An Exploration of Deficiencies Within the Proposer's Environmental Statement on Noise and Vibration

This is a written representation submitted to the Planning Inspectorate as part of the examination of the Hinckley National Rail Freight Interchange (HNRFI) submitted by Tritax Symmetry (Hinckley) Limited. This document contains an exploration of deficiencies within the proposer's Chapter 10 on Noise and Vibration, particularly the Main Statement, document reference: 6.1.10 ("the report").

All referenced numbered paragraphs and numbered tables are within the report, unless otherwise specified.

This document contains sections with the following titles:

Catastrophic Foundational Failure

Appendix 6.2.10.5 Noise Survey Method Statement: “Noise monitoring will be undertaken in accordance with the following guidance; • BS7445-1: 2003 Description and measurement of environmental noise – Part 1: Guide to quantities and procedures; and • BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound.”

“The purpose of the baseline noise survey is to characterise the existing ambient and background noise levels at nearby existing sensitive receptors.”

ML4, subsequently referred to as NMP4, is said to be “Representative of Bridge Farm, the single dwelling at Billington Rough, dwellings off Billington Road East”.

Some properties which would later be seen as Noise Sensitive Receptors (NSRs) are not listed as “Identified Existing Sensitive Receptors” in the Noise Survey Method Statement. At the time of the Noise Survey Method Statement, it was not claimed that monitoring location ML4/NMP4 was representative of as many receptors as would be claimed in the report.

Paragraph 10.356: “In order to define baseline noise conditions, a noise survey was undertaken in April 2021, and the results have been used as a basis for the assessment. Long-term unattended daytime and night-time ambient noise measurements were undertaken at four locations considered to be representative of NSRs in the vicinity of the Proposed Development.”

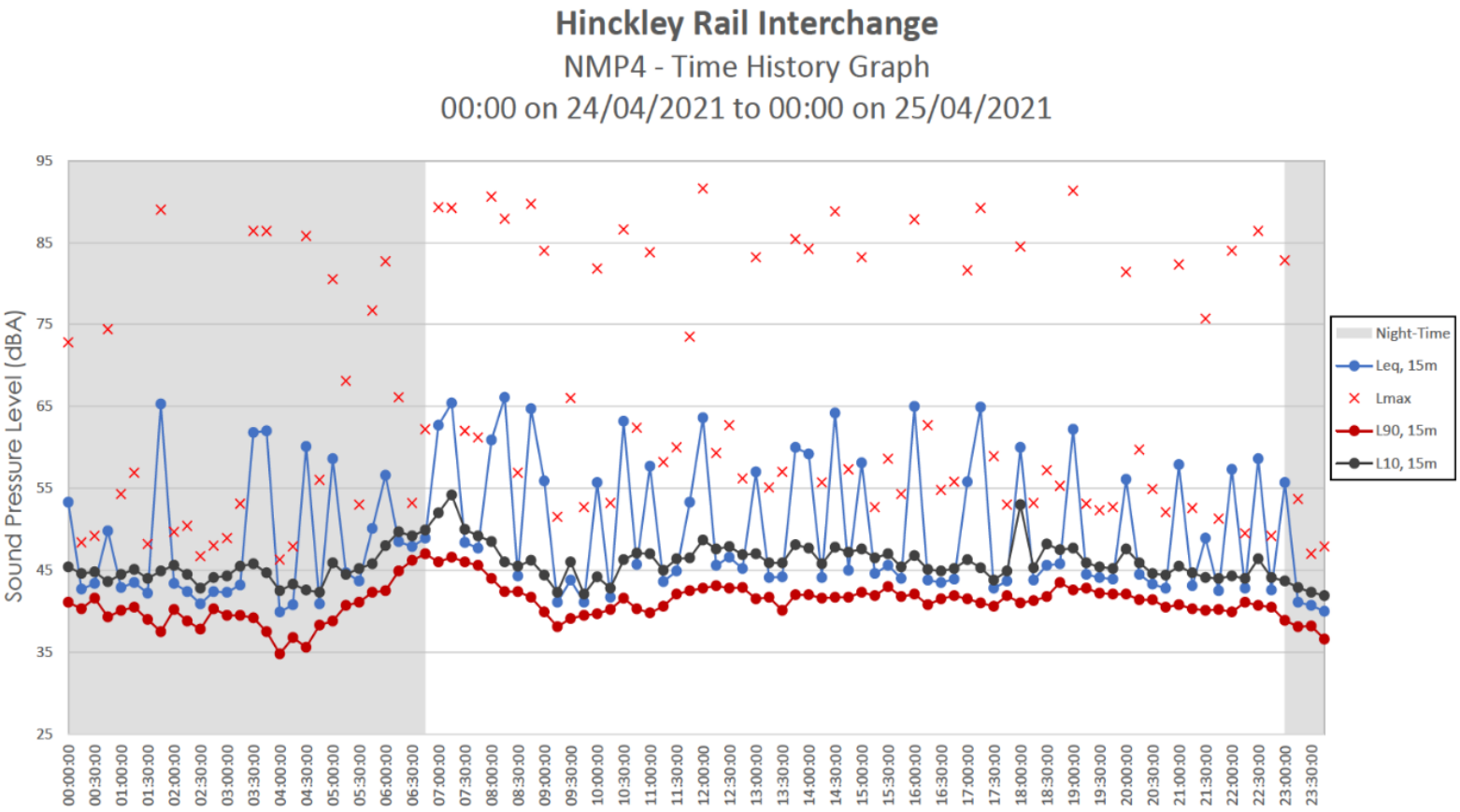
Figure 10.1 Indicates the locations of the identified NSRs.

