

HSUK response to:

**Official Consultation on Draft
Environmental Statement for
Phase 1 of HS2**

*(Extracts from **HS2: High Speed Trains, Slow Speed Brains**, available on www.highspeeduk.co.uk)*

Section 8 : HSUK Commentary (2018)

Appendix F : HSUK Response (2013)

8 Commentary on HSUK response to Official Consultation on Draft Environmental Statement for Phase 1 of HS2

Responding Organisation	High Speed North #
Authors of Response	Christopher Quayle** and Quentin Macdonald
Date	July 2013
For full text of response see	Appendix F

For simplicity of narrative, the abbreviation 'HSUK' is generally used in the following text to describe either the High Speed North proposals as they existed in July 2013, the High Speed UK proposals as they exist today (2018), or High Speed North/High Speed UK in a corporate sense.

** Christopher Quayle is a pseudonym adopted by Colin Elliff to avoid accusations of conflict of interest from his then railway industry employers.

In 2013, the Government invited public comments upon the Draft Environmental Statement that had been prepared for Phase 1 of HS2 from London to the West Midlands. The Draft Environmental Statement comprised 124 pages of detailed documentation, and a clause-by-clause response was not practicable. Instead, the HSUK response focussed upon the following 12 key issues, all referenced to the page and clause numbering of the HS2 Phase 1 Draft Environmental Statement:

1. HS2 Remit (P17, Item 2.2.3)
2. The Need for High Speed Two (P17, Section 2.3)
3. Enhancing Capacity (P18, Section 2.4)
4. An Engine for Growth (P19, Section 2.5)
5. Controlling Greenhouse Gas Emissions (P20, Section 2.6)
6. Operational Interfaces (Table 4, P26, Item 3.3.12)
7. Scope of Assessment (for Draft Environmental Statement) (P54, Section 4.2)
8. Mitigation (P74, Section 6)
9. Regulatory Requirements (P84, Item 7.1.2)
10. Strategic Alternatives (P89, Item 7.3.1 et seq)
11. High Speed Alternatives to the Y Network (Figure 11, P92, Item 7.3.45 et seq)
12. Alternative specifications and routes (P94, Item 7.4 et seq)

In summary, the HSUK response explained that:

- An Environmental Impact Statement (EIS) is required under the Town & Country Planning Act (1999) in support of any major infrastructure project. Amongst many other requirements, an EIS must review the alternatives that were considered in the development the project.
- This requirement is based upon the fundamental logic that the selected option now being taken forward to construction must represent the best balance of benefits against environmental damage.

- The HSUK response catalogued the false statements and assorted other flaws in the option selection process, that led to the rejection of the M1 corridor and to the adoption of HS2's much more damaging Chiltern-aligned route.
- The HSUK response explained the multiple inefficiencies underlying the HS2 proposals, that stem from the unverified and mistaken assumptions of segregated operation, design for potential 400km/h operation and predication upon Heathrow. These inefficiencies are the root cause of HS2's inadequate environmental performance, offering no significant CO₂ emissions reductions across the transport sector and failing to contribute to the national targets set by the 2008 Climate Change Act.
- The HSUK response also explained how, through adopting strategies diametrically opposed to those underpinning HS2 ie fully integrated operation between high speed and classic networks, design for a lower maximum speed of 360km/h and focus upon existing intercity corridors, HSUK was capable of generating the road to rail modal shift necessary to deliver transport sector CO₂ emissions reductions broadly in line with 2008 Climate Change Act targets.

The HSUK response to the HS2 Phase 1 Draft Environmental Statement is summarised in the following paragraphs. The references to section numbering **(1.)** relate to the HSUK response.

8.1 HS2 Remit (1.)

The HS2 remitted requirement, to consider "Options for a Heathrow Airport international interchange station on the GWML with an interchange with Crossrail" (in other words the proposed HS2 interchange at Old Oak Common, see Appendix A) has effectively predetermined HS2's intrusive rural route from London to the West Midlands. This has prevented fair consideration of alternative routes following the M1/M6 corridor, which could be constructed with vastly reduced environmental impact and at the same time achieve far greater connectivity improvements.

8.2 The Need for High Speed Two (2.)

Whilst new, higher speed lines are the best option for a higher capacity rail network, HS2's concentration upon north-south London-centric routes will not create the necessary balanced, integrated and accelerated interurban network. This will fail to achieve widespread modal shift away from the dominant roads sector, and will thus fail to make any meaningful impact on the 91% of the total transport CO₂ emissions attributable to road transport.

