than a view that these proposals represent a stumbling block to the adoption of the HS2 proposal.
9. There is a significant body of evidence that the benefit:cost ratio (BCR) of the HS2 proposal has been overstated and the uncertainties appear to be all on the down side.

We favour a prudent and distributed approach to transport investment and one which will bring benefit to the most people. Any expenditure must be made within the context

of an overall and well thought out transport policy. The HS2 proposals do not fit in with this approach at all.

There may well be a place for further investment in inter-city rail services within such an overall transport policy; however we do not think that massive investment in new routes is the right way forward. We favour an alternative approach to increasing inter-city capacity based upon the “optimised alternative” which has been worked up by the HS2 Action Alliance from the original Atkins “Rail Package 2” proposal. This approach will be cheaper, far more sustainable and will give better value for money than HS2. It will also permit the step-by-step approach to increasing capacity that we suggested in our response to Question 1. Above all, any urgent requirements can be addressed by the “optimised alternative” much more speedily than by HS2, which will have no impact until 2026.

It is a matter of great regret to the Cubbington Action Group against HS2 that large sums of money are being spent at the moment on HS2, with a budget of around £750m for this current Parliament. This is at a time when UK citizens are suffering badly from effects of cuts in central grants to local government. However large this sum looks now, it will be dwarfed by the billions of pounds that will be needed post 2015.

Reduced Journey Times

Chapter 2 of the Consultation document is full of the benefits that the proposed high speed rail network will deliver, but what lies behind these claims? On the basis of the limited information that we have on station locations north of Birmingham, the proposed “Y” network offers little in the way of new connectivity. London is already connected by rail to Birmingham and Manchester and also to Leeds; all that seems to be new is a more direct link between Birmingham and Leeds. Indeed, the proposed network offers a marked inferiority in connectivity in that many cities that are served by the existing inter-city services will be by-passed by the high speed rail network.

A new railway will undoubtedly provide additional passenger capacity, but for the full “Y” network this is more than 20 years away and this may be too long to wait for the more pressing capacity issues. Also alternative proposals that adequately address the capacity issues are available.

Primarily, what the high speed proposal offers is reduced journey times and this is the foundation upon which all of the other claimed benefits rest. Paragraph 2.38 in the Consultation document tells us:

The standard journey time from London Euston to central Birmingham would be cut to just 49 minutes, compared to 1 hour 24 minutes currently, and current journey times to Manchester and Leeds from London of more than two hours would be reduced to just 73 and 80 minutes respectively.

The key question about the perceived benefits of the HS2 proposal is therefore what value do passengers place on speed. A survey carried out by the independent watchdog Passenger Focus during September and October 2009 asked rail passengers to rate their priorities for improvements to the service. The results of this survey show that, for the respondents as a whole, the most important service enhancement would be improving value for money followed, in second place, by better punctuality. Speed of the journey only rates 21st in the list of priorities²⁰.

The Passenger Focus survey does report differences between three classes of respondents: business, leisure and commuters.

The most noticeable difference between the three groups of passengers is the importance that they attach to improving the journey time, with commuters placing it higher than other passengers. Commuters placed journey time as seventh priority, compared to 10 for business passengers and 22 for leisure passengers²¹.

It is interesting to note in this context that HS2 Ltd has made the following prediction about the market for HS2:

People would travel on HS2 for a range of reasons. Faster journeys would attract more business travel in the UK overall. However, the majority of HS2 journeys (70%) would be made by people travelling for other reasons, with leisure trips likely to be particularly important²².

This prediction appears to run contrary to the low priority that leisure passengers place on journey time according to the Passenger Focus survey.

Further survey work carried out for Passenger Focus, throughout the WCML franchise operating area in January and February 2011, shows speed of journey promoted to fourth in the list of priorities²³. This may be a reflection of the recent publicity about the HS2 proposals, rather than indicating any major change in passenger opinion.

The results of this survey are included in written evidence to the House of Commons Transport Select Committee and led Passenger Focus to make this comment to the Committee:

We believe that all these studies firmly establish the need for additional capacity and for this to focus, at least initially, on the West Coast route. There has been much debate about whether this could be delivered by upgrading existing infrastructure or whether it requires a new line and, moreover, whether any new line would need to be high-speed. From Passenger Focus's perspective it is the provision of additional capacity that is the key priority – the other decisions being driven more in terms of identifying the most efficient and beneficial mode of delivery²⁴.

We feel that the indications from the Passenger Focus surveys are that offering, in HS2, a service which largely duplicates existing rail links but offers faster journey times may not be the killer sales proposition that the Government would have us believe.

Transformational Impacts?

The “strategic case for high speed rail” is set out in paragraphs 2.7 to 2.28 of the Consultation document. The essence of the argument therein is summarised in paragraph 2.7:

The Government's view is that the enhanced connectivity offered by a new high speed rail network would help to promote longer-term growth and rebalancing through its potentially transformational impacts on economic geography.

Even by the standard of hyperbola set by the Consultation document, this seems a remarkable assertion. Can a new railway that effectively serves a very restricted catchment area, due to the paucity of stations supported, and connects cities that

already have good railway links achieve “transformation impacts” merely down to reduced journey times and projected lower crowding levels and improved reliability?

In support of this somewhat shaky proposition the Consultation document cites the example of the experience with the TGV in France. In particular the economies of Lille and Lyon (paragraph 2.10) are given as examples of what might be achieved in the UK.

We are told that “the strategic choice of Lille as the location for a major high speed rail hub at the centre of the Paris/London/Brussels/Cologne network has supported a significant programme of regeneration” (paragraph 2.25) and that “The area around Lyon’s Part Dieu high speed rail station now hosts 5.3 million square feet of office space and around 20,000 jobs” (paragraph 2.10).

Waddell has investigated the employment situations in both of the French cities²⁵. He reports that “between 1999 and 2009 the rate of unemployment in the Lille conurbation has actually increased relative to the rest of France”. He also comments:

The same applies to the Nord Department and the Nord Pas de Calais Region within which Lille is located. Unemployment in the Nord region, for example, has increased since the arrival of the TGV in the early 1980s (from an average of 10.7% 1982-6 to 11.9% 2006-10), resulting in a further widening of disparities when compared to the rest of France.

He says that Lyon is “an area which has traditionally been amongst the more prosperous parts of France” and which “has not suffered the depredations of the decline of traditional industries on anything like the same scale as the North East of France”. Nevertheless, Waddell reports that the Rhone department, “over 75% of the population of which live within the Lyon area”, has seen unemployment increase “by nearly 1.5% since the arrival of the TGV (from an average of 6.3% 1982-6 to 7.8% 2006-10)”. He advises that this level has increased “in relative terms compared to France as a whole by 1.24%”.

Now Waddell’s statistics do not prove that the coming of the TGV has not improved employment prospects in these two French cities, but they do indicate that its impact has hardly been “transformational”.

What the Consultation document has to say about HS1 and its effects upon the economy of Ashford in Kent (paragraph 2.11) is not a universally accepted truth either. Gilligan, writing in a *Guardian* blog²⁶, says that there appears to be no evidence to support claims that HS1 is proving an economic boon for the town and that there is “substantial evidence that they are untrue”. He goes on to say:

Since the line began full operation, in December 2009, Ashford’s unemployment rate has in fact fallen more slowly than the Kent average, more slowly than the South East average, and more slowly even than the Great Britain average.

Over the same period, Ashford’s house prices have also risen more slowly than both the Kent and South Eastern average, though there may have been more of an impact on property values around the line’s other Kent station, Ebbsfleet.

Towns not served by the high-speed line, such as Tonbridge, Maidstone and Hastings, have often done far better on either or both of these measures than towns actually on the line. In two days of asking, neither Ashford council, nor any of the other local

regeneration bodies, could provide me with any concrete figures showing that the line had benefited Kent. Instead, they tended to take refuge in woolly arguments about its having improved “perceptions” of the county.

The claims for the miraculous powers of HS2 to stimulate the economy become even more overblown in paragraph 2.12 of the Consultation document where it is asserted that it will help “to bridge the north-south divide”. The Smith Institute is not convinced that HS2 alone will do the trick for the North and not even if the Government has got its priorities right²⁷.

The difficult question thrown up by the round-table discussions with business and local government across the North is whether the HS2 investment programme is really the right one? And, in particular, whether concentrating resources on HS2, which would eventually lead to a reduction in journey times between London and the North, is the main priority?

... But what is really needed is an integrated transport plan for the North, in which access to London is one of several criteria to be considered.

The extent to which the employment impacts of HS2 might serve to lessen the north-south divide has been examined by Geddes²⁸. He concludes that, “in the most optimistic scenario”, the wider economic benefits of the HS2 Y network could amount to a reduction in the north-south employment gap of 16-17,000 jobs a year. But he cautions:

The North-South divide is currently widening annually by about 62,000 jobs. The 16-17,000 pa reduction in the divide which is the most optimistic scenario for the impact of HS2 would not come anywhere near stemming the current widening of the jobs divide, let alone start to close it. This seriously questions any statement that HS2 could bring ‘transformational change’ to the economic geography of the UK.

Mackie, writing in a personal capacity rather than on behalf of the HS2 Analytical Challenge Panel of which he is a member, appears to support Geddes:

For various reasons, HS2 is rather unlikely to make much difference to the North-South divide. A spatial analysis would probably show London to be the main benefitting region. That is NOT a reason for not doing the scheme but claims of ‘strategic value’ need to be capable of interrogation²⁹.

Network Geometry

The Government’s choice of a “Y” shaped network eventually to connect London, Birmingham, Manchester and Leeds is explained in paragraphs 2.29 to 2.33 of the Consultation document. Tuppen has identified a number of flaws with this design, not the least of which is the potential fragility of a network which funnels all north-south fast long-distance services onto one two-track line³⁰.

