



Solihull MBC Local Plan Publication Stage Representation Form

Ref:

(For
official
use only)

Name of the Local Plan to which this representation relates:

Draft Submission Local Plan

Please return to psp@solihull.gov.uk or Policy and Engagement, Solihull MBC, Solihull, B91 3QB BY Monday 14th December 23:59

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This form has two parts –

Part A – Personal Details: need only be completed once.

Part B – Your representation(s). Please fill in a separate sheet for each representation you wish to make.

Part A

1. Personal Details*

**If an agent is appointed, please complete only the Title, Name and Organisation (if applicable) boxes below but complete the full contact details of the agent in 2.*

2. Agent's Details (if applicable)

Title	<input type="text" value="Cllr"/>	<input type="text"/>
First Name	<input type="text" value="Richard"/>	<input type="text"/>
Last Name	<input type="text" value="Lloyd"/>	<input type="text"/>
Job Title (where relevant)	<input type="text"/>	<input type="text"/>
Organisation (where relevant)	<input type="text"/>	<input type="text"/>
Address Line 1	<input type="text" value="REDACTED"/>	<input type="text"/>
Line 2	<input type="text" value="REDACTED"/>	<input type="text"/>
Line 3	<input type="text" value="REDACTED"/>	<input type="text"/>
Line 4	<input type="text"/>	<input type="text"/>
Post Code	<input type="text" value="REDACTED"/>	<input type="text"/>
Telephone Number	<input type="text" value="REDACTED"/>	<input type="text"/>
E-mail Address (where relevant)	<input type="text" value="REDACTED"/>	<input type="text"/>

Part B – Please use a separate sheet for each representation

Name or Organisation: **Cllr Richard Lloyd**

3. To which part of the Local Plan does this representation relate?

Paragraph Policy Policies Map

4. Do you consider the Local Plan is :

4.(1) Legally compliant	Yes	<input type="text" value="Y"/>	No	<input type="text"/>
4.(2) Sound	Yes	<input type="text"/>	No	<input type="text" value="N"/>
4 (3) Complies with the Duty to co-operate	Yes	<input type="text" value="Y"/>	No	<input type="text"/>

Please tick as appropriate

5. Please give details of why you consider the Local Plan is not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible.

If you wish to support the legal compliance or soundness of the Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

The Plan is unsound because the requirements of Policy P7 (Accessibility and Ease of Access) have been downgraded to the extent the policy fails to meet the objectives of Part 9 of the National Planning Policy Framework 2019 *Promoting sustainable transport*, and of the Public Sector Equality Duty.

Policy P7 is deficient in not addressing the matters listed in section 102 of the NPPF, which requires that transport issues and opportunities be identified, assessed, pursued, realised, and taken into account.

It also fails to implement section 103, which states: "Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes."

The previous version of Policy P7, in the current 2013 Plan, gave clear guidance on where residential development should be sited: "Within a 400m walk distance of a bus stop served by a commercial high frequency bus service (daytime frequency of 15 minutes or better) providing access to local and regional employment and retail centres; and/or within an 800m walk distance of a rail station providing high frequency services (3 or more per hour during peak periods) to local and regional employment and retail centres."

It also required good access to local facilities: "Within an 800m walk distance of a primary school, doctor's surgery and food shop offering a range of fresh food;".

The requirements in the proposed new Policy P7, for the nearness to public transport, have lost detail and now say: "provide access to a high frequency bus service within 400m of the site; and/or 800m of a rail station providing high frequency services", while the requirements for access to local facilities have been dropped all together.

Dropping the requirements for easy access to local facilities appears to be retrogressive and breach the Public Sector Equality Duty, under which the Council should advance equality of opportunity between people with disabilities and others.

Given the time taken to produce the new Local Plan, the lack of detail in Policy P7 is disappointing. Detailed information had been generated by a study project done for the Council in 2016 by Atkins: *Solihull Accessibility Mapping - Methodology Report*, 6 December 2016.

The purpose of the Atkins study was "to examine the accessibility criteria in relation to accessibility to local facilities and public transport infrastructure, to inform the evidence base for the SLP review. A systematic approach was adopted whereby consideration was given initially to areas of the Borough which met the Policy P7 criteria set out in 2013 SLP. A further assessment was undertaken whereby relaxations to the Policy P7 criteria were applied for the SLP review." The study examined the time needed to access the various facilities on foot.

The early results showed there were limited locations within the Borough that met the Policy P7 criteria, so the study went on to consider the impact of various relaxations:

- 400 m relaxed to 600 m
- 800 m relaxed to 1200 m
- daytime bus frequency of 15 min or better relaxed to (e.g.) 30 min
- peak rail services of 3 or more per hour qualified to "in at least one direction"

Unfortunately, the application of the study criteria was patchy. In particular, while the rail peak times were defined as 07:00 to 09:00 and 16:00 to 18:00, the study was happy to accept stations offering only 3 or 4 services in the 2 hour period. Berkswell and Hampton were accepted, whilst Wythall and Earlswood were excluded. (Appendix A4).

