

# **Balsall Parish Council response to the consultation on the Draft HS2 Environmental Statement**

## **Information about respondent**

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I do NOT wish my response to be treated as confidential.

# **1. Consultation response to Question 1 - comments on Area Reports**

## **1.1 Comments on Route Section Main Alternatives**

### **1.1.1 Burton Green tunnel**

The tunnel scheme proposed in 2012 has been changed to raise its level by 5 m. Options are given in Report 18 sections 2.6.9/.15. The impact on our area is slight, but inevitably implies an unquantified increase in community noise and vibration.

Deep-bored tunnel options on the current alignment, some as far north as Marlowes Wood, were discarded on cost grounds.

### **1.1.2 Berkswell/ Balsall Common tunnel**

The tunnel options at Burton Green are developed further in Report 23 sections 2.6.16/.18, where the longest option is an off-line deep-bored tunnel emerging near Mercote Mill Farm. This would take the route further away, to the east, from Hampton. The reasons cited for not adopting this latter option are “increased cost and construction programme”.

It is unclear whether the off-line tunnel option was investigated in response to repeated requests for a more-easterly alignment with the northern portal near Cornets End and a crossing of the A452 at Stonebridge roundabout. A re-arrangement north of the A45 would offer an opportunity to reduce the multiplicity of road changes inherent in the current scheme (see section 1.13.3 below). A full report was promised by HS2 Ltd, but has not been received.

Accordingly, we do not feel that there has been sufficient work done to do a proper cost/ benefit analysis of tunnel options in this area. Design schemes need to be developed in sufficient detail to allow objective assessment of the benefits for each of the Environmental Topics. The environmental impacts of the surface route are unacceptable, as discussed in several parts of this response.

### **1.1.3 A452 Kenilworth Road**

Report 23 sections 2.6.3/.5 discusses three options. However, insufficient detail is given to tell whether adequate consideration was given to securing safe HGV access to Lincoln’s Farm Café and convenient pedestrian and equestrian crossing from Public Right of Way M218.

### **1.1.4 Carol Green underbridge**

The location of this structure is some distance from the hamlet of Carol Green, and the name is considered inappropriate and misleading.

The discussion in Report 23 sections 2.6.9/.11 lacks sufficient detail to assess whether the selected option has the lowest possible height. Given the potential for integration of full-height noise attenuation walls with a truss-type structure, further investigation is needed.

### **1.1.5 Balsall Common viaduct and River Blythe viaduct**

As for the underbridge discussed in 1.1.4 above, Report 23 sections 2.6.12/.15 gives insufficient detail to show that the chosen design gives the lowest apparent height when full-height noise barriers are included in the evaluation.

### **1.1.6 Proposals for further consideration**

In Report 18 section 2.7.2, it is noted that further design work is proposed for the Waste Lane bridge, the Burton Green electrical feeder station, and the Kenilworth Greenway.

These could all have significant impacts, but cannot be evaluated without further details.

## **1.2 Response on Environmental impact assessment**

Volume 1 section 4 contains a range of definitions and generalities. It also indicates serious limitations on the information supplied for the consultation, in that cumulative affects are not yet assessed, and the scheme design is incomplete. Consequently, the qualitative assessments in the documentation are potentially misleading.

## **1.3 Comments on Agriculture, forestry and soils**

Report 23 sections 3.5 and 3.6 list 15 affected land holdings, of which six experience significant loss.

It is noted that restoration of field drains is not guaranteed, and there is no mitigation offered. This needs to be corrected.

It is stated that measures will be taken to protect against soil damage and compaction during construction, but the enforcement regime needs to be strengthened.

It is implied that not all affected land will be returned to agricultural use, and this needs to be explained and quantified. This could have a serious negative affect on greenbelt and spatial planning. This needs to be fully addressed and controlled through a revision to the Local Plan before the scheme proceeds.

The land loss is largely of high quality land and, though the impacts are identified as serious, the economic impact has not been quantified. Extended travel distances are mentioned but not assessed. The loss of flexibility due to the reduction in area is not evaluated.

Further study is required, together with on-going compensation arrangements to ensure the continued viability of holdings. Where agriculture is combined with processing activities, such as cheese production at Ram Hall, the need is particularly important.

Concern is raised about the propagation of weeds by construction operations, but no controls beyond existing statute are offered. These arrangements will need to be enhanced in order to be effective.

The impact of noise emissions on livestock and diversified activities has not been quantified. A robust scheme for mitigation (noise barriers) and compensation is required.

Overall, it is evident that the impact on agriculture due the scheme is serious, and will have pronounced long term negative effects unless there are robust measures for remediation, mitigation, and compensation. Much of the impact is due to the choice of a surface route for the scheme, and the cost on agriculture has not been factored into the cost/ benefit analysis of the preferred option route or alternatives.

## **1.4 Comments on Air quality**

During construction, air quality will be degraded by NO<sub>2</sub> and PM<sub>10</sub> emissions, and by dust generated during earthmoving or blown from stockpiles. During operation, NO<sub>2</sub> and PM<sub>10</sub> emissions from road traffic will be increased and re-distributed due to changes in the road layout.

Mitigation measures are listed in section 4 of Reports 18 and 23, but the provisions need strengthening.

Only construction machinery conforming to the latest standards should be used. Construction dust needs to be controlled by strict regulations for cleaning, watering, and sheeting.

We are concerned by dust sources close to dwellings at Park Lane, Marsh Lane, and A452. Dust will also be a problem for businesses with outdoor displays, and for agriculture, all along the route.