Capacity Issues

In a section bearing the sub-heading “capacity”, spanning paragraphs 2.34 to 2.36 of the Consultation document, the claim is made that the proposed high speed rail network will “deliver a transformational capacity increase on the key north-south routes out of London and between major cities in the Midlands and the North”. Stokes has carried out a detailed analysis of the documentation published in support of the HS2 proposal

and has come to the startling conclusion that “for key flows HS2 provides less capacity than now”³¹.

Stokes also points out that the accommodation of “classic compatible” trains on WCML north of Lichfield, prior to the extension of HS2 to Manchester, will necessitate infrastructure upgrades which have not been included in the HS2 project costs. His view is that:

It is simply not credible for DfT to claim that the HS2 service to Manchester could be increased to the six or more trains an hour which would be needed to carry their forecast passenger numbers without major expenditure on the existing network.

The capacity problems that may result from the running of “classic compatible” trains north of Lichfield have also been commented upon by Tuppen, with particular emphasis on an acknowledged bottleneck around Carlisle³².

Modal Shift

In paragraphs 2.43 and 2.44 of the Consultation document the benefits that will be derived from the predicted modal shift of passengers to HS2 are outlined. Three elements of modal shift have been identified in the documents produced by HS2: switch from classic rail, shift from cars and shift from air³³.

The largest component of the total modal shift is predicted to be from the classic rail services, this being forecast to make up 65% of the passenger demand in 2043. The Consultation document rightly points out that this will be of benefit in releasing capacity on the existing inter-city lines, particularly for rail freight. What the Consultation document neglects to mention is that this also represents a shift from a lower to a higher polluting mode of transport, since higher speed will invariably mean more carbon emissions even taking into account likely technological enhancements that improve efficiency.

Modal shift from cars and air travel is forecast at 7% and 6% of the total passenger numbers, respectively. Whilst these are comparatively small proportions of the total passenger demand, there is the potential to reduce carbon emissions here.

In the case of cars however, it is likely that technology will transform carbon efficiency by the time that HS2 opens for service by the widespread use of electric and hydrogen powered vehicles. The contribution that low carbon generation can make to these power sources is likely to be well in advance of the general “greening” of the electricity grid, thus narrowing the carbon emissions gap between rail and road.

The Consultation document also appears to conveniently ignore the additional car travel that is likely to result from including “parkway” stations, such as Birmingham Interchange (with 7,000 parking spaces planned), in the HS2 plans.

Air travel is also likely to become greener, with improvements in engine efficiency and the use of biofuels, but we concede that air travel is likely to remain less carbon efficient than rail. However, rail has already made significant inroads into the market for air travel. For example, Virgin Trains claim to have an over 80% share of the rail/air market on the London/Manchester route³⁴.

Wharf and Weston take up the point about market saturation and the prospects for more modal shift and conclude:

Total demand for transport is saturated – it has not been increasing since 1995 within the UK, and specifically has not been going up with Gross Domestic Product (as the demand models expect), which means that rail’s growth has been modal shift. Modal shift cannot continue indefinitely. The recent service improvements by Virgin Trains increased demand but much less so than that predicted for HS2³⁵.

The remaining 22% of the predicted passenger demand for HS2 in 2043 is described as “new trips”. The inclusion of this substantial source of predicted demand is explained by HS2 Ltd thus:

Faster journeys and increased capacity would not only encourage people to use HS2 in preference to the WCML, air and road travel, it would also lead to an increase in the overall number of journeys in the London to West Midlands corridor. Reduced crowding and increased comfort of journeys, a greater range of services provided on existing lines, new interchange station locations and faster services on HS2 would make rail travel more attractive to those who would otherwise choose not to make journeys³⁶.

The promotion of HS2 as a stimulus to new long-distance travel may be an essential element of the business plan, but it somewhat dents HS2’s “green image”. It also appears to be in direct opposition to the aims of the DfT’s own “Alternatives to Travel” initiative.

Wider Economic Benefits

Paragraphs 2.47 to 2.51 of the Consultation document discuss the potential wider economic benefits that will be gained by the initial London-Birmingham link and, later, by the “Y” network. At £4bn (phase 1 only and over 60 years) they are small compared to the overall claimed benefits of around £21bn. Further, Wharf and Weston³⁷ have claimed that these benefits result largely from “the freed conventional rail capacity and some relief of road crowding” and that they “are benefits of additional capacity – not high speed”, In other words these benefits would also largely be gained from investment in the existing inter-city link.

Oxera appears to confirm the conclusion made by Wharf and Weston:

The agglomeration benefits identified in the Economic Case account for £3 billion of the £4 billion of WEIs. HS2 Ltd has informed Oxera that most of these benefits arise from freeing up capacity for short-distance commuter services. Since these WEIs are predicated on capacity rather than travel time, the benefits arise not as a result of high-speed services per se, but rather owing to the ability to release capacity for additional commuter services³⁸.

Carbon Benefits

In a section bearing the sub-heading “carbon benefits”, spanning paragraphs 2.52 to 2.59 of the Consultation document, the likely effects of HS2 on carbon emissions are outlined. The conclusion is that the London-Birmingham link will be “broadly neutral” in carbon terms. If this proves to be the case, then HS2 appears to be falling short of the aspiration of the incoming Coalition Government that it will be “part of a programme of measures ... for creating a low carbon economy”³⁹.

The truth of the matter is that the calculation of carbon emissions is very imprecise, as reflected in results being presented as a range of values. This is admitted by HS2 Ltd:

Both HS2 and new services on the WCML would offer opportunities for a low carbon form of transport. The extent to which CO₂ emissions would be reduced, however, would crucially depend on how carbon-efficient electricity generation becomes in the future. It would also depend on any reduction in the number of flights (due to people switching to high speed train services) being maintained, as well as on the resulting available take-off and landing slots remaining vacant⁴⁰.

The last point about aircraft is particularly relevant. At Heathrow, for example, it is surely totally unrealistic to expect any landing slots that become free due to the effects of HS2 on domestic services “remaining vacant”. The likelihood is that relinquished slots will be taken by long-haul services, resulting in increased carbon emission levels.

Just how bad an effect this might have on carbon emissions may be judged by using a carbon calculator available on the Internet⁴¹. This reveals that a one-way flight from London to Manchester results in a CO₂ emission of 0.04 tonnes per passenger, whereas London-New York causes 0.77 tonnes to be released.

HS2 Ltd is also right to raise the issue of the future “greening” of electricity generation. It is easy to be too optimistic about this, since the variable nature of demand for electricity, hour by hour, is a major obstacle to removing fossil fuel based generation from the grid. HS2 will be a consumer of peak electricity and it is difficult to see, from a current technological standpoint, how a totally green peak electricity supply can be achieved to power it.

Although trains are a relatively low carbon transport mode, HS2 will be far less carbon friendly than conventional trains, because of its speed, and matters will be far worse if trains are running with low occupancy levels due to over-optimistic demand predictions. Add to this the effect of parkway stations on car trips and the (claimed) stimulus that HS2 will have on travel, both of which have been mentioned above, and HS2 begins to look far less green than it is being painted.

Overall, the Cublington Action Group against HS2 sees HS2 as a contributor to carbon emission levels, rather than achieving the claimed neutrality.

Costs and Benefits

Paragraphs 2.60 to 2.65 of the Consultation document form a section “appraising the costs and benefits of high speed rail”. This section summarises the business case for the “Y” network, arriving at a BCR of 2.6, including wider economic benefits.

In a very full analysis, Wharf and Weston dispute aspects of the basis of this analysis and have recalculated an equivalent BCR of 0.5⁴².

They accuse HS2 Ltd of making a number of invalid assumptions. They say that⁴³:

No account has been taken of people working while travelling – in other words, that it is not time wasted but time used productively.

While the rate of projected demand growth has slowed, by basing the business case on what might happen over the next 35 years, and using out of date forecasting factors, the Government has still greatly overestimated demand for long distance train services (by some 47%).

The comparator used is one in which the rail network is maintained as it is without improvement for 30 years.

The Cubbington Action Group against HS2 finds the arguments of Wharf and Weston compelling and concludes that HS2 Ltd is overstating the business case.

Local and Environmental Impacts

Paragraphs 2.66 to 2.75 of the Consultation document, covering the local and environmental impacts of HS2, largely summarise evidence that is presented in greater detail in Chapter 5 of the Consultation document. Accordingly our comments on this topic may be found under Question 5 and Question 6, below.

Alternatives to High Speed Rail

The Cubbington Action Group against HS2 strongly disagrees with the downbeat assessment in paragraphs 2.84 to 2.95 of the Consultation document of the alternative options for increasing capacity that are based upon enhancements to the existing inter-city routes.

The Government has simply not done enough work on the alternatives to building a new London-Birmingham line and is dismissing a non-optimum solution. The advantages of finding a solution to accommodate predicted passenger demand increases that relies solely on developing the existing inter-city assets are so great that it is total folly to reject them so lightly. Such a solution:

- Will follow with the recommendation of the McNulty Report to “make better use of existing capacity”.
- Will cost significantly less than building a new line.
- Will allow a staged implementation, matched to the growth in demand, and avoid costly over provisioning of capacity.
- Will be faster to implement than building a new line.
- Will serve a much larger catchment area than the proposed new HS2 line (due to having more stations).
- Will have a much lower carbon footprint than building a new line.
- Will have far less impact upon the natural and cultural environment than building a new line.