8.3 Enhancing Capacity (3.)

HS2 Ltd's excessive focus upon extreme speed along the high speed line that it is remitted to develop dictates expensive and environmentally damaging rural routes that cannot practicably be integrated into the existing rail network. Lack of integration with and connection to existing routes will prevent HS2 from bringing about enhanced capacity and connectivity across the wider rail network.

Far greater gains in capacity and connectivity, and far greater overall journey time reductions, and be achieved through the alternative HSUK strategy of full integration with, and physical connection to, the existing main line network, all is possible with an M1-aligned route.

All this is confirmed by the findings of HS2 : High Speed to Almost Nowhere.

8.4 An Engine for Growth (4.)

HS2's fundamental London-centricity and lack of integration will prevent it from delivering either the promised environmental or economic benefits, especially to the UK regions. Instead, by concentrating connectivity in London, there will be a tendency to draw economic development away from the regions.

8.5 Controlling Greenhouse Gas Emissions (5.)

HS2's lack of connectivity and integration prevents it from achieving significant road-to-rail modal shift, and therefore it fails to make any contribution to meeting the 80% CO₂ reduction target of the 2008 Climate Change Act. This leaves the entire HS2 project fundamentally in conflict with the Government's environmental policy.

Far greater CO₂ savings are possible with HSUK's much greater connectivity and integration (as was reported to Government in the HSUK response to the 2011 HS2 Phase 1 Consultation, see Item 1.6).

8.6 Operational Interfaces (6.)

The lack of any connection for over 160km of new railway between London and the West Midlands is indicative of HS2's almost complete lack of integration.

8.7 Scope of Assessment (for Draft Environmental Statement) (7.)

Given that the intervention of new high speed lines will have effects spreading across the entire country (for instance in improvements in capacity and connectivity enabling road-to-rail modal shift and therefore CO₂ reductions), the Draft Environmental Statement should have had a similar national scope.

8.8 Mitigation (8.)

By far the most effective mitigation against HS2's excessive local impacts would be to select an alternative route following an existing transport corridor such as the M1, where the additional impact of building a new high speed line is small, and the communities affected (eg in Luton and Milton Keynes) will gain greatly from the improved connectivity.

8.9 Regulatory Requirements (9.)

The HS2 Draft Environmental Statement cites (in Item 7.1.2) the overarching legal requirement of the 1999 Town & Country Planning Act that an Environmental Impact Statement should be prepared, and that this Statement must list the alternatives that were considered in the development of the scheme under consultation.

This clearly implies that any scheme advanced by the Government should represent the best balance of capacity and connectivity benefits against the financial cost and environmental impacts, and that the Government must be able to present a rational justification for its selection of the chosen scheme.

8.10 Strategic Alternatives (10.)

The selection of the London-centric HS2 'Y-network', lacking any transpennine connectivity and failing to interconnect most regional communities, appears to fail any rational capacity/connectivity test.

8.11 High Speed Alternatives to the Y Network (11.)

The 3 alternative configurations of a national high speed rail network, as presented in the Draft Environmental Statement, do not constitute a fair representation of the alternatives presented to HS2 Ltd in the development of HS2. The HSUK response emphasised that all 3 configurations offer greatly inferior interregional connectivity to that offered by High Speed North. **(11.1)**

High Speed North (and indeed any M1-aligned route) was rejected (in HS2 Ltd's *Report to Government* dated March 2010) on account of its 'failure' to pass through the West Midlands en route to destinations further north. No justification is ever presented for why HS2's route from London to the West Midlands via the Chilterns AONB (which is embodied in all 3 alternatives considered in the Draft Environmental Statement) is an essential element of any future national high speed rail network. **(11.2 & 11.3)**

8.12 Alternative specifications and routes (12.)

Generally, the Government's proposals appear to be based on completely false technical premises of:

- Segregation rather than integration **(12.1)**;
- Adoption of an excessive design speed **(12.2 & 12.3)**;
- Unfair assessment of routes following M1 corridor **(12.4 & 12.5)**;
- Undue predication of route upon Heathrow **(12.6 & 12.7)**;
- Failure to consider diversion of WCML commuter flows as strategy to avoid any need to expand Euston station **(12.8 & 12.9)**.

All these failures have resulted in a scheme with far greater environmental impact than would occur with a scheme developed to diametrically alternative principles of:

- Full integration between high speed line and existing railway system;
- Lesser design speed;
- Close alignment with M1 corridor;
- Achieving access to Heathrow by allied 'Compass Point' strategy;
- Integrated planning of London's transport.