Consequently, we want to see more direct and effective control measures in the Code of Construction Practice. The locations of material storage sites at Park Lane, Bradnocks Marsh, and Marsh Lane are unsuitable, and they should be relocated further from residential properties. Similarly, the proposed construction haul routes through these areas will cause an unacceptable risk of impaired air quality.

It is noted that in the operation phase, the effects of maintenance operations on air quality have been ignored. This needs to be included so that controls can be developed.

The deterioration of air quality due to increased and diverted traffic is not considered significant, but we believe this will be a contributor to loss of property value. There should be continual monitoring of the situation, and there needs to be a scheme to compensate businesses and property owners for nuisance and blight.

### **1.5 Comments on Climate**

The absence of consideration of Greenhouse Gas Emissions in Volume 1 section 5.4 is unsatisfactory. It seems likely that serious climate change harm will result from the emphasis on speed in the specification of the proposed scheme, and this should have been analysed at the earliest possible opportunity.

During construction, the design of the scheme for high speed means more earth-moving, larger structures, and more extensive mitigation measures than a new conventional railway. Greenhouse Gas Emissions would be considerably greater than for capacity-enhancement of the existing railway network.

During operation, energy consumption is expected to be three times that of a railway operating at 200 km/h, with a serious adverse impact on emissions.

It is generally considered that mass-transit transport systems only become efficient with respect to energy consumption if occupancy is high. With the scheme layout focused on a few key cities, it is hard to see how this will be achieved during much of the operating day.

Overall, Greenhouse Gas Emissions and energy consumption are serious challenges for the acceptability of the HS2 scheme, and a thorough analysis should be undertaken, immediately, to ascertain whether the underlying specification meets climate change objectives.

### **1.6 Comments on Community**

#### **1.6.1 General**

The incompleteness of the assessment of community impact indicated in Volume 1 section 5.5 is disappointing. We do not accept the assertion that communities will adjust to losses of amenity after the first year of operation. The absence of an assessment of combination effects on amenity needs has to be corrected before an informed response to the consultation can be given.

There should be an enduring and robust form of community compensation that should be funded by the eventual operators of the HS2 scheme. The scheme should include regular payments for the loss of open space and Public Rights of Way, and there should be penalty charges as part of an on-going programme for the control of noise and other nuisances. These funds could then be allocated to community projects.

The lack of targeted consultation is noted, and this needs to be corrected.

### **1.6.2 Community facilities**

The effect of the scheme and its construction on community infrastructure seems to be recognised, but there are no proposals for mitigation or compensation. The scheme sponsor needs to accept responsibility for all adverse effects, and provide remedies. The operators or users of community assets should not have to take on the burden of finding alternatives or their own work-around schemes.

Residents in our area are impacted by the temporary loss of Burton Green Village Hall (Report 18 section 5.5) and travel disruption on Cromwell Lane.

The loss of the Berkswell Clay Pigeon Shoot and Heart of England Aeromodellers site south of Meriden Road (Report 23 section 5.5) is acknowledged as significant, but no remedies are proposed.

There is no reference to the Lavender Hall Fishery. When the scheme is in operation, it seems likely that noise disturbance (70 dB  $L_{pAeq}$ ) will destroy the viability of this facility.

High noise levels will also affect properties close to Berkswell Station, which include the Royal British Legion and Railway Inn.

The loss of parts of the Marsh Lane Nature Reserve, visited by the West Midlands Bird Club amongst many others, is of concern, and the only possible mitigation here would be a more easterly alignment for the scheme.

### **1.6.3 Public Rights of Way**

Balsall residents have a major interest in retaining the amenity and facilities for outdoor recreation in our neighbouring parishes.

The Kenilworth Greenway is a major community asset, and there is considerable concern about proposals for construction and operation of the scheme. South of Waste Lane, realignment alongside the new railway may not be satisfactory unless noise abatement is of the highest standard. This is necessary for both walkers/cyclists and equestrians. A solid full-height noise-absorptive barrier is required, and the appearance of this needs to be softened by suitable plantings. Consequently, the proposed land-take needs to be increased.

North of Waste Lane, there needs to be clearer specification of the restoration works and replanting. The full-height noise barrier will need to continue along this section. The embankment upon which the Greenway runs is not a robust structure, and it would be better to retain it undamaged during the construction phase by creating a parallel temporary haul route. At the Berkswell Station end, the community would like to see the temporary haul road through the station yard re-used as a new part of the Greenway route, as there is currently no cycle/ equestrian access at present.

Mitigation of effects on Public Footpaths in the Parish of Berkswell was discussed in an earlier report by their Parish Council<sup>1</sup>. Their recommendations for the Greenway remain valid preferences.

The proposed reinstatement of M182 over the Burton Green tunnel is satisfactory.

For M187, the proposed diversion is unacceptable. To preserve the utility of the path, it needs to be diverted to cross the railway on a bridge to the west of the tunnel portal, close to the proposed auto-transformer. It is undesirable to pass it over the porous portal itself.

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<sup>1</sup> The effect of the proposed HS2 railway on public rights of way in the Parish of Berkswell - Investigation June 2012

Report 23 section 5.5.6 is unclear about footpath M186. The bridge appears satisfactory but it not known whether this will also be used for farm access.

Report 18 section 12.5.15 gives usage statistics for footpath M184 to Waste Lane that are erroneous. It is possible the figures relate to the Kenilworth Greenway.

The possible diversion of footpath M198 to Waste Lane was already dismissed in the earlier Berkswell Parish Council report, and is unacceptable. A footbridge is required.