In addition, the interpretation of the 15 min "daytime" bus frequency seems to have included intermittent services and those on an occasional day of the week.

The study report concludes with Appendices D to F, in which the whole of a potential development site is deemed "accessible" if just an "access point" falls within an area meeting the relaxed requirements. In this light, Figure 6A *Map showing total accessibility score for potential housing sites* appears misleading.

Absent from the report is any consideration of what a traveller might consider a reasonable walking distance or public transport service frequency, nor is there any discussion of what a site developer might be expected to contribute (through a section 106 agreement) to ameliorate the poor level of public transport in many parts of the Borough.

Policy P7 should be re-drafted to:

- build-on Part 9 of the NPPF and provide the level of detail envisaged
- oblige site developers to provide funding for improved rural bus services (since there is little ability to improve rail service frequencies in the Plan period)
- discharge the Public Sector Equality Duty by ensuring there is adequate access for those with mobility issues to local facilities.

The walking distances specified in the 2013 Policy P7 remain appropriate, not because they are a physical limit, but because the time taken represents the limit of convenience for walking to be considered the "genuine choice" envisaged by the NPPF. In addition, many with disabilities are able to go these distances "under their own steam" - possibly using powered devices - provided there are safe and well surfaced footways, proper arrangements for crossing roads, and the occasional bench seat.

The interval between public transport services also remains vital to meet the NPPF

objectives. Three services per hour is probably the minimum that many people would regard as "offering a genuine choice of transport modes". Even then, the choice would only be accepted if there were a quantum improvement in the quality of information and waiting arrangements provided by the bus and train operators.

This high frequency should be expected during periods of reasonable demand, but a lower frequency would probably have to be accepted during the rest of the day and at the weekend.

It is unrealistic to expect major infrastructure changes through Policy P7, but there is sufficient flexibility in the provision of bus services for improvements to be sought through Section 106 agreements with developers.

(Continue on a separate sheet /expand box if necessary)

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To meet the aims of the National Planning Policy Framework and the Public Sector Equality Duty, more detail needs to be added to Policy P7.

In section 2. "The Council will expect development proposals to fulfil the following", subsection 2(ii) should be amended to read:

"ii. Any proposed residential development:

- to be within 800 m walking distance of a primary school, doctor's surgery and food shop offering a range of fresh food; and
- to be within 400 m walking distance of a bus stop and/or 800 m walking distance of a rail station, where the bus or rail services have a minimum of 6 services in each direction to local and regional employment and retail centres during the morning and evening 2-hour peak periods; and
- to be provided with walking routes to these facilities and services which are well-surfaced, of adequate width for all non-motorised users, safe from vehicle hazards, and with suitable arrangements for crossing roads."

Also, subsection 2(v) should be amended to read:

"v. Provide or contribute to the enhancement of transport infrastructure and services to achieve the requirements of subsections 2(ii) and 2(iii) above, including, but not limited to, the improvement of public footpaths, footways, and cycleways; the improvement of shelters for waiting passengers; and the improvement of public transport services during the first ten years of a significant proportion of the development on a site being put into use."

(Continue on a separate sheet /expand box if necessary)

Please note In your representation you should provide succinctly all the evidence and supporting information necessary to support your representation and your suggested modification(s). You should not assume that you will have a further opportunity to make submissions.

After this stage, further submissions may only be made if invited by the Inspector, based on the matters and issues he or she identifies for examination.

7. If your representation is seeking a modification to the plan, do you consider it necessary to participate in examination hearing session(s)?

☐

No, I do not wish to participate in hearing session(s)

☐

Y

Yes, I wish to participate in hearing session(s)

Please note that while this will provide an initial indication of your wish to participate in hearing session(s), you may be asked at a later point to confirm your request to participate.

8. If you wish to participate in the hearing session(s), please outline why you consider this to be necessary:

It will enable proper scrutiny and discussion of this complex area of policy.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate in hearing session(s). You may be asked to confirm your wish to participate when the Inspector has identified the matters and issues for examination.

9. Signature:

Date:

12 Dec 2020

Part B – Please use a separate sheet for each representation

Name or Organisation: **Cllr Richard Lloyd**

3. To which part of the Local Plan does this representation relate?

Paragraph Policy Policies Map

4. Do you consider the Local Plan is :

4.(1) Legally compliant	Yes	<input type="text" value="Y"/>	No	<input type="text"/>
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4 (3) Complies with the Duty to co-operate	Yes	<input type="text" value="Y"/>	No	<input type="text"/>

Please tick as appropriate

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If you wish to support the legal compliance or soundness of the Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

Policy BC1 - Barratt's Farm, Balsall Common - is unsound because it does not comply with the National Planning Policy Framework in two respects: (1) the proposed locations of the school and much of the housing are significantly affected by noise from the HS2 railway, and (2) the site does not meet the requirements for sustainable access to facilities and there is no mechanism to achieve compliance.