These findings are conclusively established in *HS2 – High Speed to Failure* and *HS2 – High Speed to Almost Nowhere*.

APPENDIX F

SUBMISSION TO:

**OFFICIAL CONSULTATION ON DRAFT
ENVIRONMENTAL STATEMENT FOR
PHASE 1 OF HS2**

RESPONDING ORGANISATION:

HIGH SPEED NORTH

AUTHORS OF RESPONSE:

**CHRISTOPHER QUAYLE &
QUENTIN MACDONALD**

DATE:

JULY 2013

**Detailed commentary on this submission is given in
Section 8 of this report.**

Note: Clause and page numbering added for referencing purposes

Response to Government Consultation re HS2 Draft Environmental Statement

Introduction

This response is made by Quentin Macdonald and Christopher Quayle of Quaestus Poppleton Ltd, based at Manor Farm, Church Lane, Nether Poppleton, York, YO26 6LF.

We have maintained a continuing involvement with the HS2 project, since its inception in January 2009. In July 2011 we submitted detailed responses to the Government consultation on Phase 1 of HS2 (from London to the West Midlands). These responses set out our vision for a high speed line from London to the West *and* East Midlands, closely following the M1/M6, fully integrated with the existing rail network, and causing a fraction of the environmental damage inherent in the Government proposals. To date, the Government has offered no reasonable counter-rationale to the detailed arguments that we have put forward.

We strongly support the Government's aim, to construct new railways to enable a faster, higher-capacity and better-connected UK rail network. We also support the principles outlined by the HS2 Ltd Chief Executive in Appendix B of the Draft Environmental Statement. However, we believe that through a mixture of unfounded and false technical assumptions, and neglect of alternatives, the current proposals will not come close to meeting the Government's aspirations.

This leaves the HS2 proposals fundamentally inefficient, offering poor connectivity, unable to deliver either the necessary economic or environmental benefits (in terms of emissions reductions) and needlessly intrusive through following inappropriate rural alignments. We believe that HS2 must be fundamentally reconfigured to:

- Maximise connectivity (and thereby economic and emissions reductions benefits) through comprehensive interregional scope and full integration with existing network.
- Minimise environmental intrusion through, as far as practicable, following existing corridors and avoiding 'greenfield' alignments.

Our response to the 2011 HS2 Consultation promoted the ideal of an efficient and optimised high speed intercity rail network, and the arguments for a railway causing minimised environmental damage (in terms of both CO₂ emissions and landscape impact) are essentially the same; inevitably, there will be a degree of repetition.

The flawed HS2 approach to development of a UK high speed rail network is exemplified in the following sections:

1. *Remit (P17, Item 2.2.3)*

1.1 We are concerned that the remit, for HS2 to interchange with Heathrow/CrossRail services along the GWML (which can only effectively be satisfied at Old Oak Common), has effectively predetermined an intrusive rural alignment from London to the West Midlands, and has prevented fair consideration of an M1/M6 aligned route. This would have far lower inherent environmental impact, and would also serve the East Midlands with faster services and shorter city centre to city centre journey times.

2 *The Need for High Speed Two (P17, Section 2.3)*

2.1 We agree that new, higher speed lines are the best option for a higher capacity network. However, we are concerned that the HS2 proposals, in their concentration upon north-south London-centric routes, will not create the balanced, integrated and accelerated interurban network necessary to achieve widespread modal shift away from the dominant roads sector (with 91% of the total transport CO₂ emissions).

3 *Enhancing Capacity (P18, Section 2.4)*

3.1 We are also concerned at HS2's excessive focus upon extreme speed along the high speed line that they are remitted to develop, rather than upon accelerating and increasing the capacity and connectivity of the rail network as a whole. (We believe that this is a far more effective and appropriate strategy to reduce journey times.) Capacity is optimised not by maximising of speed, but by elimination of speed differentials; the high speed network should be configured to be the conduit for all express intercity passenger traffic along a particular corridor so that the existing main line can be dedicated to slower speed freight and local passenger traffic. This demands close alignment and interconnection between high speed line and classic line - possible with an M1-aligned high speed line, but not with the Chiltern-aligned HS2. With HS2, demand from bypassed centres such as Stoke, Coventry and Milton Keynes for express passenger services will continue to consume capacity on the West Coast Main Line.