The statement in Report 18 section 12.6.3 that diversions of footpaths are not significant, if fewer than 200 people per day use them, is simply an impertinence, and shows no appreciation of the meaning of a Public Right of Way or its value within the community.

The diversions of footpaths M191 and M192 at Truggist Hill appear to be in line with the earlier Parish Council proposals.

The proposals for footpaths M197 and M191 are unclear. Given that these pass beneath the proposed Balsall Common viaduct, there is no reason why these cannot be retained very close to their existing alignments.

There is insufficient detail to know whether the exit of footpath M196 onto the diverted Lavender Hall Lane is convenient and safe.

Heart of England Way footpath M214 is shown crossing the proposed railway at a slight angle, and this is welcomed as it preserves the original alignment.

The bridge provided for footpath M215 also needs to be set at a skew angle. The creation of new paths on both sides of the proposed railway from this point northwards is not accepted. M215 should continue on its current alignment.

The restoration of footpath M216 on the west of the proposed railway through the remains of 16-Acre Wood is satisfactory in parts. There needs to be full-height noise barriers with screen plantings, to preserve the amenity. A crossing point between 16-Acre Wood and Marsh Farm is required, and could be combined with a crossing for M217.

The prolonged proposed diversion of footpath M217 is unacceptable. As previously requested, a diversion of the path to share some of the access road to the Bradnocks Marsh Auto-transformer would be acceptable, and would better connect the path to a lay-by on the A452.

The proposed diversion of bridleway M218 is unacceptable as it breaks the continuity of the route across the A452 and onto the Old Kenilworth Road M230A. Bridle access needs to be maintained during construction, which is not indicated. The Marsh Lane area has requirements for safe HGV access to Lincolns Farm Café and for agricultural access. Insufficient attention has been paid to the conflicting requirements, and a full re-evaluation is required of the proposals for the line of the scheme and for the diversion of the A452 (see section 1.13.3 below).

#### **1.6.4 Amenity**

Construction and operation will have a serious impact on the whole rural amenity of the area, but there has not yet been an assessment.

#### **1.6.5 Construction workers**

There is serious concern about the influx of migrant workers during the construction phase. The siting of temporary workers' accommodation at Park Lane and Marsh Lane is unsuitable and needs to be re-thought.

## **1.7 Comments on Cultural heritage**

There is concern that the commentary in the Environmental baseline (Report 23 section 6.4) gives a false impression of both the antiquity and extent of the cultural heritage of the area.

Within our area, the (almost) total prevalence of Saxon land-form place-names suggests significant settlement in the period following the decline of the Romano-British culture. There are indications the landscape was heath and moorland on the higher ground, rather than “heavily wooded”.

Several place-names are indicative of earlier Celtic hill-forts, not least being Burton Green. It may be unlikely that defensive works would have extended as far north as where the railway is proposed, but it would be necessary to carry out precautionary survey work and soundings prior to excavation of the Burton Green tunnel.

With Roman settlements all around, and significant finds of artefacts, it is reasonable to suppose that arable areas would have been settled in that period, and the highway pattern is suggestive of long distance trade routes.

Other than highways, the largest feature yet to be located in the area is the Mercian boundary ditch. Nominally, this would have tracked the Severn-Trent watershed, and so would be crossed by the proposed railway in the area south-east of Waste Lane. However, the Balsall-Berkswell boundary along the Balsall Common ridge is known to be ancient and to have been carefully marked. The modern boundary turns west off the ridge to follow watercourses, so the presence or absence of an earthwork in the area of 16-Acre Wood will be most informative. There may be a multiplicity of boundaries, representing different phases of construction.

Place-name evidence indicates the boundary was a prominent feature in the landscape prior to the Norman Conquest, so there is a good prospect that earth-moving for HS2 will discover evidence at one or more locations. Cropmarks at Odnau End are noted in Report 18 section 6.4.11 and aerial photography might assist the identification of other likely locations.

Ridge-and-furrow features are widespread in the area, surviving due to a change from cultivation to the keeping of live-stock. The list in Report 23 section 6.4 is not regarded as complete.

The Kenilworth Road/ Chester Road marks the route of the old Welsh Road, a principal drove road. HS2 is planned to cross the route near Patrick Farm (footpath M230A) and again where the A452 crosses the M42.

Designated cultural assets are listed in Report 23 sections 6.4.12/.17. These include buildings and monuments, conservation areas, woodlands and hedgerows. However, Marlowes Wood is believed to be eligible for inclusion, but is excluded at present.

It is clear that the scheme will result in complete destruction of a number of assets, listed in Report 18 sections 6.5.4 and .8, and Report 23 sections 6.5.4 and .8. There are also serious impacts on listed buildings.

The proposals for mitigation are imprecise and inadequate. Protection of both designated and undesignated assets should be accorded a higher priority, and particular care should be given to the protection of archaeological assets that are yet to be discovered.

Prior to the start of any construction activity, there needs to be a full programme of targeted surveys, magnetometer and resistivity surveys, trial excavations, field walking, and further documentary research.

Mitigation measures should include further realignment of the route of the scheme, protection zones during construction, full archaeological excavation and recording, and

conservation and consolidation. For natural assets that cannot be protected, compensation should be provided through the creation of substitute environments.

With regard to the impairment of the setting of listed buildings, individual protection plans should be prepared and implemented.

The provisions of the Code of Construction Practice need to be amended to guarantee emergency protection, and qualified specialists need to be on hand to advise at all times (see section 3.2.7 below).

### **1.8 Comments on Ecology**

Due to the incomplete survey work, it is difficult to respond to the information offered on the ecological aspects of the scheme.

