

CCCF CONCERNS ABOUT THE NEGATIVE EFFECTS OF HS2 UPON HEALTH AND WELLBEING

Several strands:

1. procrastination tactics employed by HS2 Ltd with regard to providing information;
2. current deterioration in health and wellbeing experienced by residents close to the proposed line;
3. concerns about effects during construction, particularly from dust, diesel emissions and noise;
4. damaging effect of noise upon health, and monetisation of negative effects not factored in to overall HS2 budget;
5. strain upon local NHS facilities along the route and concerns about access to Stoke Mandeville for emergency vehicles via A413 during construction phase.

1. Procrastination tactics employed by HS2 Ltd with regard to providing information

Simon White stated at the Pan-Chilterns meeting on 25.10.12 that issues of health and wellbeing would be reported on in the Draft Environmental Statement (DES). This turned out not to be the case. At the DES Roadshow in Great Missenden on 30.5.13 he stated that they will be reported on as a specific category in the final Environmental Statement (ES) that will be deposited with the Hybrid Bill. This, according to an email from Charlotte Brewster on 26.6.13, turns out also to be incorrect. She stated that:

The contents of the draft ES is (sic) determined by EU regulation and it is for this reason that details of the Health Impact Assessment (HIA) and Equality Impact Assessment will not be available until deposit of the hybrid bill. They will not be part of the final ES, but will be additional reports in their own right.

She further added that:

The HIA will include an assessment of stress, anxiety and other mental wellbeing impacts of the proposed scheme, as well as a review of research-based evidence to underpin the assessment of likely effects of the scheme on health and wellbeing.

Hubel & Hedin in their paper, *Developing health impact assessment in the European Union*¹ state:

Within the choices and trade-offs made in developing, adopting and implementing policy, health needs to play an important role. Whatever method is applied to make health effects visible, the central idea is transparency ... This will require developing a scientifically sound methodology ...

If policies and legislation are to contribute to a high level of health protection, the main objective is to put health considerations high on the agenda of policy-makers.

We are aware of no such objective with regard to HS2 and if any scientifically sound research that will contribute to the HIA is currently underway or has already been completed it has certainly not been declared by HS2 Ltd. or the DfT as high on their agenda. The Hybrid Bill is due to be deposited before the end of 2013. It is therefore reasonable to conclude that the HIA is near to completion. If any assessments are being or have been conducted, we therefore require details and a statement of which independent bodies are conducting them, according to what criteria, who is peer reviewing them, and when they will be available for public scrutiny. The presumption from Charlotte Brewster's email is that, unlike the final ES, the HIA will not be available for consultation. If so, this is clearly unacceptable. The DES was woefully inadequate, and we have no confidence that the final ES will be significantly more balanced or thorough. It is consequently difficult to have any faith that a HIA of high quality will be produced that accurately assesses the impact of HS2 on health and wellbeing.

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2. Deterioration in health and wellbeing experienced by residents close to the proposed line

There is already substantial anecdotal evidence of stress-related illness among residents along the phase 1 route who stand to lose their homes and businesses through compulsory purchase, who are suffering property blight, or who cannot sell properties at all that are now worth little or nothing. A pilot survey of households close to the proposed line has been conducted in this forum under the aegis of the Chiltern Conservation Board (CCB). The results are still being analysed, but it is safe to say that of the 286 respondents, 87.8% are experiencing adverse effects upon their health and wellbeing as a result of their proximity to the proposed line, and 16.4% have sought medical help. Symptoms reported include anxiety, stress, sleeplessness, and depression. A small number have also had their physical health affected.

There is considerable anxiety about property blight, but concerns for health and wellbeing, particularly of children, as a result of disruption, dust and noise during the construction phase were also expressed; those retired or close to retirement consider that their lives have already been ruined by HS2 and fear for the future: one stroke victim is constantly worried that the undue stress caused by property blight will precipitate another stroke. Worries about decimation of the landscape and the shattering of tranquillity were also high on the list: one respondent commented that: *The only noise from our house is from farm animals and children playing*. This same respondent reported that the eldest child in the household has nightmares about HS2.