Figure 10.2 Indicates the locations of the noise monitoring locations. The report states vibration monitoring (VMP1) was conducted 12 metres from the railway line. NMP4 is depicted as being in similarly close proximity to the railway line.

Paragraph 10.95: “Noise monitoring was undertaken at NMP4, which is considered representative of the existing noise climate at nearby NSRs to the north of the rail line most notably at Bridge Farm and NSRs off Billington Road East. …During periods of attendance the noise climate at NMP3 (sic) was noted to be dominated by distant road traffic on the M69, train pass-bys on the rail line and natural sources eg. birdsong.”

These NSRs referred to as “nearby NSRs to the north of the rail line” are NSRs 1-8 & 24-26.

Unsurprisingly, measuring sound levels in extremely close proximity to a railway line led to significant spikes in Leq values as trains passed by. The impact on NMP4’s stated Leq values can be seen in full within Appendix 6.2.10.10 Summary Results. An example of results over a 24 hour period is included below.



The report has then taken the LAeq levels derived from measurements at NMP4 and stated that they are representative of LAeq levels at receptors located as far as ~450 metres from the railway line. The median distance between each relevant NSR and each NSR's closest point on the railway line is ~333 metres.

No attenuation corrections have been applied to the sound of train pass bys to account for the distance between each receptor location (NSRs 1-8 & 24-26) and the railway line, because the report considers the monitoring position to be representative of the receptor locations. The LAeq values derived from measurements at NMP4 have been taken and attributed to NSRs 1-8 & 24-26 on weekdays and weekends, day and night. All eleven have been given the same values, as can be seen in Table 10.43 & Table 10.44. In the view of the report, that is entirely reasonable and requires no comment or justification. The report states the weekday ambient sound levels at the NSRs are 59.2 dB in the weekday daytime and 56.2 dB in the weekday night-time.

BS4142:2014+A1:2019 has been flouted because the results derived from NMP4 have not been made representative of the receptor locations through the application of attenuation corrections to the sound of train pass bys to account for the distance between the railway line and each receptor. The report states the receptors' current sound levels as if they were located at the railway line, as NMP4 was.

The consequences of this failure cascade through the report, creating an absolute rabbit warren of incorrect numerical values, statements, analysis and conclusions. This is a particularly acute problem due to the attitude with which the report later approaches contextualisation within BS 4142. In the eyes of the report, the stated current LAeq levels at NSRs become **extremely** important - to the point of being exclusively important - in determining the impact of the proposals. It's all predicated on LAeq numbers which are wildly overstated because they are not and have not been made to be representative through application of attenuation corrections to train pass bys.

At this point, I would like to make clear that this is not the first time the proposer and their associates have done this. The proposer's Preliminary Environmental Information Report (PEIR) Chapter 10:

Noise and Vibration did exactly the same thing. In my response, dated 7th April 2022: I explained to them that what they were doing was wrong, I explained why it was wrong, I explained why using those wrong values assisted them in reaching erroneous conclusions. Yet, despite having been told all of this, the proposer and their associates have still chosen to create and submit a subsequent Environmental Statement to The Planning Inspectorate which commits the same catastrophic, foundational sin.

I haven't attached my full response to the proposer's PEIR consultation because it contains personally identifying information and is now somewhat dated, although I am happy to do so on request. I include one section of text from my response to the PEIR consultation:

"When the report is projecting noise from possible sources in the future e.g. A47 link road, construction or gantry cranes, great effort is unsurprisingly put into calculations to estimate the extent to which the noise would be lower at NSRs due to distance and in place mitigation. Dramatic drops are estimated with individual estimates prepared for each NSR.