From sections 7.5 and 7.6 of Reports 18 and 23, it is clear there are serious impacts on habitats and the connectivity between them, with consequential harm to important species of flora and fauna. However, the reporting and analysis is far from adequate to determine net losses and gains, combination and connectivity effects, indirect impacts of noise and hydrology, and whether effects are truly temporary. There needs to be a substantially more clarity in the Formal Environmental Statement.

A precautionary approach is claimed in Volume 1 section 5.7.7 but this needs to be made an explicit requirement.

There is confusion between mitigation and compensation in the documentation. In the ecological context, “mitigation” should only be used for measures aimed at avoiding or reducing impacts. “Compensation” should be used to describe steps to provide alternatives or enhancements elsewhere.

A wide range of measures is listed, but these need to be turned into firm action plans, with guaranteed implementation, in advance of construction activity. Because of the uncertainties involved with the creation of alternative habitats and translocation of species, it is essential these tasks are started early and closely monitored.

The conformance to standards is not clear, and the Formal Environmental Statement must specify compliance with the European Environmental Impact Assessment criteria and the UK Chartered Institute of Ecology and Environmental Management standards, including those for integration of Climate Change and Biodiversity considerations, and assessment of Indirect and Cumulative Impacts and Interactions.

Biodiversity offsetting requires a standardized monitoring methodology and this needs to be defined.

An obvious offset measure is the use of widespread tree planting, but experience elsewhere has shown the typical 2-for-1 replacement is insufficient. To ensure satisfactory replacement, there should be a commitment to a ratio of 5-to-1 for the replacement of lost trees and hedges. Advice on species and locations must be obtained on a local basis.

It appears that the scheme is trying to achieve a neutral outcome with regard to the natural environment, yet national policy (National Planning Policy Framework) is now to use projects like HS2 to seek improvements for nature. There needs to be a clear commitment for this.

The long time-scale of the scheme requires there is an explicit requirement and provision for sustained monitoring of the ecological impact.

With the extensive ecological expertise available in local councils, local authorities, national organisations, and local special-interest groups, it is vital that the scheme sponsor takes advantage of these resources by formal engagement processes.



## **1.9 Comments on Land quality**

There is a risk of land contamination from earlier land-fills and from construction and operation of the scheme. However, the proposals for managing the risk appear to be adequate if implemented correctly.

The main impacts of the scheme on the Land quality of the area are the advancement of gravel/aggregate extraction (Report 23 sections 8.5.11 and.12), and the sterilisation of deep coal deposits (Report 18 sections 8.5.13 and .14)

There are existing agreements for the management of damage arising from extraction of the local aggregate resources.

With regard to coal reserves, the proposed scheme has arisen at a time when mining at Daw Mill has ceased, and there are no proposals for extracting the large remaining reserves by either traditional or innovative means. Given the desire for increased security of energy supply, and the developing technology for the sequestration of CO<sub>2</sub>, it is undesirable to lose access to a major useable resource.

A full independent appraisal is needed to assess the potential impact of HS2 on the use of new technologies to access the nation's energy reserves.

## **1.10 Comments on Landscape and visual assessment**

The visual intrusion of the proposed scheme ranks second only to noise disturbance in the list of major concerns for local residents.

Although impacts during construction would be undesirable, it is the permanent effects during operation of the scheme that are of highest significance.

In Report 18 section 9.6.11, the harm for users of Public Rights of Way in that area of Solihull Borough is limited to the view on footpath M186. However, there has been no assessment for users of the Kenilworth Greenway, for whom the impact would be very severe indeed. It is essential that the visual impact of the proposed realignments are assessed at various positions along its length.

Report 23 sections 9.6.6/.10 correctly state the major adverse visual impacts of the elevated sections of the scheme and of highway overbridges. Residential, recreational, and transport receptors are affected, and there is little confidence in the suggested further mitigation.

The only realistic remedy for the visual intrusion is the proposed realignment to the east, made possible by a tunnel at Balsall Common (see section 1.1.2 above). This would reduce greatly the impact of the railway itself and reduce the need for highway changes.

However, with any tunnelled option, the visual impact of the cutting adjacent to the tunnel portal needs to be considered.

The individual viewpoint effects build up into the overall detriment to the local Landscape Character. Impacts in most areas are graded "moderate adverse", and only for the Blythe valley is it rated "major adverse" (Report 18 sections 9.6.3/.5 and Report 23 sections 9.6.4/.5).

This appears to be an understatement of the impact and needs re-examination, taking account of the high sensitivity of residents and visitors to the largely rural area.

Mitigation measures are weakly defined, and need to be specified clearly.

The visual treatment and screening of full-height noise barriers along the entire route need to be agreed on a local basis. The colour, texture, patterning, and edge profile are variable features suitable for variation. Lighting can be used to diminish silhouette effects. Given the time-scale of the project, it may be possible to use raster displays to tone the structures into the environment.

Screen plantings can be effective, but there needs to be careful variation in the species in order to avoid accenting the linear effect in the landscape. In addition, responsibility for on-going care and maintenance needs to be defined.

A further deficiency in the evaluation of landscape and visual effects is the absence of consideration of night-time operation and of maintenance operations. The evaluation methodology needs to be expanded to cover these issues (Volume 1 section 5.10).

At night, there is expected to be serious visual intrusion from illuminated carriages, pantograph arcing, lighting of stations, signal lamps, and elevated highways. These aspects need thorough investigation, and mitigation means should be developed.

Floodlighting for nocturnal maintenance is another major issue that remains unquantified. There should be a technical assessment as to whether night-vision equipment would allow work to be conducted with no, or very low, levels of illumination.)