It would be naïve of the DfT and HS2 Ltd. to suppose that these negative effects upon health and wellbeing are confined to hypersensitive NIMBYS in the Chilterns, and it's a disgrace that no work was done in advance of the DES to identify or to quantify the extent of suffering already experienced in communities all along the line in the pre-construction phase of this extremely damaging project. It should not be left to us to provide the DfT and HS2 Ltd. with evidence that they should have taken the initiative to gather. If they have done such work, why have we not been informed? This is the final CF and throughout the whole process there has been not even a whisper of the HIA, let alone any explanation of its scope, methodology or schedule. Indeed, on HS2's own fact sheet on the Hybrid Bill, there is no mention at all of the requirement for a HIA in the list of mandatory supporting documents and it is not flagged up in the Hybrid Bill presentation already delivered by HS2 Ltd. to the Wendover Forum.

3. Concerns about effects during construction, particularly from dust, diesel emissions & noise

The DES and draft Code of Construction Practice (CoCP) took a cursory, dismissive approach to these concerns. The Sections that did make oblique reference to health and wellbeing contained only vague or over-optimistic, self-referencing statements, with no detail or credible independent verification. This was characteristic of all the DES documents, irrespective of the aspects of the assessment with which they were dealing, and numerous examples could be cited throughout.

Section 4 – Air quality – of the CFA 9 report was typical of the casual, sloppy way in which health concerns were treated. The footnote to 4.1.1 merely stated that PM₁₀ & PM_{2.5} from diesel emissions are: *of concern to human health*, without detailing their extremely serious effects and those of NO₂ upon human health², which include asthma, lung cancer, cardiovascular disease, respiratory diseases, birth defects, and premature death. 4.5.6 then went on to claim that: *Following a more detailed assessment of the changes in traffic emissions on these roads, it has been identified that impacts on NO₂ and PM₁₀ concentrations would be negligible*. No details were given, and much more rigorous, independent scrutiny is needed before such airy, dismissive claims can be accepted.

Similar overly optimistic predictions were made in the DES and CoCP about the control of dust.

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We require much more robust, evidence based, independently peer-reviewed assurances in the final ES for our anxieties to be allayed, and they are unlikely to be forthcoming.

4. Damaging effect of noise upon health, and monetisation of negative effects not factored in to overall HS2 budget

There is extensive evidence of the deleterious effects of noise upon health and wellbeing: annoyance, sleep disturbance, stress, hearing impairment, tinnitus, compromised learning, distraction, physiological effects on digestion, metabolism, the immune system, and serious and possibly life-threatening effects upon the cardio vascular system from hypertension and ischaemic heart disease leading to myocardial infarction.³ These effects need urgently to be assessed and quantified in relation to HS2. So far there has been silence on these extremely worrying potential consequences of the project. How are the authors of the HIA dealing with the effects of noise upon health? We have no idea.

Once again, it has been left to concerned forum members to provide us with data. Brian Thompson, a Fellow of the Chartered Inst. Of Management Accountants, has done invaluable research in Wendover⁴. It is sobering, and feeds into the question of the monetisation of negative health effects.

His detailed study focuses on only 593 households in Wendover that will be significantly affected by the noise from HS2. Accepting HS2's own predictions of noise levels, with good mitigation, and using internationally accepted methodology⁴ he calculates the cost resulting from MI over a 60 year period to be £6M and other health effects, including hypertension, but excluding effects upon the health of children at Wendover School: £9.7M, a total of £15.7M. If the noise levels and the effects of mitigation turn out to be underestimated, he calculates that the overall cost could rise to as much as £28.9M.

This may seem to be a drop in the ocean of the overall budget for HS2, but remember it is based on only 593 households in Wendover. Andrew Gilligan, writing in *The Telegraph*⁵ in Dec. 2010 estimated that 50,000 people between London and Birmingham would be affected by noticeable noise increase. The figure will have been reduced somewhat by subsequent mitigation measures, but accurate calculations need to be done on the total number of households that will be affected by noise along the whole route, and the costs then added in to the overall budget for the project, and included in the figures for the BCR.

In addition, this is a fast-moving area of research. A paper by Wolfgang Babisch⁶ (an internationally renowned acoustics expert) which is due to be published in *The Lancet* later this year indicates that the dB level at which health becomes affected has been set too high, and that damage to health and wellbeing occurs at lower dB levels than previously accepted. Taking into account newer studies, he indicates a doubling of risk overall if effects below 60dB are included. This has major implications for the population exposed to noise from HS2, and we need assurances that it will be emphasised in the HIA. Also, in his lecture⁷ at the Institute of Acoustics last Wed., Bernard Berry pointed out that the cardiovascular health risks are increased by length of exposure, something which is not factored in to Thompson's Wendover calculations, but which is of vital importance to the evaluation of the long-term health effects of the HS2 project.