1. Noise

1.1 As assessed by HS2 Ltd

Section 180 of the NPPF (2019) states "new development should ... avoid noise giving rise to significant adverse impacts on health and the quality of life". However, HS2 map SV-05-050b shows much of the BC1 site is within a noise contour where residential and school development should be ruled out.

Figure 1, below, shows the HS2 "Operational Noise and Vibration Impacts and Likely Significant Effects" map SV-05-050b overlaid on the plan for BC1 from the Concept Masterplan book p16.

Distances from the HS2 line are marked in red. The HS2 noise contour - seen as a dark grey line roughly 400 m from the HS2 alignment - encloses all the high density housing (dark orange), half the medium density housing (mid orange), and most of the primary school and nursery (light yellow). All the medium density housing and much of the low density housing (light orange) are within 800 m of the line.

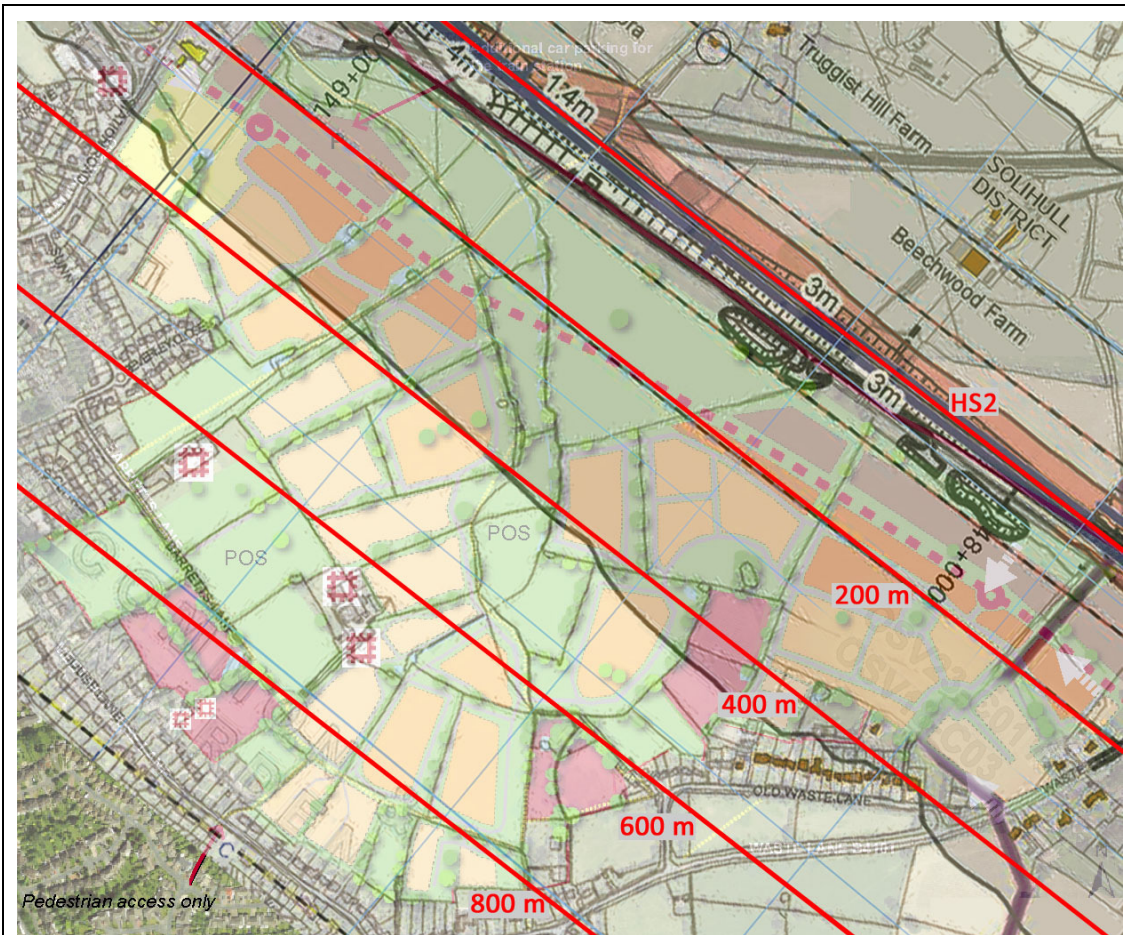


Figure 1

The grey HS2 noise contour is described in the HS2 Environmental Statement as enclosing the predicted 50 to 65 dB LpAeq daytime zone and 40 to 55 dB LpAeq night-time zone. The World Health Organisation states that when the average (continuous-equivalent) night noise level is 40 to 55 dB, "Adverse health effects are observed among the exposed population. Many people have to adapt their lives to cope with the noise at night. Vulnerable groups are more severely affected." (*Night Noise Guidelines for Europe*, 2009)

Behaviour adaptations, exemplified by closing windows, speaking more loudly, or turning up the volume of the television, are significant adverse impacts.