Similar calculations clearly haven't been performed to estimate to what extent the noise measured at ML3, directly adjacent to noise sources, is lower at NSRs due to distance and in place mitigation. I know that because the twelve NSRs are all stated to have ambient noise levels of 60.5dB. Very similar to ML3's average LAeq and all identical. Adjustments aren't being made.

The equivalent would be for me to take the data projected to be obtained from a noise monitoring device directly adjacent to specific proposed noise sources like the A47 link road or gantry cranes; and then to attempt to claim that the average LAeq there would be very similar to the ambient noise levels at the relevant NSRs. In other words, without taking into account distance or any mitigation. Clearly that would be inappropriate and misleading and Tritax wouldn't entertain it for a moment.

Yet as I say, something disturbingly similar has in fact been done as part of the report on Tritax's website. A noise monitoring device has been set-up in extremely close proximity to two sources of bursts of noise - the railway tracks and Burbage Common Road - and the data obtained from it has then been used to attempt to claim that the LAeq there would be very similar to the ambient noise levels at twelve NSRs. In other words, without taking into account distance or any mitigation. It's inappropriate and misleading…"

At the time of my response to the PEIR, I felt these failures were likely due to extraordinary incompetence and I presumed that by the time a subsequent report was submitted to The Planning Inspectorate, the failures would not be replicated.

Given the failures in this report have been made **after** they had been told what they were doing wrong, I struggle to attribute them to anything other than malice. Is it a deliberate attempt to misrepresent reality and achieve a predetermined objective which is favourable to the proposer?

The combination of the failures being so basic, being so blatant, being so transformative, being so favourable to the interests of the proposer, along with them having been perpetuated despite contrary information, means it is not feasible to have confidence in the judgement and integrity of those who have been involved in the creation and submission of the report.

Lack of Any Rating Penalty to Projected Specific Sound

With proposed mitigations in place, the report declines to add any penalties for impulsive, tonal or intermittent characteristics at any receptor.

What the report does not mention is that there is a fourth category of assessment within BS 4142 which can lead to a penalty due to “other sound characteristics”.

Environment Agency Noise and Vibration Guidance: “For industrial noise impacts where the sound is neither impulsive nor tonal, but you can readily distinguish it against the usual residual acoustic environment, the environment agencies will expect you to apply a minimum character correction of +3 decibels (dB) ‘other’. This is unless you can robustly justify that you do not need such a correction.”

Jim McIntyre of the Scottish Environmental Protection Agency (SEPA)[1]: “SEPA’s default position is that a 3dB penalty should be included for industrial noise sources, unless the operator or applicant can justify why it should not be the case. They would have to demonstrate that it is a purely broadband continuous noise (in order to not receive a penalty).”

The noise assessments of other proposed rail freight interchanges behaved accordingly:

Northampton Gateway Rail Freight Interchange: “8.5.127 The operational sound from the SRFI would be complex in nature, composed of different sources in different locations around the site. As a cautious approach, a +3 dB(A) penalty has been applied to all sources of an industrial nature on the SRFI to account for features that may be readily distinctive at the receptors.”

East Midlands Gateway Rail Freight Interchange: “6.4 Regarding the correction for acoustic features that may increase the extent of the impact as described in section 2, it is considered unlikely that the operational sound will have any features that are perceived as specifically tonal, impulsive or intermittent at the receptor locations. However, it may have other less specific features that are readily distinctive against the residual acoustic environment. On this basis, as a cautious approach, a +3 dB(A) correction has been applied to all predicted specific sound levels for both day and night.”

The report not only does not apply such rating penalties, it doesn’t even acknowledge having considered doing so. This would be inexplicable were it not for the report’s other deficiencies.

[1]HOW TO CONSTRUCT/ASSESS A COMPETENT BS4142 REPORT, Environmental Protection Scotland, November 22nd 2018. This document is publicly available.

Improper Application of Impulsive and Tonal Penalties to Projected Specific Sound

The report does not disclose its method for determining whether rating penalties should be applied. In the absence of a disclosed method, I can only assume the report's decisions are a result of an undefined subjective view. The report acknowledges that container placements and spreader impacts are impulsive noises. The report also acknowledges that gantry crane engine and exhaust noises and various other noises are tonal noises.

Helpfully, Paragraph 13.256 of The West Midlands Rail Freight Interchange Environmental Statement On Noise and Vibration does disclose its chosen method for determining whether rating penalties should be applied to predicted specific sound.