An “optimised alternative” has been developed by HS2 Action Alliance⁴⁴, which includes some of the elements of Atkins’ Rail Package 2, whilst omitting others not considered as necessary. The table on page 2 of the Action Alliance document details the increases in passenger capacity that can be achieved. Even with no track works, considerable improvements are possible over the 2007/8 base capacity. The overall increase would be 121%; with 130% increase in peak capacity and 181% increase in standard class capacity. With four selected track upgrades included in the package the overall increase goes up to 147%, the standard class increase becomes 215% and the peak capacity increase rises to 139%.

According to Weston:

These increases are larger than that DfT's forecast for demand to 2043 (102%). This means that upgrades can meet capacity requirements for at least the next 35 years, on DfT's forecasts. With more realistic forecasts they would meet demand indefinitely⁴⁵.

It is also important to realise that HS2 will not contribute to increased capacity until 2026 at the earliest, whereas the optimised alternative may be brought on stream much sooner. If the overcrowding problem is as chronic as ministers would have us believe, the WCML will require at least some of the elements of the optimised alternative to have been implemented long before 2026.

It is not just the WCML that can benefit from improvements. Weston says:

Similar low cost solutions are available for the Midland Main Line and ECML, which make up the suite of alternatives to the full "Y" network⁴⁵.

Best of all the advantages of the optimised alternative are value for money and relief for the taxpayer. According to Weston:

Most of the additional capacity is achieved through more rolling stock and extra seats per train. It is likely that the changes could be made on a fully commercial basis, where the additional fares will pay for the investment. If a subsidy is required it is likely to have a very high benefit cost ratio⁴⁵.

The view of Wharf and Weston of the disruptive impact of building a new line, relative to a solution based upon investment in the existing inter-city network, is in marked contrast to the picture painted in the Consultation document:

Far from the improvements to existing infrastructure being ruled out as an option due to severe consequential disruption, HS2 will cause considerably worse disruption to existing services:

- *Euston Station will be completely rebuilt over a seven to eight year programme.*
- *GWML services, due to construction of Old Oak Common station.*
- *Chiltern services due to works between Northolt and West Ruislip⁴⁶.*

Question 3 – Do you agree with the Government's proposals for the phased roll-out of a national high speed rail network, and for links to Heathrow Airport and the High Speed 1 line to the Channel Tunnel?

No. The Cubbington Action Group against HS2 does not wish to see the London to Birmingham section of the national high speed rail network built and, consequently, does not support any proposals to add to this section with a later phase of work.

Scope of the public consultation

We think that it is wrong for the current public consultation to be asked to consider implementation plans for extensions to the London to Birmingham route that will extend the service to Manchester, Leeds and Heathrow Airport before even outline plans have been developed for those extensions. We do not even know where the East Midlands and South Yorkshire stations will be located on these extensions.

We feel that this has introduced unnecessary confusion into this public consultation. We are strongly of the opinion that this current consultation should have been confined to

considering the London to Birmingham route (including the HS2/HS1 link) as a stand-alone proposition.

Paragraphs 3.45 and 3.46 of the Consultation document advise that it is the Government's intention to place a hybrid Bill enabling the construction of the London-Birmingham route before this current Parliament, but that a similar Bill for the Manchester, Leeds and Heathrow extensions will not be introduced until the next Parliament. Since one Parliament is not in the position to commit the next to any particular course of action, this appears to place an uncertainty on whether these extensions will ever be realised.

This uncertainty about whether the extensions may ever be implemented strengthens our position that the current public consultation should be limited to the initial phase only.

Funding the project

We note the opinion expressed in paragraph 3.41 of the Consultation document that "the project would be driven in large part from the public purse". We consider that this project would not be a prudent use of public funds; the demand predictions are suspect, the business plan does not stand close scrutiny and the economic benefits are not proven.

Further, it will only benefit a very small number of the largest cities in our country and only a very small fraction of the total number of rail users. It is a regressive proposal, in that it will use the proceeds of taxation on the many to subsidise the travel of a well-off few. Any benefits that may be realised from HS2 will largely fall on the largest conurbations; the needs of rural and town communities are totally ignored by the proposal.

Property impacts

Paragraphs 3.47 to 3.50 of the Consultation document, covering property impacts of HS2, largely summarise evidence that is presented in greater detail in Annex A of the Consultation document. Accordingly our comments on this topic may be found under Question 7, below.

Question 4 – Do you agree with the principles and specification used by HS2 Ltd to underpin its proposals for new high speed rail lines and the route selection process HS2 Ltd undertook?

No. The Cubbington Action Group against HS2 considers that the work undertaken by HS2 Ltd has been inadequate, as the Government, when setting up HS2 Ltd, restricted the compass of its investigation to ways of achieving a new high speed line between London and Birmingham and then extending the compass of this work to links to HS1, Manchester, Leeds and Heathrow Airport.

Further in setting an inflexible requirement to design the trackway to support a maximum operating speed of 400kph, subject only to the dictates of local conditions on some sections of track, HS2 Ltd has compromised the potential to limit the impact of HS2 upon the environment through which it will pass.

The result of these two shortcomings is that only a very narrow range of options has been investigated, all of which involve building a new high speed line designed for ultra

high speed operation. This approach to the design compromises any claim that the approach is consistent with the principles of sustainable development, since potentially more sustainable solutions could, and should, have been included in the evaluation.

The choice of design speed

The choice of the maximum operating speed is inadequately explained and justified in the Consultation document. All that we are told, in paragraph 4.5, is that “a more detailed project specification was developed” that would “provide internationally recognised levels of availability, reliability and speed”. We are further told that the 250 miles per hour specification is “similar to routes currently being designed elsewhere in Europe”.

There has been no consideration in the Consultation document of whether this design speed is suitable for our small and crowded country, quite dissimilar in nature to many of our larger neighbours in Continental Europe. Unlike France and Spain, the UK does not have swathes of open countryside that are able to absorb the impact of such major civil works. In contrast the rural countryside, through which HS2 will pass at full speed, is a fragile and threatened environment which can all too easily be devastated by unsympathetic development.

It is not just the Consultation document that takes the design speed as a given; both the Appraisal of Sustainability and the Route Engineering Report appear to be silent on this issue.

However, others have not been slow to comment on the design speed choice. For example, Principle 4 in the Right Lines Charter⁴⁷ that has been jointly drawn up by ten important environmental organisations (Campaign for Better Transport, Campaign to Protect Rural England, The Chiltern Society, Civic Voice, Environmental Law Foundation, Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds, The Wildlife Trusts and The Woodland Trust) is concerned with “minimising adverse impacts” of high speed rail development. This principle states:

High Speed Rail proposals need to be designed from the start to avoid significant adverse impacts on the natural environment, cultural heritage and local communities (including biodiversity, landscape, tranquillity and access) during construction and operation.

The Charter adds “setting inflexible objectives for HS2 to meet technical specifications ... has seriously limited the range of route options considered”. It identifies “a theoretical top speed of 400km/h” as an example of this. The Charter also comments that this approach “limits the scope for those participating in the consultation to propose changes to the preferred route”.

Even the group Railfuture (self-styled as “the independent campaign for a better passenger and rail freight network”), which supports the concept of a UK high speed rail network, is troubled by the choice of design speed:

However, we are concerned that designing the new route for operating at up to 400kmh (250mph) is unnecessary and inappropriate for Britain’s needs, given our population density and the relatively short distances between major cities. Such a speed would create an inflexible route, which would fail to optimise connectivity and will increase energy consumption, seriously weakening the environmental case for HSR⁴⁸.

The Bow Group has criticised “a dubious appraisal methodology that prioritised journey time savings”:

That led to the questionable and far reaching decision to adopt a design speed of 400kph, dooming the high speed line to slicing through anything that lay in its path – in this case, the Chilterns AONB, numerous protected wildlife sites, listed buildings, ancient monuments, National Trust properties and landed estates. This issue is of fundamental importance, yet the consultation adopts this as a fait accompli⁴⁹.

What lies behind the comment by the Bow Group is that the business case for HS2 is largely predicated upon the value that has been placed upon time savings that result from reduced journey times. It is largely the dictates of the business plan that have formed both the maximum speed specification and the rejection of some of the less direct routes that have been considered.

Wharf and Weston have questioned the way in which passenger time savings have been expressed as monetary benefits⁵⁰. Even HS2 Ltd admits that this issue is “an area of debate” in view of “the advent of technologies such as laptops and ‘wifi’ internet networks which allow people to work on trains⁵¹”.

Weston underlines the importance of the evaluation of time savings in characterising the whole nature of the route selection process for HS2:

The decision on the optimal speed is therefore the result of a trade-off between the benefits from journey time savings and the adverse impacts. If the value of any given level of journey time saving is substantially reduced, the best balance is likely to favour a lower speed⁵².

In his view:

While revaluing time savings does not necessarily change the preferred speed, the substantial reduction in value calls into question decisions made on the previous basis. It also invalidates the route selection process that HS2 Ltd have operated, as this too involves trading-off journey time savings against other factors⁵².

News from China, often lauded as the World’s prime mover in the adoption of high speed rail links, has served to emphasise this need to “go back to the drawing board” on the question of design speed. At a specially convened press conference in June the Chinese Ministry of Railways confirmed that the Beijing-Shanghai high speed service, which was designed to support 350 kph running, will be restricted to 300 kph and that some trains will run at 250 kph. The Chief Engineer at the Ministry of Railways explained:

The adjustments to the operating speed and operation mode of the railway were made to meet the people’s needs, to increase its transport capacity and economic benefits, and to reduce costs and energy consumption⁵³.

It is understood that similar speed restrictions will apply throughout the high speed rail network in China.