### **1.11 Comments on Socio-economics**

In Report 27, section 11.2 appears to place the HS2 scheme in the Policy Framework category of “sustainable development”. Given the serious irreparable environmental damage expected from the scheme, including climate change and resource depletion, this is considered inappropriate.

Section 11.3 of Report 27 claims the projected benefits of the scheme substantially outweigh the potential shorter-term adverse socio-economic effects during the construction phase, yet states that the potential impact of the scheme on wider socio-economic benefits is still being researched and will not be available until the Formal Environmental Statement.

This contradiction needs clarification.

Report 23 section 10.5 states there are no direct significant effects due to construction on jobs that are non-agricultural, then indicates 20 jobs would be displaced or lost.

It is unclear why agricultural employment is excluded from consideration of significant job impacts, and whether lost agricultural jobs have been counted in the Community Forum Area. The list of affected community facilities (see section 1.6.2 above) would be enough to account for the total of jobs under threat, and to these must be added employees in small business and works units at Lavender Hall. In addition, a variety of casual jobs in the rural economy will be jeopardised by the disruption in the area.

The influx of the mobile construction workers will doubtless create ancillary employment, but this will be temporary and is no compensation for the damage to established agricultural and non-agricultural businesses.

With so little detailed information, there is little confidence in these numbers, and there is a clear need to get a detailed breakdown of job losses by area and occupation. As a matter of priority, a comprehensive survey is required.

Volume 1 section 6.11.1 indicates that businesses affected by HS2 will be compensated for relocation costs, but this assumes that appropriate alternative locations are available, and that the business has the ability to find them.

The reality is that alternative locations will be hard or impossible to find, and it would be understandable if the owners of these small businesses take the money and retire. Similarly, fragmentation of farms will mean areas of land are out of use for many years.

The situation is unsatisfactory. Any loss of small businesses puts sources of future growth in jeopardy, and implies the transfer of opportunities towards the conurbations and business parks.

## **1.12 Comments on Sound, noise and vibration**

### **1.12.1 Construction**

Construction noise and vibration is expected to affect a swathe of residential areas through the Borough, detailed in section 11.5 of Report 23. This is due to both site work and construction traffic.

Unfortunately, detail is lacking, and the work will not be complete until the Formal Environmental Statement is issued.

It is not possible to make an informed response to the consultation on this topic, in the absence of specific information.

### **1.12.2 Operational noise**

This topic is the number one concern of people in our area. Noise is a particularly troublesome problem for the young, old, housebound, or ill, and for domestic animals and wildlife, and for anyone working with them.

Unfortunately, the material contained in sections 11.6 of Reports 18 and 23 is incomplete, of doubtful quality, and contains unsubstantiated assertions.

The noise contour maps are the prime information source, yet are seriously deficient. The only noise emissions considered are from the trains themselves, whereas night-time maintenance, diverted and increased road traffic, and noise from stations are also of paramount interest. These need to be added to the evaluation process.

### **1.12.3 Noise parameters**

It has been promised repeatedly that peak noise levels ( $L_{Amax}$ ) would be made available, yet only continuous-equivalent has been presented in the documentation. There is no way of deriving the peak levels from the data presented, yet it is the peak level that causes most disturbance when the noise source is of short duration with rapid increase and decrease.

Whilst it is intuitively clear that peak noise levels are of importance, this is also supported by the World Health Organisation, based on the work of noise specialists. It is essential that peak noise levels are presented on the maps for the Formal Environmental Statement, with contours going out to at least 1 km from the track.

The continuous-equivalent noise contours only go to the 50 dB  $L_{pAeq}$  contour, with no indication of levels beyond. This is completely inadequate for gauging the impact in rural areas.

According to the World Health Organisation, new developments should adhere to a limit of 40 dB  $L_{pAeq}$ . Beyond this level, adverse health effects can be anticipated.

### **1.12.4 Noise prediction method**

The confused presentation of noise data is accentuated by the omission of calculations using the  $L_{den}$  day-evening-night parameter, which is mandated by the European Environmental Noise Directive as a standardised indicator. The data for HS2 should use this parameter in conjunction to peak noise level data, in order to give a fair indication of disturbance levels.

Unfortunately, the omission of key information creates the impression that the scheme sponsor is trying to obscure or deflect public scrutiny. There seems to be no good reason for excluding a clear description of the calculation methods from a consultation report of this nature and length.

What is needed is a description of the algorithms, the input parameters and values, how variation of atmospheric conditions is allowed for, the assumed noise source characteristics of the trains, clear definition of the characteristics of the noise barriers

on the trains or line-side, and an indication of the accuracy and variation of the predicted levels.

#### **1.12.5 Specified noise level**

It is known from peer-reviewed technical literature that for high-speed trains, aerodynamic noise becomes predominant above 300 km/h. The aerodynamic sources are higher up the train than are the sources for rolling noise. The position of the scheme sponsor seems to be that new technology will overcome these issues, and in Volume 1 section 5.12.21 it is stated “HS2 trains will be specified to be quieter than the relevant current European Union requirements and this will include reduction of aerodynamic noise from the pantograph that would occur above 300 km/h with current pantograph designs, drawing on proven technology in use in East Asia”.

Unfortunately, repeated requests for technical information to validate these assertions have not been satisfied. Whilst specifying quieter trains would be welcome, it is the achieved noise level that is important. Based on experience with aircraft noise, the only way to control noise is to have monitoring stations and exact penalty charges.

Any reduction of aerodynamic noise would be highly dependent on precise maintenance of the aerodynamic shielding, and the operator must have a serious inducement to do this.