"The level of correction has been determined in the following manner:

- Calculating the overall LAeq and LAFmax sound levels from the Site due to all elements likely to exhibit a tonal character, including reversing alarms and crane alarms, and comparing the resultant values with the representative LAeq level measured during the baseline noise survey.
- This process will test both the average tonal and impulsive sound levels and the peaks of tonal or impulsive sound against the existing acoustic climate at each receptor.
- For all receptors, the total LAeq value for tonal sources was considerably below the existing measured LAeq values, suggesting that the average measure of the tonal elements would not be audible.

- This process was repeated for all impulsive operations, including, cranes and reach stackers picking up/putting down containers, and tugs and HGVs picking up trailers. Again the total LAeq value for impulsive sources was considerably below the existing measured LAeq values, suggesting that the average measure of the impulsive elements would not be audible.

- The likely maximum noise levels from tonal and impulsive activities was calculated for each receptor, and compared with the existing baseline LAeq levels. The aim of this test was to determine whether peaks of sound would be distinctive or distinguishable from the general sounds at each receptor.

- Since the LAFmax maximum sound levels were not all below the existing LAeq sound levels at the various receptors, scales were adopted to provide a consistent, quantified approach to determining the likelihood of each characteristic being audible.

- Depending on the receptor/source type and location, the maximum noise levels ranged from considerably below the baseline LAeq values, and therefore likely to be inaudible, to being 10dB or more above them, and therefore likely to be audible.

- The corrections were applied on the following basis for tonal elements:
  o LAmax values below LAeq values by more than 5dB: 0dB
  o LAmax values between 5dB below and equal to the LAeq values: +2dB
  o LAmax values between equal to and 10dB above LAeq values: +4dB

o LAmax values 10dB or more above LAeq values: +6dB

- A similar process was applied to the impulsive elements:
  o LAmax values below LAeq values by more than 5dB: 0dB
  o LAmax values between 5dB below and equal to the LAeq values: +3dB
  o LAmax values equal to and 10dB above LAeq values: +3dB
  o LAmax values 10dB or more above LAeq values: +9dB

- The corrections are cumulative, i.e. for the most tonal, impulsive sources, a total correction of +15dB is possible."

I strongly suspect that for impulsive noise, the "LAmax values equal to and 10dB above LAeq values: +3dB" should read "LAmax values equal to and 10dB above LAeq values: **+6dB**". However, I will continue with the figures as they have been written.

In applying this method to the report, we face the ever-present problem of the report stating incorrect ambient sound levels for NSRs 1-8 & 24-26. The report also does not fully list the highest impulsive and tonal LAmax values at NSRs.

However, even the report only states the weekend night-time ambient sound levels as 50.1 dB at NSRs 1-8 & 24-26, as shown in Table 10.44.

Table 10.47 lists the report's predicted LAFmax noise levels at some NSRs for spreader impacts and container placements. Nine of NSRs 1-8 & 24-26 have predicted unmitigated LAFmax values of 61dB or above due to container placements.

Using the method applied in The West Midlands Rail Freight Interchange Environmental Statement On Noise and Vibration, a 9 dB penalty for impulsivity should be applied to the predicted specific sound at those nine NSRs.

As is made clear in Paragraph 10.158, the report adds a penalty of just 3 dB for impulsivity at seven of those NSRs, a penalty of 6 dB for impulsivity at one NSR and no impulsivity penalty at all at one NSR. The proposer's report has not added a 9 dB penalty at any NSR.

The report's proposed mitigation measures slightly lower the LAFmax values due to container placements. Table 10.61 indicates the report's predicted LAFmax noise level at some NSRs with mitigation in place. Six of NSRs 1-8 & 24-26 have predicted mitigated LAFmax noise levels from container placements of 61 dB or above (I have not included the two NSRs predicted to be at 60 dB).

Using the method applied in The West Midlands Rail Freight Interchange Environmental Statement On Noise and Vibration, a 9 dB penalty for impulsivity should be applied to the predicted specific sound at those six NSRs. As is made clear in Paragraph 10.288, once proposed mitigation measures are applied, the proposer's report adds no penalties due to impulsivity at any NSR.

There is clearly something very, very wrong with whatever decisions the report has made with respect to the application of impulsive rating penalties.

Once proposed mitigation measures are applied, the proposer's report adds no penalty due to tonality at any NSR. As the LAmax values for tonal elements at NSRs have not been provided, it isn't possible to make an equivalent calculation for tonal penalties. However, given the equipment and activities entailed in the proposals, it seems very likely that tonal penalties would be due at NSRs using the method applied in The West Midlands Rail Freight Interchange Environmental Statement.

It's very strange that the report has identical rating penalty numbers for all four time periods: weekday day, weekday night, weekend day, weekend night. This is despite the significant differences in stated current sound levels for those time periods.