Within the grey zone, the noise dose (Sound Exposure Level = SEL) of a typical train pass can be derived as 70 to 85 dB. (Since the SEL is normalised to 1 second, the level is 100 times or 20 dB higher than the continuous daytime equivalent.)

The area is tranquil, and expected to remain so, with background levels of 37 dB LAeq measured by HS2 Ltd. It is important to note the character of the noise. Unlike the steady roar of traffic or the drone of aircraft, the HS2 disturbance will occur in pulses with a relatively short duration, every 100 seconds during the daytime. Even on the small part of the HS2 map reproduced in Figure 1, numerous properties can be seen coloured yellow or amber to signify adverse impacts.

Furthermore, this assessment is an optimistic view of the likely adverse effects: the noise produced by the trains is under-estimated; the effectiveness of measures to contain or reduce the noise is over-estimated; and the impacts on people are under-stated. For example, HS2 Ltd only quotes the noise produced

by their trains, while the WHO significance levels refer to the total noise, a difference of several dB, while the night noise is averaged over the whole 8 h, rather than the 3 h in which trains will actually run.

These factors are considered in the following subsections.

1.2 Under-estimate of train noise

The source document for the HS2 noise prediction is the HS2 Environmental Statement vol 5, Appendix SV-001-000 *Methodology, Assumptions and Assessment*. Annex D2 section 1.1.55 (p100) tabulates the noise sources at 25 m from the line and 360 km/h. The noise parameter commonly used for assessing the impact of intermittent sources, like aircraft, is the noise dose (Sound Exposure Level = SEL). This is the sound pressure level that would produce in 1 second the same sound energy as the noise "event", and it increases with both level and duration.

HS2 Ltd predicts an SEL of 100 dB for a train just-compliant with the TSI standard (European Railway Agency Technical Specifications of Interoperability), at 25 m from the track. This is consistent with predictions derived from the manual produced by the Federal Rail Authority High-Speed Ground Transportation Noise and Vibration Impact Assessment (Sept 2012).

However, HS2 Ltd asserts that trains produced specifically for the HS2 project will be 4 dB quieter. More than 11 years into the project, no prototype has been made to validate that assertion, but in the HS2 modelling, 30 out of 36 trains per hour were assumed to be of this quieter type (SV-001-000 Figure 6). Figure 10 shows that the noise source used for modelling was 0.5 dB above the "HS2" train level, but 3.5 dB below the demonstrated and real "TSI" train level.

In addition, the HS2 Ltd analysis is based on a mix of 200 m-long trains and double-length trains, with 90% running at 330 km/h and 10% at 360 km/h (Environmental Statement CFA 23 report, section 11.4). But the line is specified to take trains up to 400 km/h ("A line capable of up to 250 miles per hour but with a maximum train speed of 225 mph assumed at opening (DfT, *High Speed Rail: Investing in Britain's Future*, February 2011, p19)").

Figure 8 of SV-001-000 Annex D2 shows an increase in speed from 330 km/h to 360 km/h raises the SEL by 1.5 dB, and by 3.5 dB when extrapolated to 400 km/h. The peak noise parameter (L_{max}) rises even more than SEL.

Consequently, it seems likely the train noise will be up to 7 dB above that disclosed in the HS2 Environmental Statement.

1.3 Over-estimate of noise reduction

The predicted propagation of noise is shown in section 1.3.17 Figure 13 of SV-001-000 Annex D2. Relative to a datum at 25 m, the noise level is reduced by 3 dB at 50 m, 7 dB at 100 m, 12 dB at 200 m, 18 dB at 400 m, and 28 dB at 800 m. This is consistent with the Federal Rail Authority manual section 2.3 for a noise source that has a mix of "point" and "line" characteristics, with some sound absorption by the ground.

On the north-east side of the line (toward Beechwood Farm, in Figure 1, above), HS2 Ltd shows a contour of 65 dB L_{pAeq} at about 50 m from the line, as well as the 50 dB L_{pAeq} contour typically around 400 m from the line. The 15 dB difference exactly matches the diminution of noise with distance just quoted.

However, the absence of the higher 65 dB L_{pAeq} contour on the south-west side highlights the sensitivity of the modelling to the assumed ground profile. The HS2 prediction assumes open farmland, and is for a noise receptor at ground level.

Moreover, the assumed effectiveness of the proposed noise barriers is even more

critical. Evidently, HS2 Ltd is assuming a continuous-equivalent sound level (L_{pAeq}) of 68 dB at 25 m from the line, in this sector where there are medium-height sound barriers. Using the HS2 figures from the Environmental Statement given in the preceding section, the continuous-equivalent sound level without a barrier would be 76.5 dB, so attenuation of 8.5 dB has been assumed.

