

**High Speed Rail (Crewe to Manchester and West Midlands to Leeds) Working Draft Environmental Statement**

**Response by the Transport and Health Science Group and the Faculty of Public Health of the Royal Colleges of Physicians of the United Kingdom.**

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Comments on behalf of

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Dr. Watkins and both other signatories are over the age of 16

Both respondent organisations are professional bodies

The comments are predominantly route wide but there are some references to specific areas

The Transport and Health Science Group (THSG) is a UK-based international independent society of public health and transport practitioners and researchers committed to understanding and addressing the links between transport policies and health and promoting a healthy transport system.

THSG has a policy of neither supporting nor opposing HS2. This is because it recognises the considerable health benefits of this major transport project but also the environmental impact and the opportunity cost of such a large commitment of resources.

THSG has two specific policies in relation to HS2 which are worth restating even though they do not directly relate to the current consultation.

- (a) We propose a different route for phase 2, based on reinstating the Great Central Railway from Quainton (where phase 1 comes adjacent to the railway) to Lower Bredbury (on the outskirts of Manchester) as a quadruple track railway with two high speed tracks and two conventional tracks and with a greenway on an elevated construction above it. The high speed tracks only would run in an 8km tunnel from Lower Bredbury to Manchester Piccadilly. The high speed tracks only would have a spur running north east from Penistone to Sharlston Common, from where it would continue north on the alignment currently proposed for phase 2b. This construction would incorporate phase 1 between Quainton and Brackley. The conventional tracks would accommodate the railways that currently run over part of this formation, including Chiltern Railways from Quainton to Calvert, the heritage railway from Leicester North to Ruddington, the Hadfield-Godley line, some lines in the Sheffield area, and the freight line from Woodley – Lower Bredbury. They would also provide some additional passenger services, a new freight artery and the Woodhead Rolling Motorway. There are not many obstructions to the reinstatement. A few very short tunnels are called for and in Nottingham there would be a need for a substantial tunnel for HS2 under the city with underground platforms at Nottingham Station, and an alternative route, with a short link to existing railway, for the conventional tracks and the greenway. Whilst we have not done detailed costings we believe it could be constructed for no greater cost than the current proposed route and with considerably less environmental damage, the additional benefits of the conventional tracks, and the simultaneous delivery of the central part of HS3 for trains from Manchester to Leeds and to Sheffield via Penistone. High speed trains to Manchester Airport via Wilmslow, to Staffordshire and to Crewe, Wigan and Preston would join the existing WCML at the end of phase 1. Trains from Birmingham to Leeds would join the new line at Rugby.
- (b) We also believe that careful attention should be paid to the development of the hyperloop lest we build a project which will be based on an outdated technology as soon as it opens. We have outlined how, if the hyperloop proves successful, and if it can not only meet Elon Musk's original specification but also in certain specific respects be developed to exceed it, it could replace HS2, HS3 and the Heathrow Airport Expansion and provide, by rotating wayside stops, local as well as intercity transport. The environmental impact of this proposal would be considerably less than HS2, and the transport benefits considerably greater, but it remains to be seen whether the technology can be brought to reality. In our paper on the hyperloop we pointed out that the dilemma is in some ways similar to those faced by the directors of the Liverpool & Manchester Railway in the late 1820s. Should they invest in the steam locomotive a new technology, untried in the context of a project like theirs, or should they rely on tried and tested technologies. The

decision they made was courageous and far sighted. Of course, we say that in retrospect – had it failed history would have judged them more harshly. There is no safe choice – on the one hand is the risk of relying on new and untested technology and on the other hand is a risk of wasting tens of billions of pounds on a technology that will be outdated as soon as it opens.

The Faculty of Public Health of the Royal Colleges of Physicians of the United Kingdom is the main professional body for specialists in public health (the medical specialty, with a non-medical route of entry, which addresses the health of populations rather than just of individuals) and one of the professional bodies for a broader range of public health practitioners. It is a membership organisation for nearly 4,000 public health professionals in the UK and around the world. It supports the training of the next generation of public health specialists by designing and managing the curriculum, it supports the continuing professional development of existing specialists and practitioners, discusses policy through its network of Special Interest Groups, encourages and promotes research and understanding of public health, champions excellence in public health and seeks to improve public health policy by campaigning for change and by working in partnership with local and national government.