3.2 We believe that the Government has vastly overestimated the value of each minute saved on an HS2 journey. With modern IT such as laptop computers and mobile phones, time spent on a rail journey does not equate to 'lost time' (as might be the case in an assessment of a road scheme, where drivers have to give all their attention to driving). And with rail already the fastest mode on most of the London-centric routes that will be served by HS2, greater speed will not deliver significant extra modal shift. Far greater modal shift (and economic benefit) will accrue from configuring high speed rail to accelerate the interregional journeys that HS2 has neglected, and to integrate fully with the existing network at existing network hubs.

3.3 We also believe that the Government has greatly underestimated the costs of engineering and operating HS2 for extreme speed. The required near-straight alignments make it difficult if not impossible to follow existing transport corridors (where environmental damage is minimised), and instead dictate rural alignments with much greater potential impacts. Here, clear of existing corridors and population centres, there are generally more sensitive areas such as SSSIs and Ancient Woodlands, and expensive tunnelling and/or other interventions are frequently required to mitigate the intrusion of the new line. Energy use (and therefore CO₂ emissions) also rises with the square of speed; this leaves 400kph operation with almost twice the CO₂ profile of 300kph operation.

4 *An Engine for Growth (P19, Section 2.5)*

4.1 We consider that HS2's fundamental London-centricity and lack of integration will prevent it from delivering either the promised environmental or economic benefits, especially to the UK regions. Instead, by concentrating connectivity in London, there will be a tendency to draw economic development away from the regions.

5 *Controlling Greenhouse Gas Emissions (P20, Section 2.6)*

5.1 The Draft Environmental Statement fails to mention HS2's overall environmental performance, which is predicted (in the 2010 Command Paper) to be broadly 'carbon-neutral' across the entire transport sector (i.e. no overall reduction). This appears to be in fundamental breach of the requirement of the 2008 Climate Change Act, for an 80% cut in CO₂ emissions by 2050. We believe that this deficiency is attributable not to high speed rail per se, but to HS2's basic lack of connectivity and integration. This renders the HS2 proposals unacceptable in a modern carbon-critical world.

5.2 Our studies (submitted with our responses to the 2011 HS2 Consultation) of a fully integrated high speed railway with national coverage indicate that it has huge potential to reduce CO₂ emissions across the transport sector.

6. *Operational Interfaces (Table 4, P26, Item 3.3.12)*

6.1 Neglecting the non-operational connection at Calvert, it is significant to note that there are no interfaces, and no connections with the existing rail network, for a length of over 160km. This is indicative both of HS2's lack of integration, and lack of resilience, which will massively compromise its environmental performance.

6.2 By contrast, far more connections (and therefore far superior integration, resilience and environmental performance) are possible for a London-West Midlands high speed line routed along the M1/M6 corridor. Here, connections to the existing network can be located at a maximum spacing of 30km. This is demonstrated by our detailed (1:25000) mapping of the M1/M6 alternative.

7 *Scope of the Assessment(for the Environmental Impact Statement) (P54, Section 4.2)*

7.1 We believe that the UK rail network (both high speed and classic lines) effectively comprise a single system in which the ramifications of a single major intervention (such as a new inter-conurbation high speed line) will spread across the entire UK rail network. This must define the geographical scope of the Environmental Impact Assessment. This will enable the true effect on national CO₂ emissions to be assessed. Our research indicates that with high speed lines and classic lines fully integrated, and operating as a single system, far greater reductions in CO₂ emissions are possible than the 'carbon-neutral' performance so far predicted for HS2.

8. *Mitigation (P74, Section 6)*

8.1 We believe that all necessary environmental mitigations must be employed to make the route acceptable to the communities which HS2 passes, and that generous compensation packages must be made available to alleviate losses that are suffered. However, it must be acknowledged that effective mitigation in sensitive areas (usually tunnelling) will greatly increase costs. Technical and operational risk would also seem to increase, for instance the difficulty of evacuating passengers from subterranean incidents in long tunnels.

8.2 We consider that by far the best mitigation against the environmental impact of high speed lines is to follow existing transport corridors such as the M1. Typically, a busy motorway creates such environmental impact that a clear corridor generally exists alongside the road, and the additional impact of the high speed line is small compared with greenfield alignments. We are concerned that insufficient attention appears to have been given to use of existing transport corridors as the primary environmental mitigation.

9. *Regulatory Requirements (P84, Item 7.1.2)*

9.1 We note the regulatory requirement for an Environmental Impact Statement, stemming from the 1999 Town & Country Planning Act. This appears to require discussion of the primary alternatives considered by the Government in the development of the HS2 proposals, and from this we would make the logical inference, that the option selected should be the one that best balances the benefits of a new high speed line against its environmental impacts.