Unfortunately, at the high speeds of HS2, the predominant noise will be aerodynamic, much of it generated on the higher parts of the train. Aerodynamic noise has a lower frequency content than mechanical or rail noise, and the distance from the line means that noise can be refracted over intermediate obstructions. For example, the low-frequency rumble generated by aircraft engines at Birmingham Airport is known to have rattled doors and windows 8 km away.

The Federal Rail Authority manual section 4.19 indicates attenuation of 5 dB for a 2.5 m barrier, and 8 dB for a 5 m barrier. Given the reduced effectiveness of barriers for mitigating aerodynamic noise from higher on the train, the assumed barrier performance is problematic.

In addition, the ability of buildings to attenuate noise through the site is reduced by the elevation of the HS2 line on an embankment up to 10 m high, combined with the upward slope of the site.

As a result, it is fair to conclude that the noise reaching receptors could be several dB worse than disclosed in the HS2 Environmental Statement.

1.4 Under-statement of noise impact on people

It has already been mentioned that HS2 Ltd is in error in considering just the noise from the railway. The difference is small, except where the continuous-equivalent ambient noise approaches that of the railway. At night, this could raise the L_{Aeq} by 2 dB.

However, during the period considered to be "night", trains will only run from 23:00 to 00:00, and from 05:00 to 07:00, albeit with fewer services than during the day (SV-001-000 Annex D2 section 1.2.4). During these times, when people are either trying to get to sleep or hoping not to be woken up, the apparent average noise level will be more than 4 dB higher than reported in the Environmental Statement.

The significance of this has been admitted by HS2 Ltd. In the proceedings of the House of Commons Select Committee, 12 October 2015, the noise expert for HS2 Ltd, Mr Thornley-Taylor, admitted that at night, the average noise level is of less interest than the maximum noise, saying (in paragraph 234): "Actually, L_{eq} at night, while it is an important part of the assessment process, is not the test which tells you how much mitigation is required in which areas. It is the L_{max} which is the most important one."

Within the noise contour on HS2 map SV-05-050b, the L_{max} will be 69 to 83 dB (without any correction for other factors, and assuming an L_{max} of an HS2 train pass perhaps 1 dB less than the SEL). The attenuation of a half-open window is often taken as 15 dB (WHO *Night Noise Guidelines for Europe*, 2009, section 1.3.5), so the potential for frequent sleep disturbance is very clear.

To summarise, people will experience disturbance effects associated with noise levels possibly 6 dB above those disclosed in the HS2 Environmental Statement.

1.5 Correction of HS2 Ltd noise impact assessment

The assessment in the HS2 Environmental Statement gives the least unfavourable impression of the noise impact of HS2.

Taking a more objective view of the train noise, noise propagation, and the

sensitivity of the receptors, it looks as if people in the "40 to 55 dB LpAeq night-time zone" will experience effects arising from noise levels up to 15 dB higher than those reported.

2. Access

Much of the site is within 800 m walking distance of Berkswell station, but this does not provide the high frequency services required by Policy P7. Some of the site is within 400 m walking distance of a bus stop, but services are only available at hourly intervals. Some of the site would also be within 800 m walking distance of the shopping centre and doctor's surgery.

Detailed information is given in the study commissioned by the Council from Atkins, see: *Solihull Accessibility Mapping - Methodology Report*, 6 December 2016. Figures 1F and 1G show the non-compliance. Consequently, Policy BC1 fails to meet the objectives of Part 9 of the National Planning Policy Framework, 2019 *Promoting sustainable transport*.

The 87 bus service, running at hourly intervals along the Kenilworth Road and Waste Lane, provides access to Coventry, the Cannon Park shopping centre, Jaguar Land Rover at Fen End, and Solihull. The 88 and 88A buses (together) provide an hourly service from Hall Meadow Road and the doctor's surgery to Solihull. The 89 bus provides an infrequent service through the rural area, but has the benefit of "roaming zones" to pick up passengers nearer their homes. (See <https://www.johnsoncoaches.co.uk/timetables/> and <https://www.diamondbuses.com/west-midlands/bus-services/>)

Policy BC1 contains little substance as to how sustainable access can be promoted, and there needs to be a more prescriptive definition of what is required to bring non-motorised access and the provision of public transport closer to NPPF expectations.

(Continue on a separate sheet /expand box if necessary)

6. Please set out the modification(s) you consider necessary to make the Local Plan legally compliant and sound, in respect of any legal compliance or soundness matters you have identified at 5 above. (Please note that non-compliance with the duty to co-operate is incapable of modification at examination). You will need to say why each modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.

The Council acknowledges there is a significant problem with environmental noise in this proposed development site, saying in the Concept Masterplan under *SMBC Development Principles*, that the high density housing on the north-east side of the site can help act as a sound barrier for the rest. This is unacceptable for several reasons, not least because sound-proofing would mean the unfortunate residents also need air-conditioning, in contravention of Policy P9 requiring properties to be net zero carbon.