NMP4's LAeq values are said to be dominated by distant road noise, birdsong and train pass bys. As a result, using this method on NMP4's LAeq values would understate the perceptibility of impulsivity and tonality because while train pass bys had a very significant effect on NMP4's LAeq values, the inherently brief nature of those pass bys means they would have little impact on the perceptibility of impulsive or tonal noise.

I have performed these calculations for impulsive rating penalties only for the weekend night-time period, and I have only included those NSRs which would merit the highest 9 dB penalty. Other NSRs would merit lower penalties. These calculations have been performed **solely using the report's own numbers**, including the overstated current LAeq values. Properly attenuating train pass bys and creating representative LAeq values would lead to more significant penalties at those NSRs which did not merit a 9 dB penalty using the report's overstated numbers.

Of course, all of this also applies to the other three time periods (weekday daytime, weekday night-time & weekend daytime). Using the method applied in West Midlands Rail Freight Interchange, coupled with properly attenuated LAeq values would be utterly transformative for rating penalty allocation, even without considering understatement of perceptibility due to the inherently brief nature of train pass bys.

Wrongful Expunging of Saturday Night-time Sound Measurements

The baseline noise survey measured noise levels during Saturday and Sunday night-times. However, the report chose to expunge measured Saturday night measurements at NMP4 and solely use Sunday night measurements. The Saturday night LAeq was 44 dB. The Sunday night LAeq was 50 dB. The report explains its reason in Paragraph 10.106

Paragraph 10.106: “On review of the measured noise levels at NMP4, the ambient noise level (LAeq,T) measured during the night-time on Saturday 24th April is lower than that measured during any of the other night-time periods. A review of the measured trace indicates that there were no trains on the rail line during the night-time period between 2300 hours and 0700 hours. Although it is acknowledged that there may be periods when trains do not run during the night-time period on a Saturday, it is not considered ‘typical’ of the night-time noise level.”

Realtimetrains shows the train passes during Saturday night-times. Realtimetrains shows that for four consecutive Saturday nights (16/09, 23/09, 30/09, 07/10), there was one single passenger train which was scheduled to depart Hinckley at 22:58, heading towards Leicester. There were then no trains of any kind listed for almost 12 hours. This single train may or may not pass by within the first few minutes of the night-time period. The Realtime trains data for Saturday nights is included on pages 10 & 11.

Realtimetrains shows the train passes during Sunday night-times. Realtimetrains shows that for four consecutive Sunday nights (17/09, 24/09, 1/10, 8/10), there were no trains of any kind until approximately 0430, five and a half hours into the 8 hour monitoring period. Then there were a few freight trains and a few passenger trains before the end of the 8 hour monitoring period. Freight trains make far more noise than passenger trains. The Realtime trains data for Sunday nights is included on pages 11 & 12.

Because the report feels its noise monitoring indicates there were no train passes on that Saturday night - rather than the maximum possible one passenger train within the first few minutes of the monitoring period - the report expunged one of the two 8 hour periods of weekend night-time monitoring and chose to solely use the Sunday night-time period.

By expunging the Saturday night-time results, the report prevented the representation of variation in weekend night train passes and solely presents structurally higher Sunday night train passes.

It’s also important to remember that the 0 or 1 train passes on a Saturday night and the handful on a Sunday night were not the only sources of noise during the eight hour period!

The measured Saturday night sound levels - even if the report is correct and there were no train passes - are inherently much more representative of a typical Saturday night than the measured Sunday night sound levels can be representative of a typical Saturday night. The Saturday night sound levels should not have been expunged.

SEARCH MENU

Location: Hinckley | TOC: All
When? Custom time: | Date: 16/09/2023
From: 2200 | Until: 1100

FILTERING

by train calling points
Previously | Subsequently
Service type: All Services | Ordering: Planned
WTT | VAR | STP | CAN
Search

HINCKLEY FROM 2200 TO 1100 ON 16/09/2023 Saturday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
VAR	*pass*		*Cambridge*	2	1N69	XC	*Birmingham New Street*	*2203½*	**2207½**	6
VST	*pass*		*Birmingham New Street*	1	5Z85	XC	*Leicester L.I.P.*	*2238½*	**2249**	3
VAR	2239	**2241¼**	Leicester	2	1P34	XC	Birmingham New Street	2240	**2242¾**	6
VAR	2257	**2303¼**	Birmingham New Street	1	1K33	XC	Leicester	2258	**2304¾**	6
VAR	1027	**1029¼**	Birmingham New Street	1	1K09	XC	Leicester	1028	**1031**	3
VAR	1038	**1038**	Leicester	2	1P00	XC	Birmingham New Street	1038	**1039**	6