9.2 We are deeply concerned that the Government has been presented (both by ourselves and by others, see subsequent paragraphs) with alternatives that both achieve greater benefits and have lesser environmental impacts. As such, the Government's selection of the current HS2 proposals seems illogical and perverse, and in apparent contravention of its own planning legislation (and also environmental legislation).

10. *Strategic Alternatives (P89, Item 7.3.1 et seq)*

10.1 We agree with the Government, that other modal alternatives such as new motorway construction, or further development of domestic air services, cannot match the economic or environmental advantages of new railways. We also believe that whilst on-line upgrades of existing rail routes may comprise the optimum strategy in certain local/regional cases, construction of new, higher speed lines must be the primary strategy to address national transport needs.

10.2 However, we are concerned at the Government's adoption of the primarily London-centric 'Y network' that is proposed for HS2, and at the apparent rejection of routeings along interregional axes, most conspicuously Transpennine. Without comprehensive coverage, and without the necessary integration with the existing network, HS2 will bring direct benefit to around 12 city pairs. This is a small fraction of the total scope of the UK intercity network (which covers perhaps 10 primary and 20 second-tier cities within the envisaged geographical scope of HS2, hence circa 500 city pairs) and this must greatly restrict the modal shift, and hence environmental benefits, that HS2 can offer.

11. *High Speed Alternatives to the Y Network (Figure 11, P92, Item 7.3.45 et seq)*

11.1 We do not consider that the 3 alternative configurations depicted in Figure 11 represent an adequate consideration of options for development of a national high speed rail network. We have the following specific concerns:

- All appear to take the southern 'stem' of the first phase of HS2 (ie London-Old Oak Common-Birmingham Interchange) as a 'given', and only fan out to destinations either side of the Pennines north of Birmingham.

- No account is taken of the potential of the M1 corridor as the primary route to the North and to Scotland, running east of the Pennines, with the West Midlands placed on a spur.
- Any east-sided approach to Scotland should be more efficient (both economically and environmentally, and with a lower requirement for tunnelling) than the favoured west-sided approach, through the ability to place Newcastle, Edinburgh and Glasgow on a single line of route. However, the east-sided options are unduly penalised by the imposition of a ‘Carstairs split’ between Edinburgh and Glasgow services, that would demand an utterly impracticable high speed rail alignment following Tweeddale through Peeblesshire.

11.2 We are aware that HS2 Ltd was presented with the ‘High Speed North’ proposals by the 2M Group of London & SE councils, early in 2009. This comprised a national network of high speed lines, primarily aligned with the M1 corridor, and offering comprehensive interregional coverage unmatched by any of the alternatives ostensibly considered by the Government. We note the commentary offered in the 2010 HS2 Ltd Report to Government (Item 6.1.16):

“With a more central alignment of HS2, the ‘Reverse E’ would become more akin to the proposal put forward by the 2M group of London Councils (known as ‘High Speed North’). As our remit was to consider the development of HS2 beyond the West Midlands, we have not investigated the 2M proposals in detail.”

11.3 We would comment that the rationale offered by HS2 Ltd for the rejection of the High Speed North proposals appears to be highly perverse, ignoring the multiple economic and environmental (i.e. CO₂) benefits of a comprehensive interregional high speed network, and the much reduced intrusion of a system largely aligned with existing transport corridors. We see no logic for the forced routing of all lines from London to the North via a poorly-connected parkway station on the fringes of Birmingham, at which most trains would probably not stop.

12. *Alternative specifications and routes* (P94, Item 7.4 et seq)

Segregation or Integration??

12.1 We are deeply concerned at the apparent presumption - without any supporting rationale - on the part of the Government (and their advisors within HS2 Ltd) that the new high speed railway comprising HS2 must be effectively segregated from the existing rail network. This vastly limits the communities that can derive benefit from HS2, and it also limits the potential environmental benefits. We have consistently argued for a high speed rail system fully integrated with the existing network, and request that the Government puts forward their own reasoning for their preference for a segregated system.

Alternative Design Speeds (P94, Item 7.4.2 et seq)

12.2 As previously noted, we are concerned that the Government’s assessment has placed undue value upon individual minutes saved by HS2. This has been given as one of the primary reasons behind selecting routes that pass through the Chilterns AONB, and rejecting routes following less intrusive motorway corridors. We do not believe that such small time savings can possibly justify the level of environmental damage that is certain to result despite the best efforts to mitigate.