From the NPPF requirements, housing has to be confined to a zone where noise insulation is not required. The number of planned dwellings will have to be reduced, so section 1 of the Policy should be amended to read:

"The site is allocated for 200 dwellings which are ... "

There is an error in the numbering of sections 3, 4 and 5, which need to be corrected from the (incorrect) numbers 2, 3, and 4.

The preamble to section 3 needs to be more prescriptive and to be amended to say:

"The infrastructure requirements are:"

The proposed school needs to be relocated, so subsection 3(i) should be amended to read:

"Contribution to provision of a new 2 form primary school and nursery outside the area affected by environmental noise; "

To provide sustainable access in line with the NPPF, subsection 3(viii) should be amended to read:

"Provision of pedestrian and cycle ways that are well-surfaced, of adequate width for all non-motorised users, safe from vehicle hazards, and with suitable arrangements for crossing roads, to Berkswell rail station, Balsall Common centre and Balsall Common health centre;

And, a new subsection 3(x) should be added, reading:

"Provision of weather-proof bus shelters and financial support to bus services to ensure high frequency services to the village centre, Hall Meadow Road, Coventry, JLR, and Solihull, with at least 6 services in each direction during the morning and evening 2-hour peak periods, and hourly services off-peak, during the first ten years of a significant proportion of the proposed dwellings being occupied."

(Continue on a separate sheet /expand box if necessary)

Please note In your representation you should provide succinctly all the evidence and supporting information necessary to support your representation and your suggested modification(s). You should not assume that you will have a further opportunity to make submissions.

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☐

No, I do not wish to participate in hearing session(s)

☐ Y

Yes, I wish to participate in hearing session(s)

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8. If you wish to participate in the hearing session(s), please outline why you consider this to be necessary:

The subjects raised are complex and may need further explanation and discussion.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate in hearing session(s). You may be asked to confirm your wish to participate when the Inspector has identified the matters and issues for examination.

9. Signature:

Date:

13 Dec 2020

Part B – Please use a separate sheet for each representation

Name or Organisation: **Cllr Richard Lloyd**

3. To which part of the Local Plan does this representation relate?

Paragraph Policy Policies Map

4. Do you consider the Local Plan is :

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Please tick as appropriate

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If you wish to support the legal compliance or soundness of the Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

Policy BC6 - Lavender Hall Farm, Balsall Common - is unsound because it does not comply with the National Planning Policy Framework in two respects: (1) the proposed housing is significantly affected by noise from the HS2 railway, and (2) the site does not meet the requirements for sustainable access to facilities and the mechanism to achieve compliance is insufficient.

In addition, the concept plan is unsound because it ignores the two major water mains running across the area designated for medium-density housing.

1. Noise

1.1 As assessed by HS2 Ltd

Section 180 of the NPPF (2019) states "new development should ... avoid noise giving rise to significant adverse impacts on health and the quality of life". However, HS2 map SV-05-051 shows the whole of the BC6 site is within a noise contour where residential and school development should be ruled out.

All the proposed housing is between roughly 80 and 200 m from the line.

The area enclosed by the noise contour is described in the HS2 Environmental Statement as being the predicted 50 to 65 dB LpAeq daytime zone and 40 to 55 dB LpAeq night-time zone. The World Health Organisation states that when the average (continuous-equivalent) night noise level is 40 to 55 dB, "Adverse health effects are observed among the exposed population. Many people have to adapt their lives to cope with the noise at night. Vulnerable groups are more severely affected." (*Night Noise Guidelines for Europe*, 2009)

Behaviour adaptations, exemplified by closing windows, speaking more loudly, or

turning up the volume of the television, are significant adverse impacts.

The daytime continuous-equivalent sound level L_{pAeq} across the site is likely to be 57 to 63 dB, estimated from the HS2 noise contours. The night-time continuous-equivalent noise level according to HS2 Ltd would be 10 dB lower, i.e. 47 to 53 dB.

Unlike the steady roar of traffic or the drone of aircraft, the HS2 disturbance will occur in pulses with a relatively short duration, every 100 seconds during the daytime. Immediately adjacent to the site, the HS2 map shows three properties coloured red to signify a major adverse noise impact. The daytime noise dose (Sound Exposure Level = SEL) of a typical train pass can be derived as 77 to 83 dB. (Since the SEL is normalised to 1 second, the level is 100 times or 20 dB higher than the continuous daytime equivalent.)

Furthermore, this assessment is an optimistic view of the likely adverse effects: the noise produced by the trains is under-estimated; the effectiveness of measures to contain or reduce the noise is over-estimated; and the impacts on people are under-stated. For example, HS2 Ltd only quotes the noise produced by their trains, while the WHO significance levels refer to the total noise, a difference of several dB, while the night noise is averaged over the whole 8 h, rather than the 3 h in which trains will actually run.