The Faculty has pursued the “Do No Harm” policy in relation to trade deals and Brexit, has secured assurances of the continued importance of Article 168 of the Lisbon Treaty, and has produced guidance on the subject.

The Faculty is also pursuing the need for public health to be prioritised in resource allocation and in decision making.

#### General Comments

Both organisations welcome the inclusion of health in the Draft Environmental Statement. We note that *“The route of the Proposed Scheme has been selected to avoid (where reasonably practicable) residential properties and other sensitive receptors, and landscape earthworks and other measures are being considered to reduce visual intrusion and noise”*. We recognise the potential for transport to both promote and harm health and wellbeing. This includes the potential for HS2 to improve the health of populations by improving access to employment, education, social networks et al, as well as the principle of modal shift away from cars to other means of transport, which we support.

However, we are also concerned that the potential harms of HS2 to the health of the population and to exacerbating health inequalities have not been adequately explored in the draft statement.

The Faculty of Public Health is concerned that the attention given to health does not discharge the statutory duty under Article 168 of the Lisbon Treaty (which will be retained law after Brexit). Any environmental statement needs to address human health much more fully than this statement does.

We are also concerned as to whether there is adequate public health specialist resource in the local authorities along the route for them fully to address this major consultation. We consulted all local authority public health departments along the route to ascertain their views and several of them said that they did not have the resource to assess the impact fully, including one which expressed concern about the relative cost/benefit of HS2 and HS3 but said that it had been unable to do any work on this topic. This is yet further evidence of the way that cuts in public health resources are

diminishing the capacity of the public sector to take full account of health in its decision making, a matter on which the Faculty of Public Health is deeply concerned.

Potential harms and benefits in need of further consideration:

- Community Severance:
  - A major impact of transport infrastructure upon health occurs via the phenomenon of community severance. This occurs when fixed obstructions (roads, railway lines or rivers) disrupt access to goods, services, opportunities (jobs, education) , and/or people. Community severance may negatively impact social cohesion, damaging social capital within communities. Social capital is a key feature of a community in which the residents can pursue health and wellbeing, for example in communities with good social capital, people are more likely to take outdoor exercise. Related but separate, community severance reduces informal social contacts, reducing well-being and the benefits of social support which have been shown to have a similar benefit on mortality as stopping smoking.
  - The use of the word ‘severance’ within the non-technical summary of the Environmental Statement is noted, however this refers in every case either to severance of natural areas or traffic severance due to re-routing of traffic for the railway. Both of these are important considerations, however this does not encompass the potentially severing effect of the railway itself, and what mitigations may be required
  - We note that *“It would be necessary to close, realign or divert certain local roads and public rights of way along the Proposed Scheme, both during construction, and in some cases, permanently. In these cases, alternative routes would be available either through the use of temporary alternative routes of the existing wider network. There may, however, be some limited effects on road users, including non-motorised users (i.e. pedestrians, cyclists and horse riders), due to increased journey distances and times. Where a new route alignment is required, it would, where reasonably practicable, be constructed offline so as to enable the existing route to continue in use until its replacement is ready to be brought into public use.”* We are concerned about the severing effects of such actions, and that mitigation for the community beyond merely the provision of alternative routes may be necessary
  - We note that *“Bridges or viaducts would be used where the route of the Proposed Scheme would cross an existing feature, such as a public right of way, road, river, canal, floodplain or existing railway”* and cite such instances as requiring consideration of possible severance
  - We are concerned about the severing effects, via traffic, temporary fencing and other means, of the main civil engineering works period.
  - We are concerned what the mitigation(s) proposed are for communities severely affected by the railway, for example Broomedge to Glazebrook (MA04).
  - We note in the overall conclusions that *“Certain routes would be subject to significant increases in traffic flows and/or diversions for the medium to long term. Traffic management plans would be produced to ensure no direct adverse health effects associated with road safety, but increased traffic flows and congestion may contribute to*

*traveller stress*” We advise that severance, air pollution, noise, and impacts on walking and cycling be considered as well as stress.