-1 hour | +1 hour

SEARCH MENU

Location: Hinckley | TOC: All
When? Custom time: | Date: 23/09/2023
From: 2200 | Until: 1100

FILTERING

by train calling points
Previously | Subsequently
Service type: All Services | Ordering: Planned
WTT | VAR | STP | CAN
Search

HINCKLEY FROM 2200 TO 1100 ON 23/09/2023 Saturday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
VAR	*pass*		*Cambridge*	2	1N69	XC	*Birmingham New Street*	*2203½*	**2204¾**	3
VST	*pass*		*Leicester*	2	5Z34	XC	*Tyseley L.M.D.*	*2214½*	**2209¼**	3
VAR	2239	Cancel	Leicester	-	1P34	XC	Birmingham New Street	2240	Cancel	
VAR	2257	**2304¾**	Birmingham New Street	1	1K33	XC	Leicester	2258	**2305¼**	6
VAR	1027	**1031**	Birmingham New Street	1	1K09	XC	Leicester	1028	**1033¼**	3
VAR	1038	**1038¼**	Leicester	2	1P00	XC	Birmingham New Street	1038	**1039**	6

-1 hour | +1 hour

SEARCH MENU

Location: Hinckley | TOC: All
When? Custom time: | Date: 30/09/2023
From: 2200 | Until: 1100

FILTERING

by train calling points
Previously | Subsequently
Service type: All Services | Ordering: Planned
WTT | VAR | STP | CAN
Search

HINCKLEY FROM 2200 TO 1100 ON 30/09/2023 Saturday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
CAN	*pass*		*Cambridge*		1N69	XC	*Birmingham New Street*	*2203½*	Cancel	
CAN	2239	Cancel	Leicester	-	1P34	XC	Birmingham New Street	2240	Cancel	
CAN	2257	Cancel	Birmingham New Street	-	1K33	XC	Leicester	2258	Cancel	
VAR	1027	**1028½**	Birmingham New Street	1	1K09	XC	Leicester	1028	**1029¼**	3
VAR	1038	**1039**	Leicester	2	1P00	XC	Birmingham New Street	1038	**1040½**	6

-1 hour | +1 hour

SEARCH MENU

Location: Hinckley | TOC: All

When? Custom time: | Date: 07/10/2023

From: 2200 | Until: 1100

FILTERING

by train calling points

Previously | Subsequently

Service type: All Services | Ordering: Planned

WTT | VAR | STP | CAN

Search

HINCKLEY FROM 2200 TO 1100 ON 07/10/2023

Saturday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
VAR	pass		*Peterborough*	2	1N69	XC	*Birmingham New Street*	*2203½*	**2203¾**	3
WTT	2239	*N/R*	Leicester		1P34	XC	Birmingham New Street	2240	*N/R*	4
VAR	2257	*2256*	Birmingham New Street		1K33	XC	Leicester	2258	*2258*	6
VAR	1027	**1030**	Birmingham New Street	1	1K09	XC	Leicester	1028	**1030¾**	
VAR	1038	**1039¾**	Leicester	2	1P00	XC	Birmingham New Street	1038	**1040¾**	