All this has to be applied with the *caveat* that there is very little research on the effects of HS noise in humans; the foregoing conclusions are based on research on aircraft and road noise. The extensively referenced work of Guoqing and Lingjiao⁸ in China, however, on the effect of HS rail (HSR) noise in mice, published in June 2013, also associates the stress responses induced by HSR noise with mental disorders and concludes, *that the emission limit (Ldn)* for HSR noise should be stricter than that for conventional railway noise.*

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Gidlöf-Gunnarsson *et al*⁹ also add a rider that: *not just the noise level (is) of relevance for the perceived annoyance of railway noise. Both the number of trains per se and the presence of ground-borne vibrations induced by railway traffic* have to be considered – an obvious concern with regard to HS2.

If all these factors were added in to the Wendover calculations the cost would no doubt be increased. It is clear that urgent account needs to be taken in the HIA of all these variables and an accurate methodology for recording and monetising them developed.

It is clear also, from the limited CCB pilot study outlined above, that a methodology for monetising other adverse health effects in addition to noise needs to be developed and the long-term costs factored in to the HS2 budget and the BCR.

5. Strain upon local NHS facilities along the route and concerns about access to Stoke Mandeville for emergency vehicles via A413 during construction phase

I posed the following questions to Healthwatch Bucks., which referred them to Arup, apparently responsible for work on health and wellbeing.

Q1. Who is responsible for providing healthcare services to the temporary workers? If it is the local NHS and GP services what impact will this have on existing provision in the areas affected? How will services be maintained for local people?

Arup's answer: *HS2 (or the statutory undertaker) and its contractors will be responsible for managing the occupational health of temporary workers employed on the construction site, including health assessment, health monitoring, preventative treatment where necessary, and first aid. The mechanism for delivering this is being formulated and may include providing access to occupational health nurses and doctors in appropriate locations close to the site. Where treatment (post-first aid) or rehabilitation is required, workers may be transferred to the NHS; typically to A&E services or referred to consultants. It is not anticipated that temporary workers will place significant demands on local GP services or other local health care services.*

Q2. What arrangements are in place to ensure access for emergency services to the trauma centre at Stoke Mandeville? The proposed High Speed rail line crosses the A4010 between Aylesbury and High Wycombe, and there are significant construction zones around the Stoke Mandeville area.

Arup's answer: *During construction, HS2 Ltd will be aiming to retain access across the line of route with, in most locations, replacement or re-aligned roads introduced prior to closure of any existing sections of road. In relation to construction traffic routes and their potential impacts on access, HS2 Ltd is similarly seeking to use routes and manage flows to minimise additional delays. Emergency services access is a particular priority and HS2 Ltd is arranging discussions with the key ambulance trusts to review the proposed strategy for temporary and permanent traffic arrangements and construction routes.*

I haven't yet been able to ascertain whether such discussions are underway. Perhaps HS2 Ltd. could enlighten us. It is difficult to see how *re-aligned roads* or *seeking to use routes and manage flows* will be of much use to emergency vehicles along the A413, and the potential disruption doesn't bear contemplation.

A question (158186) to Simon Burns tabled by Cheryl Gillan in the House on 6.6.13 about A&E ambulance response times during the construction phase got a similarly vague and obfuscatory response:

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As part of the Transport Assessment being prepared for the Hybrid Bill by H52 Ltd, the effects on traffic flow during the construction of HS2 Phase One are being assessed. These effects and proposed mitigation will be reported as part of the Environmental Statement to be submitted with the Hybrid Bill.

In other words, he has no idea, and like the rest of us, will have to wait for the ES or the HIA to answer this question and so many others about which it has been impossible to get any definitive statements – on the subject of health and wellbeing and so much else.

Sandra MacDonald, 15 September 2013

* L_{dn} - Day-Night Sound Level - is the A-weighted equivalent sound level for a 24 hour period with an additional 10 dB imposed on the equivalent sound levels for night time hours of 10 p.m. to 7 am.

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