Recasting existing WCML services

Paragraph 4.10 of the Consultation document advises that some services on the WCML “would be recast with reduced services and amended stopping patterns, to reflect the

changed market conditions upon the opening of HS2”. This seems inevitable bearing in mind that the whole *raison d’être* of phase 1 of HS2 is to reduce passenger demand on WCML. It is unfortunate that statements by ministers appear to have served to confuse this issue. When challenged in a recent Westminster Hall debate that the frequency of the London train from Coventry would be reduced to one an hour and that that would be a slower service, the Transport Minister said:

*That is simply not true. There are some indicative forecasts in the HS2 analysis about how services might be configured in future. The reality is that Coventry is going to continue to enjoy frequent fast services. With HS2, it gets additional capacity for other journey opportunities, in particular, commuters get vital relief from overcrowding and lack of reliability as a result of overcrowding on the network*⁵⁴.

Residents of Coventry (and other places that may be affected) wishing to respond to this public consultation deserve better than equivocation; they should have been told exactly what train services they can expect from 2026.

Appraisal of Sustainability

Paragraphs 4.11 to 4.13 of the Consultation document, covering the Appraisal of Sustainability, have been noted and are covered by our comments under Question 6, below.

Detailed methodology

Saving our above comments about the compass of the work undertaken by HS2 Ltd we have no further observations about the detailed methodology described in paragraphs 4.14 to 4.23 of the Consultation document.

Question 5 – Do you agree that the Government’s proposed route, including the approach proposed for mitigating its impacts, is the best option for a new high speed rail line between London and the West Midlands?

No. It is the view of the Cubbington Action Group against HS2 that, in placing the reduction of journey time well above all other considerations, HS2 Ltd has designed a route that could hardly be worse for the environment.

The respected environmental journalist Simon Barnes has summed up the design process adopted by HS2 Ltd as follows:

*And what they seem to have done is to find the finest wild places that lie between London and Birmingham and join ‘em up. The proposed route will take you, very fast indeed, through four Wildlife Trusts reserves, ten Sites of Special Scientific Interest and more than 50 chunks of ancient woodland*⁵⁵.

According to the Wildlife Trusts:

*The current route proposed by HS2, from London to Birmingham, will destroy or irreversibly damage a large number of important sites. Our own analysis indicates it will impact directly on two Wildlife Trust nature reserves, four SSSIs, ten ancient woodland sites and 53 Local Wildlife Sites or potential Local Wildlife Sites*⁵⁶.

The Woodland Trust has identified 21 ancient woodlands that will suffer “direct loss” from the proposed HS2 route and a further 27 which are at risk as they lie within 200 m of the line of the proposed route. Ancient woodland, by definition, dates from before

the year 1600 and, in many cases, probably originated at the end of the last Ice Age. According to the Woodland Trust it is “an irreplaceable habitat”, which “is considered the UK’s equivalent to the rain forest”⁵⁷.

Whilst the Woodland Trust “supports the concept of a greener transport structure” its verdict on the HS2 proposal is:

... the proposed route casts serious doubt on the green credentials of the overall scheme because of its impact on the environmental heritage that green policies are designed to protect”⁵⁸.

Whilst these authorities disagree on the precise number of sites affected, they are united in the opinion that the proposed route will be very bad for the natural environment.

Route details (London)

Paragraphs 5.2 to 5.48 of the Consultation document provide details of the proposed route, stations and depots and describes the design process used to arrive at the design presented for the consultation.

Paragraphs 5.2 to 5.7 cover the two London stations, the route between them and the proposed interconnection with HS1. The choice of a London terminus station has clearly been a difficult one and, out of twenty-seven candidate locations which we understand were considered, the Consultation document only concerns itself with three. We regard it as unfortunate that, of these three choices, the preferred single-deck Euston station option appears to be the one which will have the most impact on the local environment and, in particular, the Regents’ Park Estate and St James Gardens.

The view of the London Borough of Camden on the selection process that led to this choice is not exactly supportive of HS2 Ltd:

HS2 Ltd has not provided sufficient detail or justification as to why alternative locations for the terminus were discounted. As a result, there is currently insufficient evidence to take an informed view as to whether Euston is the most appropriate location for that terminus”⁵⁹.

It also appears from the Consultation document that the problem of passenger dispersal at Euston has not been examined in any great depth, a point on which the London Borough of Camden also has views:

Analysis undertaken as part of developing the Central London Transport Plan shows that whilst additional capacity is currently being provided on the transport network this will soon be absorbed by the increased demand as a result of population and employment growth and consequently there will still be significant pressure points on the network. Therefore how the onward journeys are going to be accommodated and any upgrades funded, is a key consideration as to whether Euston is the right location for the HS2 terminus”⁶⁰.

There is no evidence in the Consultation document that due weight has been given to this “key consideration”.

We also are surprised that no consideration has been given in the Consultation document to the recommendation made by the Mawhinney Report about how a London terminus for HS2 might be provided:

I recommend that serious consideration be given to making Old Oak Common the initial London terminal for the high speed line – and that in the early stages it be designated London–Old Oak Common (just as Euston would have been designated London-Euston)⁶¹.

Paragraph 5.7 outlines proposals for interconnection to HS1. Unfortunately no details have been provided in the Consultation document as to how international services would operate on HS2, particularly in terms of service frequency and how Immigration Service requirements will be satisfied.

We are concerned about the disruption to existing services that may result from HS2 construction work in the London area. Examination of the submissions to the inquiry into the strategic case for High Speed Rail being undertaken by the House of Commons Transport Select Committee reveals that there is a very wide range of opinion on this topic. Bearing in mind these differences of opinion, it is unfortunate that very little is said about this in the Consultation document; the public consultation should have been better informed on this important topic.

Euston Station is obviously a prime concern. The view of the 51m Group of local authorities, formed to fight the HS2 proposals, is:

There will be massive disruption throughout the construction period at Euston station, for about 8 years. The scheme involves the reconstruction and lowering of all the existing platforms and major changes to the approach tracks. It is inconceivable that this can be achieved without extensive track closures⁶².

Whereas, HS2 Ltd has advised the Transport Select Committee:

We believe that the redevelopment of Euston station could be accomplished while maintaining at least the current off peak service level, and there may be some minor alterations to the timetable. There would be some instances of disruption to services where, for example, the station would be closed for a few days over public holidays⁶³.

It would appear that if the undertaking is only to maintain “at least the current off peak service” there is a great risk of severe disruption at peak times, at the very least.

It would also appear that disruption to the Great Western Main Line (including Heathrow Express) could result from the construction work associated with Old Oak Common station and to the Chiltern Line from the construction of the route through Western London and beyond.

It is unfortunate that HS2 Ltd has failed to give an adequate appraisal of the disruption that may be expected to result from the construction of HS2, particularly as the proponents of HS2 often cite the disruption that would result from the upgrade of existing services as a factor in favour of HS2.

Route details (London to West Midlands)

The process that led to the selection of the currently proposed route from Old Oak Common to the West Midlands is outlined in paragraphs 5.8 to 5.1.5 of the Consultation document.

This route is causing great concern to residents all along its length.

In the boroughs of West London it will pass close to many residences and cause loss of properties, businesses and leisure facilities. To make matters worse, residents here can look forward to a further phase of disruption after the main line is built, to construct the spur to Heathrow Airport.

Once outside the urban sprawl of London, the route will consume largely green field land.

It will carve through the main body of the Chilterns Area of Outstanding Natural Beauty (AONB). Even the high level of protection offered by AONB status appears to be no defence against HS2. However, the Chiltern Society has criticised the “highly flawed, and arguably unlawful, process” that has led to the HS2 route through the Chilterns being proposed. The Society claims that:

This has been done without conclusive demonstration, as required by planning guidance and best practice, that no alternative that avoids the AONB is possible to meet the (currently undefined) ‘national interest’ need for an HSR network⁶⁴.

The HS2 route will cause significant damage to the countryside, farmland, wildlife habitat and settlements of Buckinghamshire, Oxfordshire, Northamptonshire and Warwickshire as it moves northwards towards the County of West Midlands and the proposed site of the Birmingham Interchange station.

Despite all this damage, loss of amenities and quality of life impact, the residents of these counties will derive no benefit from HS2. As stated on page 87 of the Consultation document “an intermediate station has not been included in the scheme”. This is a major weakness of the HS2 proposal, since it severely limits any potential that HS2 may have to stimulate the economy to a relatively small area around the four proposed stations.

Route details (West Midlands area)

The Cubbington Action Group against HS2 is concerned at the proposal to construct a “parkway” station at Birmingham Interchange, which will include provision for parking 7,000 cars. Experience has shown that stations of this type serve to encourage car travel, with consequent impact upon road congestion and carbon emissions.

The Campaign for Better Transport agrees with our standpoint:

New stations on the high speed route must be accessible by public transport if they are not to add to congestion and carbon. Local transport investment has been significantly scaled back to 2015 but new stations need to be linked to existing and improved local transport networks, as well as being easily accessible for those coming on foot or by bike. Providing investment for local transport improvements will be key and will help avoid overloading already stretched local transport services⁶⁵.

We are also concerned about the impact that the proposed station development may have on the Meriden Gap green belt. Although it is not mentioned in the Consultation document, the Appraisal of Sustainability accepts that the proposed site for the station will have a direct impact in that it will occupy green belt land⁶⁶, but the stimulus that the station may have to industrial and residential development could have a much greater indirect effect.

Paragraphs 5.25 to 5.27 of the Consultation document discuss the decision to build a new terminus station for central Birmingham at Curzon Street. Paragraph 5.27 mentions the problem of linking the new station to the existing stations within the city, but gives no indication of what solutions are being considered. We regard this aspect as an important omission from the Consultation, as it has a major impact upon considerations of whether Curzon Street is a viable proposition.

Refining the alignment

Paragraphs 5.14 and 5.15 of the Consultation document describe various steps that have been announced since the initial publication of the proposed route in March 2010 to realign the route with the aim of mitigating the environmental impact.