-1 hour | +1 hour

SEARCH MENU

Location: Hinckley | TOC: All

When? Custom time: | Date: 17/09/2023

From: 2200 | Until: 1100

FILTERING

by train calling points

Previously | Subsequently

Service type: All Services | Ordering: Planned

WTT | VAR | STP | CAN

Search

HINCKLEY FROM 2200 TO 1100 ON 17/09/2023

Sunday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
VAR	pass		*Cambridge*	2	1N69	XC	*Birmingham New Street*	*2203½*	**2209¾**	5
WTT	2227	**2229¾**	Newport (South Wales)	1	1M85	XC	Leicester	2228	**2229½**	3
VAR	2239	**2241¾**	Leicester	2	1P34	XC	Birmingham New Street	2240	**2243¼**	3
WTT	pass		*Mountsorrel Sdgs*		6G20	ZZ	*Washwood Heath Up Sidings*	*0247½*	*(Q)*	
CAN	pass		*Etches Park Sdgs*		5A56	ZZ	*Wolverton Centre Sidings*	*0440½*	*(Q)*	
WTT	pass		*Crewe Bas Hall S.S.M.*		6M39	ZZ	*Radlett Redland Roadstone*	*0455½*	*(Q)*	
WTT	pass		*Moreton-on-lugg Fhh*		6M39	ZZ	*Radlett Redland Roadstone*	*0455½*	*(Q)*	
VAR	pass		*East Usk Yard (Fhh)*	1	6M39	ZZ	*Elstow Redland Sdg*	*0455½*	**0443¾**	
WTT	pass		*Tunstead Sdgs*		6M44	ZZ	*Washwood Heath Up Sidings*	*0456*	*(Q)*	
WTT	pass		*Margam T.C.*	1	6M94	ZZ	*Corby B.S.C.*	*0504*	**0500¾**	
WTT	pass		*Crewe Bas Hall S.S.M.*		6M36	ZZ	*Mountsorrel Sdgs*	*0540*	Cancel	
VAR	0555	**0555**	Birmingham New Street	1	1L26	XC	Stansted Airport	0555	**0555¾**	3
WTT	pass		*Bescot Up Engineers Sdgs*		6F16	ZZ	*Cliffe Hill Stud Farm Gbrf*	*0610½*	*(Q)*	
VAR	0627	**0628¾**	Birmingham New Street	1	1K01	XC	Leicester	0628	**0629¼**	5
STP	pass		*Washwood Heath Up Sdg Gbrf*	1	4H73	ZZ	*Tunstead Sdgs Gbrf*	*0635½*	**0704¾**	
VAR	0637	**0638¼**	Leicester	2	1P00	XC	Birmingham New Street	0638	**0639½**	3
WTT	pass		*Leicester L.I.P.*		0N42	ZZ	*Crewe South Yard*	*0651½*	*(Q)*	
VAR	pass		*Birmingham New Street*	1	1L28	XC	*Stansted Airport*	*0656*	**0656¾**	3
VAR	0707	**0710**	Leicester	2	1P02	XC	Birmingham New Street	0708	**0710½**	3
VAR	pass		*Cambridge*	2	1N40	XC	*Birmingham New Street*	*0719½*	**0719¼**	3
VAR	0730	**0730¾**	Birmingham New Street	1	1K03	XC	Leicester	0730	**0731½**	3
STP	pass		*Leicester L.I.P.*		5F62	ZZ	*Widnes Transport Tech*	*0734*	Cancel	
VAR	0741	**0742½**	Leicester	2	1P04	XC	Birmingham New Street	0742	**0743¾**	5

SEARCH MENU

Location: Hinckley | TOC: All

When? Custom time: | Date: 24/09/2023

From: 2200 | Until: 1100

FILTERING

by train calling points

Previously | Subsequently

Service type: All Services | Ordering: Planned

WTT | VAR | STP | CAN

Search

HINCKLEY FROM 2200 TO 1100 ON 24/09/2023

Sunday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
VAR	pass		*Cambridge*	2	1N69	XC	*Birmingham New Street*	*2203½*	**2204½**	
VAR	2227	**2233¾**	Cardiff Central	1	1M85	XC	Leicester	2228	**2235**	3
VAR	2239	**2240½**	Leicester	2	1P34	XC	Birmingham New Street	2240	**2242¾**	
WTT	pass		*Mountsorrel Sdgs*		6G20	ZZ	*Washwood Heath Up Sidings*	*0247½*	*(Q)*	
CAN	pass		*Etches Park Sdgs*		5A56	ZZ	*Wolverton Centre Sidings*	*0440½*	*(Q)*	
WTT	pass		*Crewe Bas Hall S.S.M.*	1	6M39	ZZ	*Radlett Redland Roadstone*	*0455½*	**0437½**	
WTT	pass		*Moreton-on-lugg Fhh*		6M39	ZZ	*Radlett Redland Roadstone*	*0455½*	*(Q)*	
WTT	pass		*Tunstead Sdgs*		6M44	ZZ	*Washwood Heath Up Sidings*	*0456*	*(Q)*	
VAR	pass		*Margam T.C.*	1	6M94	ZZ	*Corby B.S.C.*	*0504*	**0445½**	
WTT	pass		*Crewe Bas Hall S.S.M.*		6M36	ZZ	*Mountsorrel Sdgs*	*0540*	Cancel	
VAR	0555	**0555¼**	Birmingham New Street	1	1L26	XC	Stansted Airport	0555	**0555¾**	3
WTT	pass		*Bescot Up Engineers Sdgs*		6F16	ZZ	*Cliffe Hill Stud Farm Gbrf*	*0610½*	*(Q)*	
VAR	0627	**0627½**	Birmingham New Street	1	1K01	XC	Leicester	0628	**0628¼**	4
STP	pass		*Washwood Heath Up Sdg Gbrf*	1	4H73	ZZ	*Tunstead Sdgs Gbrf*	*0635½*	**0637½**	
VAR	0637	**0638¾**	Leicester	2	1P00	XC	Birmingham New Street	0638	**0640¼**	3
WTT	pass		*Leicester L.I.P.*		0N42	ZZ	*Crewe South Yard*	*0651½*	*(Q)*	
VAR	pass		*Birmingham New Street*	1	1L28	XC	*Stansted Airport*	*0656*	**0656¼**	3
VAR	0707	**0707**	Leicester	2	1P02	XC	Birmingham New Street	0708	**0708**	3
VAR	pass		*Cambridge*	2	1N40	XC	*Birmingham New Street*	*0719½*	**0727½**	3
VAR	0730	**0729¾**	Birmingham New Street	1	1K03	XC	Leicester	0730	**0730¼**	3
VAR	0741	**0742½**	Leicester	2	1P04	XC	Birmingham New Street	0742	**0743¾**	4
VAR	0756	**0757¾**	Birmingham New Street	1	1L30	XC	Cambridge	0757	**0758½**	3