- Noise
  - The deleterious effects of noise on health, especially cardiovascular health, are increasingly known. We note that *“The Proposed Scheme would incorporate noise barriers where needed to avoid or reduce significant noise effects. These would generally take the form of landscape earthworks, such as cuttings and embankments, noise fence barriers and parapet barriers on viaducts”*. While recognising the benefits of such noise abatement interventions, we are concerned about the potential additional severing effect of such barriers and the need to maintain them to prevent blight and eyesore. We recommend the use of vegetation as part of the noise barriers, as greenery has additional benefits of promoting well-being, as well as absorbing some air pollution.
  - We are concerned about the noise impact of the main civil engineering works period. We note that *“HS2 Ltd would offer noise insulation and/or temporary rehousing to dwellings which satisfy the applicable qualifying criteria, where required”* but are concerned regarding the feasibility and quality of this, as well as the actual thresholds for qualifying for these interventions.
- Air quality
  - Transport emissions are one of the major contributors to poor air quality, which is linked to many chronic diseases and to inequalities in health. In general, more deprived populations are both exposed to higher levels of air pollution and are more susceptible to their adverse health effects – a ‘double whammy’.
  - We are concerned about the plans to mitigate the air quality impact of the main civil engineering works, and call for all transportation used in construction to be emission free.
  - We note that during the civil engineering works *“Overnight accommodation for construction staff would be provided at a number of compounds in order to help to reduce daily travel for those not normally based locally”*. We also note that *“Workforce travel plans would be implemented to help mitigate transport-related effects during construction (such as through the promotion of public transport, car sharing and, where appropriate, works buses).”* We applaud this as a chance to decrease the carbon emissions of commuting, but also call for any travel required by construction staff and indeed other HS2 staff to be carbon neutral and emission free. ‘Promotion’ of an action is just one way to achieve an action – for example, low-carbon travel should be incentivised, or car travel disincentivised e.g. via parking charges.
  - We note that in terms of air quality mitigation *“Emissions associated with activities on the construction sites would be controlled by measures within the Code of Construction Practice. No further air quality mitigation measures beyond those contained in the draft Code of Construction Practice are, therefore, proposed at this stage in the ongoing design and assessment process. This will be confirmed in the formal ES”*. We are not convinced that this will be adequate as the overall scheme is considerably larger than the schemes envisaged in the Code of Construction Practice. We are concerned that the road traffic generated by the construction will be considerable. We note the commitment to minimise this and would emphasise the importance of this being more than a token commitment

- We understand that Sheffield City Council, whilst generally positive about the scheme, are concerned at the loss of opportunity to run light rail or tram/train down Abbeydale Rd/ Chesterfield Rd which they see as a possible air quality scheme
- Active Travel –
  - We are concerned at the severance of footpaths and rights of way and would urge that no diversion of more than 100 metres be contemplated. Diversions longer than this can deter the choice of walking as a mode. Even if 1,000 new footbridges had to be built to achieve this, then it should be possible to produce them for £100,000 each, using mass produced prefabrication, so we would be looking at a cost of £0.1bn, a small figure in such a large scheme.
  - We welcome the proposed parallel cycle route.
  - A commitment to have a cycle van on each train and on each linking train would be a major step towards the development of the train/cycle combination as a transport mode.
- Green Infrastructure – The route should be as vegetated as possible since sight of greenery has a tranquillising effect. It certainly should not detract from the greenness of any area without providing a local replacement.
- Carbon – Carbon sequestration and carbon capture should be built into the line itself, its impact on afforestation, and the energy sources HS2 uses. Every effort should be made to bring people to the line by public transport, on foot, or by cycle rather than by car. This is especially an issue for access to the station in the East Midlands and for linkage between Manchester Airport Station and the Transport Interchange at Manchester Airport
- Biodiversity – The line should aim to produce a net biodiversity gain. Attention to habitats on embankments and cuttings could be particularly beneficial.
- Economic Effects –
  - The economic effects are predominantly beneficial to health. It is possible they have been overstated.
  - The health benefit would be enhanced if greater attention were paid to social value.
  - Measures to mitigate the impact of the loss or relocation of local businesses on the most vulnerable members of the community should be incorporated into the final statement
- Stress –
  - The scheme is likely to cause considerable stress to those compelled to move home, to those working for businesses affected, to those affected by construction work and to travellers affected by disruption. We welcome the fact that this is recognised but would emphasise the need for mitigation measures.

- There is not a great deal of attention to mental health in the statement and we would urge use of the Mental Well Being Impact Assessment methodology

We can supply references for all these evidence-based statements if these would be helpful.

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