#### **1.12.6 Noise regulation**

Accordingly, the scheme should include the provision of fixed noise monitoring points at sensitive locations, a scale of permitted peak noise level that depends on distance and locality, a system of spot-checks using portable noise monitors, and a penalty charge system that will ensure compliance.

It is understood that the Japanese limit for day-time peak noise in a populated area is 70 dB. This is about 25 dB below the line-side unmitigated noise emission expected from HS2, and illustrates the magnitude of the further work to be done by the scheme sponsor.

#### **1.12.7 Track/ wheel roughness**

A further concern is that noise levels will be demonstrated and specified under ideal test conditions. It is known that track/ wheel roughness increases due to wear, and that this causes a significant increase in noise levels.

Furthermore, correction of roughness involves grinding. In the case of the track, this is a noisy maintenance operation that can only be done at night, adding emphasis to the need to predict and control this noise source, as well as the trains themselves (as mentioned in section 1.12.2 above).

#### **1.12.8 Noise mitigation**

Volume 1 section 6.12 implies the scheme will avoid and limit airborne noise by the choice of route, system specification, and noise barriers. However, few details and no guarantees are given.

It is surprising and regrettable that - five years into a major engineering project - the scheme sponsor is unable to demonstrate any hardware or lay to rest any risk relating to the key technical parameter of the project, namely, the acceptability of running a train at 360 or 400 km/h through a populated area.

Until such time as the scheme sponsor produces credible technical information, the assumption must be that the Best Practicable Means for mitigating noise pollution will be a full-height line-side absorptive noise barrier. This should be specified at all locations where the noise receptors have other than low sensitivity.

However, while Volume 1 section 6.12.4 states that “The case for further noise barrier provision, including the form of such barriers, will be reviewed in the Formal

Environmental Statement in light of further assessment, design refinement and engagement with stakeholders”, Report 23 section 11.6.12 suggests additional barriers will be restricted to 4 m.

It appears the scheme sponsor intends to minimise the eligibility for sound insulation in dwellings by applying regulations from 1996, which specify a continuous-equivalent noise level of 68 dB (Report 24 section 11.6.13). This is clearly unacceptable by modern standards.

Viaduct and bridge structures should be designed to accommodate a full-height barrier, or such a barrier should be integrated into a through-beam design concept.

Landscape and visual assessments should assume the presence of full-height barriers.

## **1.13 Comments on Traffic and transport**

### **1.13.1 General**

Effects on the area are described in Reports 18 and 23. In both reports, section 12.5 deals with the impacts during construction, and section 12.6 the impacts during operation of the scheme.

Unfortunately, the reports indicate that the information is preliminary and does not include the likely delays to public busses, nor have likely traffic delays been forecast. In particular, the consequences of delays for vulnerable users are yet to be estimated. It is essential that this information is produced fully and accurately for the Formal Environmental Statement.

In the absence of the information, it is not possible to assess the impacts on public transport and emergency services.

### **1.13.2 Construction**

In Report 18 section 12.5.20, it is stated there will be a 30% increase in HGV traffic in Truggist Lane. However, this lane has a 2 m width restriction and HGVs are permitted on an access-only basis.

It is not accepted that traffic delays in the Waste Lane/ Hodgetts Lane area will not be significant. Report 18 section 2.3.25 indicates Waste Lane will be closed for 9 months. This is unacceptable and will cause traffic chaos over a wide area, as this is the only route for other-than-small vehicles between Balsall Common and the Coventry direction.

The impact on public transport, commuters, delivery vehicles, utility vehicles, emergency services, and farm traffic will be very severe. Construction of the Waste Lane overbridge should be based on delivery of materials via the line of route, then installation during a weekend closure.

Report 23 section 12.5.3 gives levels of vehicle movements at construction sites that appear inconsistent with the higher volumes in Report 18 section 12.5.2. The latter data are specifically for peak hours, and suggest there will be serious difficulties throughout the area at these times.

Use of Truggist Lane, Spencers Lane, Nailcote Lane, and Kelsey Lane for construction traffic is unacceptable due to the width and strength of the roads, the fragility of the grass verges and hedges, the closeness of residential properties to the carriageway, constricted junctions, and the one-way working of the bridge over the Birmingham-Rugby railway.

Use of Hallmeadow Road, Station Road, and the car park at Berkswell Station for construction traffic will cause considerable difficulty for residents, users of local businesses, and London-Midland rail passengers. Hallmeadow Road is already used as over-flow parking for the station. An alternative proposal to accommodate existing needs is essential.

Use of Park Lane and Lavender Hall Lane for construction traffic, and the 12-month closure of the latter, will disrupt communications between Berkswell and the A452, and will cause damage and disturbance in the constricted section near the Listed Lavender Hall buildings. These roads are unsuitable for HGVs, and are width-limited to 2 m.

Use of the A452 for construction traffic through the centre of Balsall Common is omitted from the maps and needs to be added. However, this road is already over-used by HGVs and further traffic will cause serious difficulty for residents and existing users. The speed limit has recently been reduced from 40 mph to 30 mph, and signal-controlled crossing have been provided in recent years because of the peak hour traffic flows.

It is noted that the wider traffic assessments do not allow for the disposal of construction waste (Report 23 section 12.3.7). The traffic assessments need to be updated and corrected in order to give a full picture of the predicted impacts.

The programme of temporary road diversions and overnight closures will cause considerable inconvenience unless they are properly coordinated, well signed, and there is good advance warning in a comprehensible form to all users. A clear procedure for ensuring this is required as part of the Formal Environmental Statement.