These factors are considered in the following subsections.

1.2 Under-estimate of train noise

The source document for the HS2 noise prediction is the HS2 Environmental Statement vol 5, Appendix SV-001-000 *Methodology, Assumptions and Assessment*. Annex D2 section 1.1.55 (p100) tabulates the noise sources at 25 m from the line and 360 km/h. The noise parameter commonly used for assessing the impact of intermittent sources, like aircraft, is the noise dose (Sound Exposure Level = SEL). This is the sound pressure level that would produce in 1 second the same sound energy as the noise "event", and it increases with both level and duration.

HS2 Ltd predicts an SEL of 100 dB for a train just-compliant with the TSI standard (European Railway Agency Technical Specifications of Interoperability), at 25 m from the track. This is consistent with predictions derived from the manual produced by the Federal Rail Authority High-Speed Ground Transportation Noise and Vibration Impact Assessment (Sept 2012).

However, HS2 Ltd asserts that trains produced specifically for the HS2 project will be 4 dB quieter. More than 11 years into the project, no prototype has been made to validate that assertion, but in the HS2 modelling, 30 out of 36 trains per hour were assumed to be of this quieter type (SV-001-000 Figure 6). Figure 10 shows that the noise source used for modelling was 0.5 dB above the "HS2" train level, but 3.5 dB below the demonstrated and real "TSI" train level.

In addition, the HS2 Ltd analysis is based on a mix of 200 m-long trains and double-length trains, with 90% running at 330 km/h and 10% at 360 km/h (Environmental Statement CFA 23 report, section 11.4). But the line is specified to take trains up to 400 km/h ("A line capable of up to 250 miles per hour but with a maximum train speed of 225 mph assumed at opening (DfT, *High Speed Rail: Investing in Britain's Future*, February 2011, p19)").

Figure 8 of SV-001-000 Annex D2 shows an increase in speed from 330 km/h to 360 km/h raises the SEL by 1.5 dB, and by 3.5 dB when extrapolated to 400 km/h. The peak noise parameter (L_{max}) rises even more than SEL.

Consequently, it seems likely the train noise will be up to 7 dB above that disclosed in the HS2 Environmental Statement.

1.3 Over-estimate of noise reduction

The predicted propagation of noise is shown in section 1.3.17 Figure 13 of SV-001-000 Annex D2. Relative to a datum at 25 m, the noise level is reduced by 3 dB at 50 m, 7 dB at 100 m, 12 dB at 200 m, 18 dB at 400 m, and 28 dB at 800 m. This is consistent with the Federal Rail Authority manual section 2.3 for a noise source that has a mix of "point" and "line" characteristics, with some sound absorption by the ground.

Unfortunately, at the high speeds of HS2, the predominant noise will be aerodynamic, much of it generated on the higher parts of the train. Aerodynamic noise has a lower frequency content than mechanical or rail noise, and the distance from the line means that noise can be refracted over intermediate obstructions. For example, the low-frequency rumble generated by aircraft engines at Birmingham Airport is known to have rattled doors and windows 8 km away.

HS2 Ltd is proposing to provide noise barriers of 4 m and 5 m height, but some of the line is elevated on an embankment. Using the HS2 figures from the Environmental Statement discussed in the preceding section, their prediction of the continuous-equivalent sound level without a barrier is about 76.5 dB.

The ground profile and shape of the noise contour are complex, making it difficult to check the HS2 assumptions, but it appears the barriers in this area are expected to provide 10 dB attenuation.

The Federal Rail Authority manual section 4.19 indicates attenuation of 8 dB for a 5 m barrier. Barriers are less effective for mitigating noise from sources higher on the train and for lower-frequency sounds, so the barrier performance assumed by HS2 Ltd is problematic.

As a result, it is fair to conclude that the noise reaching receptors could be several dB worse than disclosed in the HS2 Environmental Statement.

1.4 Under-statement of noise impact on people

It has already been mentioned that HS2 Ltd is in error in considering just the noise from the railway. The difference is small, except where the continuous-equivalent ambient noise approaches that of the railway. At night, this could raise the L_{Aeq} by 2 dB.

However, during the period considered to be "night", trains will only run from 23:00 to 00:00, and from 05:00 to 07:00, albeit with fewer services than during the day (SV-001-000 Annex D2 section 1.2.4). During these times, when people are either trying to get to sleep or hoping not to be woken up, the apparent average noise level will be more than 4 dB higher than reported in the Environmental Statement.

The significance of this has been admitted by HS2 Ltd. In the proceedings of the House of Commons Select Committee, 12 October 2015, the noise expert for HS2 Ltd, Mr Thornley-Taylor, admitted that at night, the average noise level is of less interest than the maximum noise, saying (in paragraph 234): "Actually, L_{eq} at night, while it is an important part of the assessment process, is not the test which tells you how much mitigation is required in which areas. It is the L_{max} which is the most important one."