12.3 We believe that the Government has placed undue emphasis on establishing a high speed line between London and the West Midlands, and has failed to consider the economic and environmental benefits that would accrue from a route (following the M1 corridor) that could also serve the East Midlands (ie Luton, Milton Keynes, Northampton, Leicester, Derby and Nottingham).

Alternative Corridors (P95, Item 7.4.6 et seq)

12.4 We note that none of the Routes 1-6 considered by the Government reflect the obvious option for a motorway-aligned high speed line (as advanced by ourselves in the 2011 Consultation). Route 5 appears to be the closest match, but the advantages of a motorway alignment are greatly compromised by a requirement to be routed via both Birmingham Interchange (necessitating a rural alignment south of Coventry) and Old Oak Common (necessitating over 30km of tunnel from the M25 to central London).

12.5 We see no fundamental necessity for either of these terminals, and consider that while they may have some relevance to the favoured options generally oriented via the Chilterns, they have been unreasonably imposed on an alternative and superior route to the West Midlands that would cause much reduced environmental impact. This is confirmed by our mapping of our proposed M1/M6 alignment, which clearly demonstrates the feasibility of the route, requiring circa 10km of tunnel as opposed to the 43km required by HS2 (this does not include the extra 30km of tunnel required to complete the planned loop into Heathrow).

Connection to Heathrow Airport (P103, Item 7.4.58 et seq)

12.6 We would comment that none of the options considered for high speed rail access to Heathrow are either viable or practicable. All require major lengths of tunnelling, costing billions of pounds, to serve the needs of the relatively few passengers on HS2 who would actually require to access Heathrow. Moreover, all the options illustrated require the high speed line to come close to Heathrow, thereby dictating a Chiltern alignment (and all the associated environmental intrusion) and effectively precluding a much less intrusive M1 alignment (which appears to have much greater efficiency as an intercity network).

12.7 We are concerned that the Government appear not to have given any consideration to the alternative 'Compass Point' scheme advanced by the 2M Group of London & SE councils, or to other conventional rail strategies for improving surface access to Heathrow. These would generally comprise a comprehensive system of regional routes to east, south, west and north, based upon the existing Heathrow Express infrastructure and accessing the central terminal areas (rather than HS2's remote hub). With fast northward connections established to access an M1-aligned high speed line at Brent Cross, the necessity for the close approach of the high speed line to Heathrow, and the consequent routeing through the Chilterns and sensitive rural areas beyond, would be eliminated.

Alternative Stations - London Terminus (P99, Item 7.4.27 et seq)

12.8 We support the selection of Euston as HS2's London terminal, but are concerned both at proposals to expand the station into surrounding residential property, and at the absence of proposals to improve onward connectivity to local transport networks. These

issues stem from a failure to develop a strategy to fully integrate high speed rail with the existing network. The need to expand the station would not exist if the obvious step were taken, to divert local commuter flows away from Euston (where transfer to Tube is necessary) onto CrossRail, by means of a short connecting line between WCML and GWML at Old Oak Common. And with commuter flows diverted, there would be much less pressure on the Tube transfer at Euston.

12.9 However, major enhancements to Euston's Tube links, and to links to adjacent hubs such as Kings Cross / St Pancras (and to HS1) are considered essential to improve connectivity and environmental performance. Measures to diversify flows away from the central London terminal - such as links from a terminal at Brent Cross on an M1-aligned high speed line to both Heathrow and to St Pancras - also appear to be highly desirable. We have proposed all of these enhancements to the Government, and still await a substantive response.

13. Conclusion

13.1 We are deeply concerned that the current HS2 proposals comprise an inappropriate intervention in UK transport, carrying excessive environmental impacts and failing to address the fundamental need to reduce greenhouse gas emissions in transport, that do not meet the Government's own legal requirements for environmental mitigation and climate change.

13.2 We believe that far greater benefits, both environmental and economic, can be achieved, but this will require a radically different strategy and philosophy, based around core principles of connectivity, rather than extreme high speed and segregated operation. We are keen to work with Government to develop alternative and superior proposals which (unlike HS2) will meet the national need for an efficient and optimised rail network at acceptable environmental impact, and which (unlike HS2) must play a leading role in the reduction of transport CO₂ emissions, in line with the requirements of the 2008 Climate Change Act.

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31/10/2016 update : Clause and page numbering added for referencing purposes.