The overall conclusion is that the plan for constructing the scheme in this area is not viable. The effect of disrupting all forms of local transport for 5 years will not be tolerated, and a complete re-think is needed.

Many of these difficulties have arisen through the choice of a green-field route that cuts-across rather than follows existing transport routes. However, the proposed more-easterly alignment, dependent on a tunnel in the Berkswell/ Balsall Common area (see section 1.1.2 above), would avoid most of them.

Nevertheless, there are doubtless ways of constructing the current version of the scheme using just the line of route and A-roads for access, if additional time and resources were allocated. It is noted that investigations are continuing.

### **1.13.3 Operation**

The predicted stimulation of travel demand is predicted to generate up to 1950 two-way vehicle trips to the Bickenhill station in the evening peak hour (Report 24 section 12.6). The effect on the A452 is judged as moderate adverse, while the effect on M42 junction 6 and M6 junction 4 is deemed not significant.

However, this does not allay community concerns about a road system that is already perceived as clogged. There needs to be a thorough investigation of how these traffic flows will dissipate through adjoining residential areas.

The proposed changes to Lavender Hall Lane and Park Lane are controversial, as they could tend to direct traffic through the constricted section of Lavender Hall Lane, as well as causing severe intrusion on the properties there. Although Park Lane is lightly used, the new configuration looks more likely to cause congestion and delays. The earlier proposal to retain both lanes on their current alignment might be preferable, and further local discussions are required.

There is a suggestion that a temporary roundabout would be built at the Park Lane/ A452 junction, and there needs to be a clear plan for its removal after the construction phase.

The A452/ Marsh Lane junction appears unsatisfactory because of the need for safe ingress and egress of HGVs from the adjacent Lincoln Farm café (see sections 1.1.3 and 1.6.3 above). Any revision should avoid routing the HGVs along Marsh Lane. A fatal accident at the junction a few years ago highlighted the need for re-engineering the junction to provide adequate central refuge space. The gradients introduced by the new overbridge will require extensive acceleration and deceleration lanes.

### **1.14 Comments on Waste and material resources**

This topic is reviewed on a route-wide basis (Report 27 section 14).

There is insufficient detail to comment on the acceptability of the disposal of construction and operation wastes.

There has been no consideration of the effects of producing the construction materials for the scheme. These need to be identified by type and origin so that the environmental impacts can be properly assessed.

### **1.15 Comments on Water resources and flood risk**

Recent year-to-year variation in precipitation has resulted in wide variation in the levels of ground water and water courses. There is concern that dewatering and alteration of groundwater and sub-strata water flowpaths could increase the fluctuation.

The main concern is maintaining the purity and level of the River Blythe and Berkswell Marsh SSSIs. A robust system of control is required to prevent significant increase or decrease in the groundwater flows, and it is unclear whether the proposals do this. During all excavation operations, there needs to be on-site identification of the exposed strata and hydraulic modelling to determine appropriate mitigation. A task force should be established to review findings on a monthly basis and ensure corrective actions are carried out.

Another specific concern about contamination is run-off into Lavender Hall Fishery and Berkswell Lake, which are close to the proposed scheme.

## **2. Consultation response to Question 2 - comments on Environmental Statement Volume 1**

### **2.1 *Electromagnetic Interference***

Reference to the topic of Electromagnetic Interference seems to be confined to Volume 1 section 5.8. The main concern seems to be effects with the scheme itself, though it admits that tower cranes can cause disturbance to radio and television reception.

It does not appear there has been any analysis of potential interference with signals for radio, terrestrial television, WiFi, and cellular telephony. Given there are long elevated sections of railway, there could be serious masking effects, particularly for the higher frequency signals now employed.

Consequently, it is not possible to comment on whether the disturbance due to the construction and operation of HS2 will be significant.

Potentially, additional antenna installations will be needed to restore reception to all areas, and this would entail further negative impacts on Ecology, Landscape, and Flood risk.

There needs to be a full analysis, and confirmation of the results from service providers.

### **2.2 *Strategic and route-wide alternatives***

These are discussed in Volume 1 section 7.

In the report, it states in passing that consideration was given to reducing the design speed from 400 km/h to 360 km/h, but this was not considered to bring any advantage. The study would appear to have been a poor substitute for a thorough analysis of the affect of the specified speed on the environmental impact of the whole scheme.

A reduction of line speed to 300 km/h is understood to allow the radius of curves to be reduced by 44% and a dramatic reduction in the noise level and energy consumption. An objective analysis is required of the advantages and disadvantages of reducing the line speed and taking advantage of the increased routing flexibility. The treatment in section 7.4 lacks sufficient detail.

It is surprising this report section starts without a definition of the problem to be solved, adding to the impression that the proposed scheme has been driven by the desire to “do something” and to be seen to be doing something. In section 7.2, the “do nothing” option is dismissed, though this is only in the context of railway development.

There are a wide number of options discussed, but the main concern is the superficiality of the evaluation of the alternatives. It appears from the environmental impacts identified since selection of the current scheme (“Route 3”) that the concept analysis lacked rigour.

A strategic analysis of transport needs should start with a definition of what is to be transported, and between which points, and then compare the performance of each alternative by a process which would include a monetised evaluation of each of the 14 environmental topics. Methods to evaluate environmental features have been developed, including the CAVAT system for trees.

There are inconsistencies in many parts of the report. Dealing with local issues, section 7.3.28 quotes a potential enhancement of the current West Coast Main Line as Four-tracking between Beechwood Tunnel and Stechford. In fact, the bottlenecks on the route are on the approaches to Birmingham and Coventry, and the capacity of the



main section could be improved with additional tracks in some of the stations, in combination with predictive signalling.