Whilst some mitigation measures, such as lowering the vertical alignment and creating “green bridges”, may be an unqualified benefit, horizontal realignment is unlikely to prove to be universally welcomed. This is because a movement away from one location invariably entails a movement towards another and this has been acknowledged in the Consultation document.

As noted in the Consultation document, we in Cubbington have suffered from one of these realignments, in that the route has been moved closer to our village. In our neighbourhood the aim was to take the line of the route away from the nearby village of Stoneleigh, which is about 4.5 km north of Cubbington along the line of the track. The aim of the realignment appeared to be to move the track about 500 metres further away from Stoneleigh, but retain the original alignment as soon as possible on the sections of track north and south of Stoneleigh.

However because of the constraints imposed by the minimum curve radius, the displacement from the original alignment is still about 150 metres when the track reaches Cubbington, bringing HS2 closer to our village. There is a similar effect to the north of Stoneleigh, where Kenilworth suffers. However, it would be unfair not to record that we did, at the same time, benefit from a general lowering of the vertical alignment.

Supporting infrastructure

Paragraphs 5.29 to 5.34 of the Consultation document describe aspects of the proposed design of the two longest tunnels on the route, under London and the Chilterns.

Paragraphs 5.35 to 5.45 of the Consultation document describe aspects of the proposed design of two depots that will be required.

Paragraphs 5.46 to 5.48 of the Consultation document describe aspects of the proposed design of the electricity supply to the track overhead power system.

Paragraphs 5.46 to 5.48 of the Consultation document describe the methodology that will be used to realise the construction of HS2 and to mitigate its impact.

We have noted the contents of these paragraphs, but have no specific comments to make at this time.

The impact upon Cubbington parish

The proposed route enters Cubbington from the south at the point where a viaduct is planned to be constructed over the River Leam (OS ref: SP359675, chainage 133+800) and exits at the point where it will cross the A445 Leicester Lane (OS ref: SP340702, chainage 137+100), a track distance of 3.3 km. This section of the route is covered by HS2 Ltd maps 21⁶⁷ and 22⁶⁸.

The Cubbington Action Group against HS2 wishes to take the opportunity of the public consultation to comment upon the impacts that this proposal will have on our village and its surrounding countryside and to point out where mitigation may be able to reduce this impact.

The route will run through farmland for the whole of its pass on the eastern side of Cubbington. This is mainly good arable land and much of it is managed for wildlife under the Environmental Stewardship Scheme. During its pass it will sever 12 farm fields.

The route past Cubbington may be considered in two sections:

Section 1 - The embankment/viaduct that crosses the Leam Valley

Section 2 - The deep cutting that runs for approximately 2.6 km from a point just south-east of South Cubbington Wood (OS ref: SP355680, chainage 134+500) to the crossing of A445 Leicester Lane, near Furzen Hill Farm.

For completeness, we have also considered a third route section, which has repercussions on section 2.

Section 3 - The section that runs across farmland from the A445 Leicester Lane crossing towards the old Royal Showground (now Stoneleigh Park Exhibition and Conference Centre), in mainly shallow cutting.

The Leam Valley crossing is problematic in that it is likely to have a severe visual impact and may be the main source of train noise for Cubbington, as it echoes across the valley. This is a beautiful and unspoilt river valley which is overlooked from the farmland to the east of Cubbington, offering a superb vista; it will be badly despoiled by the construction of the embankment and viaduct for HS2.

There are a number of isolated properties within noise nuisance range of the valley crossing, along and off the Welsh Road (Offchurch to Cubbington road). These have been identified with "grey dot severity" on the appropriate "without additional mitigation" Residential Noise Appraisal Map⁶⁹. Some of these properties are also rated as grey on the version of the map "including additional indicative mitigation"⁷⁰.

This location has not been identified in the Appraisal of Sustainability as a "preliminary candidate area for mitigation" and noise barriers may be not be desirable in view of their visual impact. It may be that the only mitigation measures that are feasible are to keep the embankment/viaduct as low as possible and to plant trees to shield the line and reduce visual impact.

The cutting of section 2 will devastate a major recreational resource for the residents of Cubbington, this being the network of footpaths through the farmland to the east of the

village and South Cubbington Wood which is designated as ancient woodland. This stretch of unspoilt countryside is only ten minutes walk from the village and is much utilised and enjoyed by ramblers, dog walkers, our children and many others.

The excavation of the cutting will largely destroy South Cubbington Wood. This is a valuable wildlife habitat and recreational resource and HS2 Ltd concede that it is “a regionally important wildlife site”⁷¹. It is home to a number of rare plants, including small-leaved lime and wild service trees; once destroyed it will be lost forever. The National Champion wild pear tree, which may be up to three hundred years old, also lies in the path of the cutting and will be grubbed up.

The cutting will also sever three important footpaths, including the long-distance Shakespeare’s Avon Way.

The cutting passes within 450 m of the eastern edge of our village. The heart of our community, centred on our church which has its origins in the early twelfth century, is less than one kilometre away from the route. The Cubbington Church of England Primary School is located on the eastern edge of the village; its grounds are a mere 600 metres from the proposed centreline of the track. We are concerned that noise pollution will blight our children’s educations. We are particularly worried about the disruption to the school that will be inevitable when a huge cutting is being excavated close to its boundaries.

The potential impact of HS2 on drainage paths east of the village is also a matter of great concern to us. This area is prone to severe surface water flooding and the effects of this problem have caused damage to our village as recently as 2007, when over forty properties in Cubbington were flooded.

No mitigation has been formally proposed for this area, but an informal suggestion was made by HS2 Ltd staff to a number of visitors to the local roadshows. This proposal was to excavate the cutting as planned, but to remove the top layer of soil from the woodland prior to this. When completed the cutting would be covered and earthed over to form a “green tunnel”. New trees would be planted, either over the tunnel or nearby, and the “translocated” soil from the woodland respread. However, the Cubbington Action Group against HS2 does not see this as a solution that retains the character of natural ancient woodland. We have made some comments about mitigation by translocation in our response to Question 6, below.

It seems unlikely that a solution can be found that allows for horizontal realignment of the route to avoid the wood and the pear tree, since this would have repercussions at Stoneleigh and Offchurch and would take the route nearer to either Cubbington or Weston under Wetherley. Accordingly, the Cubbington Action Group against HS2 suggests that consideration be given to boring a tunnel through the hillside on which the wood stands, similar to the solution offered to protect Long Itchington and Ufton Woods SSSI. Subject to a survey of the local hydrology, this would protect both South Cubbington Wood and the pear tree.

In a letter that is appended to this document the Chief Executive of Warwickshire Wildlife Trust affirms the opposition of the Trust to “any proposal which involved the destruction, damage or disturbance of South Cubbington Wood”. His view is that “the

only option to protect this important site would either be to drive a tunnel bored beneath the wood or to re-route the line to avoid the area completely”.

The Chief Executive’s letter includes a summary of survey data that indicates the importance of this site and which leads to the opinion expressed in the letter that “this woodland is of sufficient quality to be designated and protected as a Site of Special Scientific Interest”.

Section 3 will have a considerable impact upon a number of individual properties in the vicinity of where the track will pass under an elevated A445. The problems here will be caused by the civil works needed to elevate the A445 and construct a bridge to pass over the track, visual impact of a track at either ground level or only shallowly in cutting and train noise at comparatively high levels affecting properties that are fairly close to the track.

Three properties in this immediate area have been identified as suffering from noise nuisance on the “without additional mitigation” Residential Noise Appraisal Map⁶⁹. One, Furzen Hill Farm Cottages (OS ref: SP341703) is graded “yellow dot” and the other two, Leicester Lane Cottages (OS ref: SP338700) and Stone House Farm (OS ref: SP334704) are graded “grey dot”.

From the preliminary design of the embankments and bridge that are required to be constructed on the A445 to take it over the HS2 trackway, it appears that both Furzen Hill Farm Cottages and Leicester Lane Cottages will suffer badly from these road realignments.

This locality has not been identified in the Appraisal of Sustainability as a “preliminary candidate area for mitigation”. Mitigation could take the form of lowering the vertical alignment of the track in the whole section between within the Stoneleigh Exhibition and Conference Centre and the A445 crossing. This could avoid the need to build the A445 up on embankments and will provide some degree of noise shielding. This approach would also benefit Stareton and the Stoneleigh Exhibition and Conference Centre by reducing visual impact and reducing noise levels.

Question 6 – Do you wish to comment on the Appraisal of Sustainability of the Government’s proposed route between London and the West Midlands that has been published to inform this consultation?

Yes. The Cubbington Action Group against HS2 regards the Appraisal of Sustainability as flawed. We have made this judgement in the light of the following shortcomings that we have identified in the document:

- The document starts from the assumption the construction of a new high speed rail link between London and Birmingham is the only possible solution to increasing passenger capacity on that route, when there are clearly other more sustainable solutions that should be examined also.
- The inclusion in the design specification of a maximum operating speed of 400 kph has not been questioned or tested; clearly lower design speeds might offer a more sustainable approach and this aspect should have been considered.
- It has failed to achieve the right balance between the two conflicting aspects of economic and environmental/cultural wellbeing.

- Its assessment of the impacts that HS2 will have on the cultural and natural environment are based on only a superficial review.
- It understates the damage that HS2 will cause to the natural environment and falsely promotes HS2 as a wildlife benefit.
- Noise contour maps, promised by the Transport Secretary, have not been provided.
- The units in which noise nuisance has been expressed are inappropriate to the characteristics of the noise from high speed trains.
- The potentially more intrusive impact of night-time noise has been totally ignored.
- The suitability of the noise modelling tool that has been employed for modelling aerodynamic noise has not been properly assessed.
- The mitigation offered by the trackside noise barriers proposed may be inadequate, in that they are only two-thirds the height recommended by the United States Federal Railroad Administration.
- Noise nuisance has been estimated based upon a train speed of 360 kph, not at the track design speed of 400 kph.