Within the site the L_{max} will be 74 to 79 dB (without any correction for other factors, and assuming an L_{max} of an HS2 train pass perhaps 1 dB less than the SEL). The attenuation of a half-open window is often taken as 15 dB (WHO *Night Noise Guidelines for Europe*, 2009, section 1.3.5), so the potential for frequent sleep disturbance is very clear.

To summarise, people will experience disturbance effects associated with noise

levels possibly 6 dB above those disclosed in the HS2 Environmental Statement.

1.5 Correction of HS2 Ltd noise impact assessment

The assessment in the HS2 Environmental Statement gives the least unfavourable impression of the noise impact of HS2.

Although the information from HS2 Ltd says the site will have noise levels of 47 to 53 dB LpAeq at night, a more objective view of the train noise, noise propagation, and the sensitivity of the receptors, suggests people will experience effects arising from noise levels up to 15 dB higher than those reported.

2. Access

The site is within 800 m walking distance of Berkswell station, but this does not provide the high frequency services required by Policy P7. It is also within 400 m walking distance of a bus stop, but services are only available at hourly intervals. It is within 800 m walking distance of the doctor's surgery, but a primary school and food shop are beyond convenient walking distance.

Detailed information is given in the study commissioned by the Council from Atkins, see: *Solihull Accessibility Mapping - Methodology Report*, 6 December 2016. Figures 1F and 1G show the non-compliance. Consequently, Policy BC6 fails to meet the objectives of Part 9 of the National Planning Policy Framework, 2019 *Promoting sustainable transport*.

The 88 and 88A buses (together) provide an hourly service from Hall Meadow Road. The 89 bus provides an infrequent service through the rural area, but has the benefit of "roaming zones" to pick up passengers nearer their homes. (See <https://www.johnsonscaches.co.uk/timetables/> and <https://www.diamondbuses.com/west-midlands/bus-services/>)

The suggestion of a new bridge across the Birmingham and Rugby railway is sensible, but there is a real need for a route for non-motorised users to Berkswell. This could run parallel to Lavender Hall Lane, but would need to use the proposed road bridge crossing HS2.

There needs to be a more prescriptive definition of what is required to bring non-motorised access and the provision of public transport closer to NPPF expectations.

3. Water mains

The major water mains running across the site and over the Birmingham and Rugby railway are reported in the HS2 Environmental Statement to be mains of 914 mm and 686 mm diameter (CFA 23 Report – Balsall Common and Hampton-in-Arden, section 2.3.50). It is proposed to realign these pipes, but this will not affect the area that needs to be kept free of buildings.

(Continue on a separate sheet /expand box if necessary)

6. Please set out the modification(s) you consider necessary to make the Local Plan legally compliant and sound, in respect of any legal compliance or soundness matters you have identified at 5 above. (Please note that non-compliance with the duty to co-operate is incapable of modification at examination). You will need to say why each modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.

Site BC6 should be removed from the Local Plan because the NPPF requires new housing developments to be in locations unaffected by significant noise. Insulating the properties against noise would need air-conditioning, in contravention of Policy P9 requiring properties to be net zero carbon.

To provide sustainable access in line with the NPPF, subsection 3(iv) would need to be amended to read:

"Provision of pedestrian and cycle ways that are well-surfaced, of adequate width for all non-motorised users, safe from vehicle hazards, and with suitable arrangements for crossing roads, to Berkswell village, Berkswell rail station, Balsall Common centre and Balsall Common health centre;

And, a new subsection 3(vi) would need to be added, reading:

"Provision of weather-proof bus shelters and financial support to bus services to ensure high frequency services to Coventry, Jaguar Land Rover at Fen End, and Solihull, with at least 6 services in each direction during the morning and evening 2-hour peak periods, and hourly services off-peak, during the first ten years of a significant proportion of the proposed dwellings being occupied."

Also, a new section 2(viii) would need to be added, requiring that the development be kept clear of the water mains owned by Severn Trent Water.

(Continue on a separate sheet /expand box if necessary)

Please note In your representation you should provide succinctly all the evidence and supporting information necessary to support your representation and your suggested modification(s). You should not assume that you will have a further opportunity to make submissions.

After this stage, further submissions may only be made if invited by the Inspector, based on the matters and issues he or she identifies for examination.

7. If your representation is seeking a modification to the plan, do you consider it necessary to participate in examination hearing session(s)?

☐

No, I do not wish to participate in hearing session(s)

☐ Y

Yes, I wish to participate in hearing session(s)

Please note that while this will provide an initial indication of your wish to participate in hearing session(s), you may be asked at a later point to confirm your request to participate.

8. If you wish to participate in the hearing session(s), please outline why you consider this to be necessary:

The subjects raised are complex and may need further explanation and discussion.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate in hearing session(s). You may be asked to confirm your wish to participate when the Inspector has identified the matters and issues for examination.

9. Signature:

Date:

13 Dec 2020