No account seems to have been taken of the vulnerability of the proposed scheme to simple equipment failure. Because it has no cross-linkage to the existing network, any failure on the single track up to the Leeds/ Manchester split will result in paralysis. By comparison, the current network has two routes to Birmingham, and traffic can be shared between the four principal lines between London and the North.

### **3. Consultation response to Question 3 - comments on draft Code of Construction Practice**

#### **3.1 *Response on management principles and implementation***

The Code of Construction Practice is a critical document for the protection of the communities where the scheme is to be built and for the safeguarding of the environment in the widest sense.

The responsibility for enforcement is placed on the Nominated Undertaker. Whilst the Nominated Undertaker should be responsible for delivering the requirements, there is a conflict of interest in having the Nominated Undertaker do the enforcement, and this can only bring weakness and delay if problems occur.

The preferred method is for enforcement to be carried out by local independent officials. Local Authorities carry out this function at present, and for a major scheme like HS2, parish or town councils could also employ dedicated Environmental Health Officers (EHOs), either individually or through a sharing arrangement.

The local authority EHO needs to have the power to suspend works should agreed control measures be breached, and until more rigorous measures have been put in place.

The scheme sponsor should be required to fund the full cost of employing the EHOs to monitor and enforce the Code. Such funding would be available to any level of local government requesting it.

#### **3.2 *Response on requirements***

##### **3.2.1 *Community relations***

The Nominated Undertaker and its contractors must be required to engage with local councils and amenity groups, and attend meetings as requested by them.

The period of advance notice of works needs to be specified, and should be long enough to allow reasonable representations to be made. If the general work plan is widely available, then a notice period of a month for specific activities should be adequate.

Local councils should be able to claim through the Small Claims Procedure if they incur damage.

##### **3.2.2 *Working hours***

The start up and close down periods should be restricted to 30 min, to prevent abuse.

It is recognised that some activities need to be continued outside core hours, but these need to be sanctioned on a local basis. Anything that could cause undue disturbance - noise, vibration, traffic, lighting - should be negotiated through the community relations process. The local council or amenity group should have the right of refusal.

Applications should be made 14 days in advance, and the work to be done specified in detail.

Bank Holidays should be treated the same as Sundays.

##### **3.2.3 *Site management***

The wording leaves a high degree of discretion in the application of standards. It needs to be clear that sites need to be set up, maintained, cleared, and reinstated to the satisfaction of the local council or amenity group, through the engagement process.

### **3.2.4 Site security**

Nothing seems to be included about policing the large numbers of migrant workers. These will represent a substantial influx, and the existing police force may be insufficient to maintain good order at all times.

It should be a requirement that the Nominated Undertaker arranges for its own security people to provide the necessary extra resources. This is another matter to be considered during meetings between the Nominated Undertaker and community representatives.

### **3.2.5 Agriculture, forestry and soils**

The protection of tress demands specialist knowledge and the Nominated Undertaker and contractors should be required to liaise with the Local Authority Tree Officers and/or the local Tree Wardens.

In rural areas, propagation of weeds is a major concern, and access should be granted to sites for those with a legitimate interest, which could be controlled through the community relations meetings.

### **3.2.6 Air quality**

Dust generation is a big concern for residents, businesses, and local farmers. It is a financial and health concern, as well as for amenity reasons.

HS1 was associated with major dust problems, despite being an exemplar project. Construction of HS2 can be expected to use the same technology as HS1, and could have the same impacts.

The community engagement system needs to be able to regulate dust control measures, such as wetting down, hoarding, sheeting of loads, location and size of spoil dumps, roadway surfaces,

There needs to be objective control measures that can be enforced by the Environmental Health Officers. Requirements for Noise and Dust Emissions should be based on the NPPF Technical Guidance for Minerals, issued by the Department for Communities and Local Government in March 2012. These should be regarded as the minimum acceptable requirements.

### **3.2.7 Cultural heritage**

About half the archaeological sites excavated during the construction of HS1 were encountered during the project.

To safeguard these assets, local authorities should be fully-funded by the Nominated Undertaker to employ dedicated qualified archaeological observers, who would be empowered to stop work when discoveries are made. The principals of PPS 5 (2010) should be applied to sites in any way affected by work on HS2.

### **3.2.8 Landscape and visual assessment**

There needs to be strong control measures to ensure major activities, temporary buildings, and equipment are concealed from view as best as possible.

Using the natural topography would be the best method, assisted by well-maintained hoardings.

This is a further issue that should be controlled through the community relations process and EHOs.

### **3.2.9 Noise and vibration**

The EHOs would be responsible for enforcing the application of "Best Practicable Means" to reduce noise disturbance.

Bunds may limit the extent of noise emission but are only practical in limited and restricted areas and not over the length of the construction worksites

Noise insulation for adjacent properties should be made available whenever noise levels of 45 to 50 dB are predicted. This would be negotiated through the community engagement system.

Section 61 of the Control of Pollution Act 1974 will be applied, but there needs to be definition of how disagreements are handled and enforcement powers are used.

The control of working hours and traffic routes are important aspects of noise control.

### **3.2.10 Traffic and transport**

The local communities must have a key part in deciding on route closures and diversions, whether carriageways, footpaths or bridleways. This should be done through the community engagement system.

Similar considerations must apply to the regulation of the heavy traffic flows expected, which could conflict with local needs and amenity.

Given the problems with “rush hour” traffic, the local council or amenity group should be able to impose traffic restrictions and employ traffic control systems.