Further evidence follows that addresses the specific topics in more detail.

Assessing sustainability

The key to sustainable development is to achieve the economic goals of the current generation without compromising the ability of future generations to meet their own needs. Ensuring that future generations can “meet their own needs” means that we, the present generation, should not overly deplete the natural resources that our successors will also want to use to sustain themselves. It also requires that we leave the natural and social environments in a healthy state for them to inherit.

Sustainable development does not mean the unfettered pursuit of our own selfish wants and damning future generations to irrevocable damage to the environment. Of course all human economic endeavours will have some environmental impact, but we owe it to those who will follow us to evaluate the environmental and cultural consequences of our plans fully and to rein back where those consequences are too extreme.

In the document *Securing the Future* that was published by the UK Government in 2005, the then Prime Minister, Tony Blair, comments:

Make the wrong choices now and future generations will live with a changed climate, depleted resources and without the green space and biodiversity that contribute both to our standard of living and our quality of life. Each of us needs to make the right choices to secure a future that is fairer, where we can all live within our environmental limits. This means sustainable development⁷².

So is HS2 the right choice and does the Appraisal of Sustainability make a fair assessment of the HS2 project? Or will HS2 endanger “the green space and biodiversity that contribute both to our standard of living and our quality of life”?

The problem with the sustainability appraisal that has been undertaken by HS2 Ltd is that it starts from a proposition that has low sustainability, i.e. building a new railway capable of supporting ultra-high speeds, and fails to investigate alternative propositions to see if a more sustainable solution can be found. This is a critically important flaw, which makes the Appraisal of Sustainability worthless.

Principle 2 of the Right Lines Charter, which we referred to in our comments on Question 4, stresses the need to examine all of the options:

High Speed Rail proposals need to be designed from the start to avoid significant adverse impacts on the natural environment, cultural heritage and local communities (including biodiversity, landscape, tranquillity and access) during construction and operation⁴⁷.

Mike Overall, Vice-Chairman of the Chiltern Society, made this comment regarding high speed rail and Principle 2:

The current HS2 proposals stem from a badly conceived and highly constrained remit, resulting in little regard being given to options that would avoid harming some of England's finest landscapes⁷³.

The HS2 proposal does have some merit regarding sustainability, especially when compared to some other modes of transport such as air travel. It will also be powered by electricity which offers the prospect, albeit a distant prospect from the current standpoint, of a low carbon fuel source. However, its carbon credentials compared with a lower speed option are dubious, relying on uncertain modal shift predictions, and building a new railway, when upgrading of existing links is a feasible option, is not a sustainable approach. Further the track geometry considerations required to support an excessive operating speed have proved to be very damaging environmentally.

The signatories of the Right Lines Charter acknowledge the part that rail has to play in building a sustainable transport system and that "high speed rail is one option for increasing rail capacity and connectivity". However, they also feel that the HS2 proposals "are unsound at present" and "fall well short" of the four principles of the Charter⁴⁷.

It appears to be the case that sustainability considerations will always involve a trade off between economic and environmental/cultural considerations. It is, however, our view that the Appraisal of Sustainability has failed to achieve the right balance between these two conflicting aspects. The Secretary of State for Transport touched on this in a speech last year:

Sustainable solutions have, of course, first and foremost to be environmentally sustainable. But they must also be fiscally and economically sustainable - affordable to the taxpayer in the long-term and compatible with an economic growth agenda⁷⁴.

We fear that far from being "first and foremost" the environmental considerations are coming a poor second to the economic growth agenda.

Evaluating the environmental impact

The Appraisal of Sustainability makes the following pronouncement about the impact that the high speed trackway will have upon the environment through which it will pass:

The proposed new railway would present a significant opportunity to reinforce and enhance biodiversity. It would provide a green corridor to be colonised by plants and animals, and could link with and form connections between existing habitats. There would, however, be an adverse affect on a number of sites⁷⁵.

Aside from the final sentence, which although possibly understated at least approaches the truth, it is really difficult to believe that HS2 Ltd is promoting a concrete strip bordered by security fences with some trees planted along it as some sort of wildlife haven. We have searched through the Appraisal of Sustainability, but have failed to find any justification for this claim.

The “green corridor” image of the HS2 trackway painted by HS2 Ltd is in marked contrast to what Trotter has to say about this aspect of HS2:

The linear nature of the route will present an almost complete physical barrier to the movement of a large number of species across the line⁷⁶.

And, also:

Linear infrastructure can provide opportunities for a range of problematic and aggressive species to invade and exploit newly exposed habitat opportunities along the route. Some of the species attracted may be desirable, but species composition can change as a result. For example, populations of weed plants may migrate along ballast and edges whilst birds of prey and carrion feeders may be attracted to areas beside linear infrastructure due to availability of kills. This can potentially result in changes in the presence and abundance of other species nearby. Some desirable species may be exposed to increased risk of mortality as they attempt to cross the route to exploit adjacent habitats (e.g. owls including barn owl, birds of prey)⁷⁷.

Trotter also regards the threat to wildlife sites as more acute than HS2 Ltd appear to concede:

Each of these sites makes a valuable contribution to the landscapes and biodiversity which surround the proposed HS2 route. Some of the identified sites have national or regional value but all have significant value for local wildlife. They provide ecosystem services and an important recreational and amenity resource where people from local communities can access and enjoy wildlife and wild places on their doorstep. There is also concern for the countless hedgerows, trees and unrecognised habitat patches – which though they may not register on the scale of designations are still important elements of a living, connected and functioning landscape⁷⁸.

Trotter is concerned with the fragmentation of the natural environment that the HS2 track will cause and stresses how important naturally connected habitat features, such as trees, hedges, woods and water features are to some bats, enabling them to navigate around and exploit the landscape; allowing them to commute between roosts and feeding areas. He says:

Gaps or barriers in this connectivity can prevent movement and have impacts on populations. For example, a study on the rare barbastelle bat, which may occur near the HS2 route, has shown how dependent these animals are on a fine level of landscape connectivity. Barbastelles commute large distances each night to exploit suitable patches of habitat and a ‘gap’ or barrier can prevent their use of important habitats which might have consequences for important populations which roost many miles from the route⁷⁹.

He also fears that the dissection of habitats into smaller patches that HS2 will cause can have fundamental consequences for wildlife. He lists the likely impacts as: a reduction in species diversity (100 ha of habitat could be expected to keep only 70% of the species that would have survived in 1000 ha); loss of characteristic species (woodlands of less than 2 – 3 ha have been found not to support characteristic woodland species that should be present); changes in community composition, isolation, edge effects, changed rates of species extinction and colonisation, reproductive success, population dynamics and predator-prey relationships; and increasing isolation and ‘insularization’ (which may lead to the loss of species, inbreeding, invasion by invasive species, edge effects, etc.)⁸⁰.

Barnes summarises the problem of fragmentation more vividly, if less scientifically:

When you split a chunk of ancient woodland, you don't simply have two smaller woods. You have two woods that are inferior as well as smaller. Smaller woods will, by definition, have much less biodiversity.

By reducing the size of a habitat, you swap one viable population for two island populations. There are no small disasters on an island: when a single thing goes wrong, you are likely to lose your population. An island population lacks what footballers call bouncebackability. This railway line will fragment populations of birds, bats and butterflies: a process that tends to leads to local extinctions⁵⁵.

Trotter also identifies two further effects that are likely to be caused by the trackway. The first of these is run-off and leakage of nutrients, lime contamination, pesticides and pollutants on to the surrounding habitat⁷⁷.

The second is the potential of HS2 to influence local drainage patterns. This can occur either from run-off from elevated sections of track or by cuttings affecting existing surface or sub-surface drainage channels. Trotter warns:

The impacts could cause the drying out of locally important wetland habitats and water courses or the flooding of currently dry habitats. These impacts could be at some distance from the route – especially where it crosses chalk, limestone or other permeable geology⁸¹.

Trotter also highlights the major issue of damage to ancient woodlands.

Ancient woodland is already highly fragmented and is threatened by adverse management, overgrazing, non-native species, intensive land use, pollutant deposition and climate change in the wider landscape. It is essential that new development does not further impact upon the functional integrity of this irreplaceable biodiversity resource⁸².

HS2 Ltd does not appear to disagree, describing ancient woodland as “an important and effectively irreplaceable wildlife habitat”⁸³.

Both Trotter and Barnes are also concerned with the impact that HS2 will have on the ability of the present and future generations to enjoy the countryside:

HS2 is highly likely to act as a barrier to the movement of people across the countryside – with many rights of way and informal access networks being severed. Many of these routes provide an important and highly valued means by which local people can take exercise and access the local landscape, wildlife and the wild places on their doorstep. The opportunities for people to experience the natural beauty of wild places and enjoy,

*at first-hand, the excitement of an encounter with wildlife make an important contribution to the health and well-being of individuals and society*⁸⁴.

*This is one of those moments when we have a chance to think about what kind of country we want our great-grandchildren to live in. Do we want them to go to and from Birmingham really quickly? Or do we want them to walk the dog beneath 500-year old oaks and stroll with their own children past stands of blackthorn lit up by June sunlight*⁵⁵.

Stephen Trotter and Simon Barnes are two respected environmentalists who have identified a threat to the environment which they love and feel obliged to speak out about it. That the source of this threat is the HS2 proposal is of no significance to them. They are opposing potential environmental damage, not a project to build a high speed railway. As such their views deserve to be heard and given credence.

The Cubbington Action Group against HS2 feels that the authors of the Appraisal of Sustainability have not made a fair assessment of the impact that HS2 will have on the environment, in that they have considerably understated the damage that HS2 will cause. They have also overstated the benefits that HS2 will have in creating wildlife habitat.

One significant problem with the Appraisal of Sustainability is that its investigation has been far too superficial. Although we are promised a full environmental impact assessment in due course which should bring to light the problems that Stephen Trotter has detailed, the current poor level of understanding of the extent of the environmental impact of HS2 has resulted in the over optimism apparent in the Appraisal of Sustainability.

Trotter warns that understanding the problem is a difficult and lengthy process:

*It is important that a comprehensive ecological survey of the route is carried out over an appropriate period of time (this may take several years of intensive effort); not only to pick up resident species but also to detect those which may range over extensive areas and may only be present for very short periods. Even though some species of concern might only be present intermittently, the impact of infrastructure may be critical at points in a life cycle and could determine the wider viability of populations in the adjacent landscape. It is important to understand the complex interrelationships of how species interact with the landscapes and habitat patches through which HS2 will pass*⁸⁵.

Simon Barnes sums up the decision that has to be made with characteristic bluntness:

*What is more important, getting to Birmingham frightfully quickly, or a woodland measured in millennia?*⁵⁵

Noise nuisance

When the Transport Secretary stood at the Government dispatch box in the House of Commons on 20th December last year he promised:

*When the consultation is launched, I will also publish a revised business case, a full appraisal of sustainability, noise contour maps and route visualisations, all of which can be completed now that the final preferred route for consultation has been determined*⁸⁶.

HS2 Ltd has failed to honour this pledge in respect of the noise contour maps. We understand that is not a matter of dispute that the substitute "Residential Airborne

Noise Appraisal Maps” (drawing series HS2-BZT-00-DR-SU-003-00 to HS2-BZT-00-DR-SU-003-42 in section 3.5 of Volume 2 of the Appraisal of Sustainability) are not noise contour maps. As such the Appraisal of Sustainability fails to provide our community with sufficient information on the levels of noise pollution that we will suffer.

The maps frankly provide insufficient data to enable our residents to make an assessment of how bad the noise nuisance will be around their dwellings. As an example, the “grey dot” used to indicate properties that will experience a “noticeable noise interest” covers a range of 18 dB (50 dBA L_{eq} to <68 dBA L_{eq}). To the human ear the difference between 50 dBA and 68 dBA is an almost four-fold increase in volume; this is far too great a range to be used to classify the noise nuisance.

Since noise pollution is one of the chief concerns of our community, this lack of precision is clearly a major shortcoming of the Appraisal of Sustainability.

We are also not convinced that the parameter chosen by HS2 Ltd to assess the level of noise nuisance (the equivalent continuous noise level, dBA L_{eq}) is appropriate when the noise source is a series of separate noise events, rather than situations where the noise level is virtually continuous with some fluctuation.

Our doubts are shared by the World Health Organisation (WHO):

$L_{Aeq,T}$ should be used to measure continuing sounds such as road traffic noise, many types of industrial noises and noise from ventilation systems in buildings. When there are distinct events to the noise such as with aircraft or railway noise, measures of the individual events should be obtained (using, for example, L_{Amax} or SEL), in addition to $L_{Aeq,T}$ measurements⁸⁷.

The Cubbington Action Group against HS2 is of the strong opinion that HS2 Ltd should follow the WHO recommendation by providing L_{Amax} levels in addition to dBA L_{eq} .

The WHO organisation has also queried the use of A-weighting when measuring loud noise with a significant low frequency energy component, such as aerodynamic noise from a passing high speed train:

The evidence on low-frequency noise is sufficiently strong to warrant immediate concern. Various industrial sources emit continuous low-frequency noise (compressors, pumps, diesel engines, fans, public works); and large aircraft, heavy-duty vehicles and railway traffic produce intermittent low-frequency noise. Low-frequency noise may also produce vibrations and rattles as secondary effects. Health effects due to low-frequency components in noise are estimated to be more severe than for community noises in general (Berglund et al. 1996). Since A-weighting underestimates the sound pressure level of noise with low-frequency components, a better assessment of health effects would be to use C-weighting⁸⁸.

The inappropriateness of A-weighted measurements has been examined in great depth by St Pierre and Maguire, who conclude:

... there is a large amount of evidence that measuring A-weighted sound pressure level is not necessarily indicative of the loudness of noises. This is especially true when the noise is complex and/or composed of low frequency components⁸⁹.

... until the acoustic community begins to seriously question the use of A-weighted measurements, more accurate measurements will continue to be ignored by both engineers and manufacturers⁹⁰.

The Cubbington Action Group against HS2 is of the strong opinion that HS2 Ltd should follow the WHO recommendation by employing C-weighting rather than A-weighting when expressing noise nuisance levels.

The Appraisal of Sustainability has confined its consideration of noise to the 18 hour day period. However, there is a general consensus that special considerations should apply to noise nuisance during the night-time hours and that lower limits of acceptability apply⁹¹.

The WHO specifies that night measurements should be taken over an eight-hour period⁹² and the Department for Communities and Local Government specify the hours 23:00 to 07:00 as night⁹³. Since HS2 Ltd has advised that the operational hours of HS2 will be 05:00 to 24:00 hrs, this include three hours of night-time operation and there may, of course, be additional night-time noise nuisance from HS2 due to overnight maintenance operations.

The Cubbington Action Group against HS2 is of the strong opinion that HS2 Ltd should consider noise nuisance levels separately for the night, in addition to just specifying day-time levels as at present.

There is an interesting admission in Appendix 5.4 to the Appraisal of Sustainability⁹⁴. In these paragraphs the noise modelling methodology employed by HS2 Ltd is identified as Calculation of Railway Noise 1995 (CRN). This is stated to be the official model for assessing eligibility for sound insulation under England and Wales Noise Insulation Regulations for Railways and the model typically used for the environmental impact assessment of railway projects.

It is admitted that the model would need to be adapted for speeds above 300 kph, but that this has not been done because “the research basis for this change in calculation methodology is not currently available.” Instead HS2 Ltd has, to use a term familiar to engineers, “bodged” the model to achieve results that are consistent when compared with SNCF (French National Railways) data for speeds in excess of 300 kph.

This is a rather worrying admission since aerodynamic noise (which dominates above 300 kph) has different characteristics to the mechanical noise associated with conventional trains.

The Cubbington Action Group against HS2 is of the strong opinion that HS2 Ltd should urgently address an investigation into the suitability of the CRN model for HS2 and what further work is required to achieve a suitable model.

The use of trackside sound absorbing noise barriers is discussed in paragraph 8.10.13 on page 99 of Volume 1 of the Appraisal of Sustainability.

Noise reduction would be equivalent to that achieved by use of 3m high noise barriers (or bunds) at all candidate areas for mitigation, or at viaducts, by 2m high barriers; noise-absorbent barriers have been assumed throughout⁹⁵.

This contrasts starkly with the recommendation of the Federal Railroad Administration in the United States (US FRA):

In addition, aerodynamic noise sources tend to be located higher up on the train than wheel-rail noise sources. As a result, a noise barrier high enough to shield aerodynamic noise will be relatively expensive compared to a barrier for controlling wheel-rail noise, since it must extend 15 feet or more above the top of rail⁹⁶.

The Cubbington Action Group against HS2 is of the strong opinion that HS2 Ltd should reassess its proposal to employ 3 metre high noise barriers, in the light of the US FRA recommendation. Any danger that undersize barriers may be employed for HS2 must be avoided, in the view of the disastrous impact that this would have for the owners of properties in the vicinity of the line.

The Appraisal of Sustainability confirms that noise has been calculated at a maximum speed of 360 kph, not the design speed of 400 kph⁹⁷. This decision is not justified in the Appraisal of Sustainability or in the Consultation document.

The Cubbington Action Group against HS2 is of the strong opinion that noise nuisance should be predicted at the maximum design speed of 400 kph.

Mitigation and Translocation

Paragraphs 5.84 and 5.85 of the Consultation document discusses ways in which the environmental impact of HS2 might be mitigated. Whilst mitigation is obviously an important aspect of the HS2 design process, it would be misleading to believe that mitigation can negate the serious environmental impacts inherent in the HS2 proposal.

The Consultation document appears to regard mitigation as a sufficient salve for environmental damage; it is not. The truly sustainable approach is to minimise the environmental damage in the first place and the current HS2 proposal clearly fails to do this.

The Right Lines Charter agrees:

Although mitigation can reduce adverse impacts, it is not as good as avoiding impacts in the first place. Specifications and design speed should not be rigidly fixed in advance but be shaped by the opportunities to minimise impact and maximise benefit. This requires respecting environmental limits and a strategic approach to reducing impacts by prioritising avoidance over mitigation, with compensation being the option of last resort⁴⁷.

The Cubbington Action Group against HS2 is extremely doubtful of the merits of translocation (or more correctly habitat translocation), a technique which HS2 Ltd is promoting; this is particularly the case in relation to the use of this technique where ancient woodland is the environment threatened by HS2. The Woodland Trust is quite clear about its views:

Despite the suggestion that translocation might be a viable option, the proposed planting of up to 2 million trees does not diminish the reality that ancient woodland cannot be recreated. The circumstances that allowed ancient woods to form were unique (for example the centuries of undisturbed soils and tree cover), and such conditions are no longer available⁹⁸.

In an earlier review of the technique, the Woodland Trust makes the following comments⁹⁹:

In the context of ancient woodland, the Trust views the term 'habitat translocation' with total scepticism. In reality the phrase more accurately covers the removal of soil and vegetation of modest size (not mature living trees) from one site to another. Soils and vegetation are the product of geology, climate and biotic influences which in combination are unique to a single place, and they cannot function in isolation from that place.

The term habitat translocation is therefore a misleading one in that it does not reflect the partial nature of what is being moved. It cannot protect ancient woodland (probably the most complex of all habitats and the most reliant on undisturbed conditions for its survival). At best it may create conditions for the re-establishment of relatively natural woodland but this itself is unproven due to the vast length of time required to monitor its effectiveness. The beauty, structure and full biodiversity of an ancient woodland cannot be moved from place to place by a bulldozer.

Scientific literature does not support the assumption that habitat translocation can compensate for habitat loss as a result of development.

Researchers at Wye College concluded that as a technique for re-locating displaced habitats, translocation of soil from woodland is especially problematic owing to the sensitivity of vegetation and the loss of tree canopy cover. Ancient woodland contains many thousands of species of plants, animals and fungi, and any success in ensuring the survival of one or two charismatic species should not be seen as in any way representing translocation of a complete habitat. The stability of an ecosystem is related to its diversity and a serious reduction of that diversity is likely to lead to the ecosystem in its previous form collapsing.

Given our rejection of the idea that habitat translocation is possible in respect of ancient woodland, the Trust does not regard habitat translocation as a practicable compensation measure.

Question 7 – Do you agree with the options set out to assist those whose properties lose a significant amount of value as a result of any new high speed line?

The Cubbington Action Group against HS2 regards the statutory compensation provisions as inadequate and considers it essential that a discretionary scheme is introduced as soon as possible. However we wish to reserve our position on the matter of the details of such a scheme until the promised public consultation is held next year.

However, we are pleased to make the following general comments, which we hope will be of assistance to the DfT in formulating proposals for next year's consultation, on the understanding that these comments should not prejudice any contribution that we may wish to make to next year's consultation.

We suggest that an appropriate first step for the Government in preparing for next year's consultation would be to carry out a review of the operation of the Exceptional Hardship Scheme (EHS), the results of which should be published.

We have found, in practice, that aspects of this scheme are inherently unfair. Examples of features of the scheme that have convinced us of this view, are:

- The 15% threshold below the unblighted price that has been operating for the EHS is unfair in that it inevitably requires that some property owners will suffer a financial loss when they sell.
- The scheme should reflect the true geographical impact of HS2 on the property market, rather than setting arbitrary proximity criteria, as is the case with the EHS.
- Recommendations made by the EHS Panel, and the reasons for those recommendations, should be subject to public scrutiny.
- As, ultimately, decisions on the EHS are at the discretion of the Secretary of State, he should be prepared to justify his decision to the appellant; our experience of the EHS has shown us that this has not been the case.
- The EHS has no appeal mechanism; it is vital, in the interests of fair play, that appellants are able to challenge any decision that they consider unfair.

We are also concerned by information that was obtained at a recent HS2 Ltd seminar, that only one appellant in four is successful. We suggest that the review of the EHS should determine why the success rate is so low and analyse the failures in terms of the five criteria which apply.

If the DfT plans to consult on only one of the compensation scheme options that are described in the Consultation document, then we would prefer that to be a bond-based property purchase scheme, as we believe that that would offer the best chance of achieving fairness.

AS well as overcoming the shortcomings that we have identified in the EHS, we suggest that the proposals formulated the DfT for the public consultation should also satisfy two further important requirements:

- The scheme should avoid the current unfair situation where some property owners are contributing towards the overall cost of HS2, by suffering a loss on the unblighted value of their property should they wish to sell it, for whatever reason.
- Property owners should not feel trapped in their dwellings by a depressed property market. The Government should be there in support of the market to prevent this.

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APPENDIX – Letter from the Chief Executive of Warwickshire Wildlife Trust on the significance of South Cubbington Wood



Mr P Delow
11 Pinehurst
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CV32 7XA

10 July 2011

Dear Peter

The significance of South Cubbington Wood, near Leamington, Warwickshire

Thank you for your recent letter. I would like to confirm that Warwickshire Wildlife Trust is strongly opposed to the route of HS2 and is particularly opposed to the section which is aligned through South Cubbington Wood.

This woodland is a highly significant site for both its wildlife interest and its importance for the local community. In the Trust's opinion this woodland is of sufficient quality to be designated and protected as a Site of Special Scientific Interest and is one of few remaining ancient woodland sites in Warwickshire.

In summary, according to recent surveys in 2000 and 2010/11, the significance of the wood is summarised in the attached sheets.

The Trust would be opposed to any proposal which involved the destruction, damage or disturbance of South Cubbington Wood. Any proposals to create a cutting or cut and cover tunnel would not be acceptable to the Trust because it would involve irreversible and permanent damage to the woodland's special qualities. If HS2 is approved, the only option to protect this important site would either be to drive a tunnel bored beneath the wood or to re-route the line to avoid the area completely.

Please let me know if you have any further queries or if we can help with further information.

Yours sincerely

Stephen Trotter
Chief Executive

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Creating a Living Landscape

South Cubbington Wood – Site Description

South Cubbington Wood is an ancient semi-natural woodland of 15 ha in size situated to the east of Cubbington near Leamington Spa. The wood forms an outlying part of the Princethorpe Woods Complex which is the largest concentration of semi natural woodland in Warwickshire.

South Cubbington is an excellent example of a traditional Warwickshire woodland. It is surrounded by an intact boundary ditch and ridge and contains old coppice stools of Ash (*Fraxinus excelsior*) and Wild Service Tree (*Sorbus torminalis*). In the North East of the wood there is a high density of vigorous Hazel (*Corylus avellana*). The large number of stools, suggests that coppicing appears to have been practiced here relatively recently.

English Oak (*Quercus robur*) is the dominant standard tree with some Ash and Birch (*Betula*) invading since the cessation of coppicing. The canopy is dense as is the shrub layer of Hazel stools. The ground layer is shaded to exclusion of ground flora in small parts of the densest shade, elsewhere Bluebell (*Hyacinthoides non-scripta*) is the vernal dominant. The vegetation here is W10 *Quercus robur*-*Pteridium aquilinum*-*Rubus fruticosus* woodland (English Oak-Bracken-Bramble woodland). Moving South and West through the wood Oak decreases as a standard and Ash and Field Maple (*Acer campestre*) increase. In the Southern half of the wood the dominance of Bluebells decreases and is replaced by Wood anemone (*Anemone nemorosa*) as the vernal dominant. Here the vegetation is W8b *Fraxinus excelsior*-*Acer campestre*-*Mercurialis perennis* woodland, *Anemone nemorosa* subcommunity (Ash-Field Maple-Dogs Mercury woodland, Wood Anemone sub community), this vegetation occurs on heavy clay soils of impeded drainage. Notably some veteran Midland Hawthorn (*Crataegus laevigata*) trees contribute to the canopy and Wild Service Tree and Small Leaved Lime (*Tilia cordata*) are present. In this area of the wood there are several small shaded pools. Fallen dead stems of Ash and Birch are scattered throughout. Regeneration of Ash saplings is taking place sporadically, over most of the wood. Invasive non native trees and shrubs are not a major problem, though Cherry Plum (*Prunus cerasifera*), Snowberry (*Symphoricarpos rivularis*) and Sycamore (*Acer pseudoplatanus*) are present. A small part of the wood has under-planting of cypress trees.

There is a good diversity of ancient woodland indicator species including Moschatel (*Adoxa moschatellina*), Wood anemone, Wood Sedge (*Carex sylvatica*), Enchanters Nightshade (*Circaea lutetiana*), Ground Ivy (*Glechoma hederacea*), Bluebell, Wood Sorrel (*Oxalis acetosella*), Wild Service Tree, Yellow Archangel (*Lamium galeobdolon*) Small Leaved Lime and the Butterfly, White Admiral (*Ladoga camilla*).

Other notable historic records include breeding nightingales (Last record 1980) and abundant Purple Hairstreak butterflies (*Quercusia quercus*).

The woodland has been designated as a Local Wildlife Site. The Evaluation against the criteria is as follows (Habitat criteria applied: Woodland):

SCIENTIFIC CRITERIA	Elements of the criteria applying to the site						COMMUNITY CRITERIA	Elements of the criteria applying to the site				
	1	2	3	4	5	6		1	2	3	4	5
Diversity	✓	✓	✓	✓	✓		Physical & Visual Access	✓	✓		✓	
Rarity	✓						Educational Value					✓
Size	✓						Community & Amenity Value	✓	✓	✓		
Naturalness	✓	✓			✓	✓	Aesthetic Appeal & Landscape	✓	✓	✓	✓	
Fragility	✓						Geographical Position		✓			
Typicalness	✓	✓	✓				Recorded History					
Ecological Position	✓	✓					Continuity of Landuse	✓		✓		
Significant Populations	✓											
Potential Value												

Why this site qualifies as a Wildlife Site: Summary of assessment

South Cubbington Wood scores very highly, meeting 19 scientific and 14 sociological criteria. Notably it meets all the diversity criteria and other important naturalness and rarity criteria. The woodland is obviously ancient as demonstrated by its evidence of traditional management and indicator species. The W8b woodland sub community is locally rare in Warwickshire. The wood contains several locally rare species notably the Butterfly's White Admiral and Purple Hairstreak and several ancient woodland indicator plant species. The area of the wood is not large in itself, but it is connected to two other woods of the Princethorpe Woods Complex, comprising a large area of woodland. The wood is in quite a natural state with the NVC types W8b and W10 recognisable; regeneration of native trees; presence of dead wood and a low abundance of non native invasive species. Cypress has been underplanted and represents a threat to the wood. There is a good potential for the value of the wood to be increased as the landowner is interested in managing the wood for conservation.

Sources of Information :
WSproject, WBRC, HBA