SEARCH MENU

Location: Hinckley | TOC: All

When? Custom time: | Date: 01/10/2023

From: 2200 | Until: 1100

FILTERING

by train calling points

Previously | Subsequently

Service type: All Services | Ordering: Planned

WTT | VAR | STP | CAN

Search

HINCKLEY FROM 2200 TO 1100 ON 01/10/2023

Sunday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
WTT	*pass*		*Stansted Airport*	2	1N69	XC	*Birmingham New Street*	*2203½*	2203¼	3
STP	*pass*		*Trent Sidings*	2	6Q62	ZZ	*Guide Bridge B'sde Sdgs*	*2213½*	Cancel	
WTT	2227	2233¾	Cardiff Central	1	1M85	XC	Leicester	2228	2234¼	6
VAR	2239	2244¾	Leicester	2	1P34	XC	Birmingham New Street	2240	2245½	3
VST	*pass*		*Bedford Engineers Sdgs*	2	6Q62	ZZ	*Guide Bridge B'sde Sdgs*	*2248½*	2221¼	
WTT	*pass*		*Mountsorrel Sdgs*		6G20	ZZ	*Washwood Heath Up Sidings*	*0247½*	*(Q)*	
CAN	*pass*		*Etches Park Sdgs*		5A56	ZZ	*Wolverton Centre Sidings*	*0440½*	*(Q)*	
CAN	*pass*		*Moreton-on-lugg Fhh*		6M39	ZZ	*Radlett Redland Roadstone*	*0455½*	*(Q)*	
VAR	*pass*		*Crewe Bas Hall S.S.M.*	1	6M39	ZZ	*Elstow Redland Sdg*	*0455½*	0422	
WTT	*pass*		*Tunstead Sdgs*		6M44	ZZ	*Washwood Heath Up Sidings*	*0456*	*(Q)*	
WTT	*pass*		*Margam T.C.*	1	6M94	ZZ	*Corby B.S.C.*	*0504*	0434¾	
WTT	*pass*		*Crewe Bas Hall S.S.M.*		6M36	ZZ	*Mountsorrel Sdgs*	*0540*	Cancel	
VAR	0555	0555¾	Birmingham New Street	1	1L26	XC	Stansted Airport	0555	0556½	3
WTT	*pass*		*Bescot Up Engineers Sdgs*		6F16	ZZ	*Cliffe Hill Stud Farm Gbrf*	*0610½*	*(Q)*	
WTT	0627	0627¾	Birmingham New Street	1	1K01	XC	Leicester	0628	0628	5
VAR	0637	0639	Leicester	2	1P00	XC	Birmingham New Street	0638	0639½	3
WTT	*pass*		*Leicester L.I.P.*		0N42	ZZ	*Crewe South Yard*	*0651½*	*(Q)*	
VAR	*pass*		*Birmingham New Street*	1	1L28	XC	*Stansted Airport*	*0656*	0658½	3
WTT	0707	0714	Leicester	2	1P02	XC	Birmingham New Street	0708	0714¾	3
VAR	*pass*		*Cambridge*	2	1N40	XC	*Birmingham New Street*	*0719½*	0728½	3
WTT	0730	0731¾	Birmingham New Street	1	1K03	XC	Leicester	0730	0732¼	3
VAR	0741	0741¾	Leicester	2	1P04	XC	Birmingham New Street	0742	0742½	5

SEARCH MENU

Location: Hinckley | TOC: All

When? Custom time: | Date: 08/10/2023

From: 2200 | Until: 1100

FILTERING

by train calling points

Previously | Subsequently

Service type: All Services | Ordering: Planned

WTT | VAR | STP | CAN

Search

HINCKLEY FROM 2200 TO 1100 ON 08/10/2023

Sunday night

-1 hour | +1 hour

STP	Plan Arr	Act Arr	Origin	Pl	ID	TOC	Destination	Plan Dep	Act Dep	
VAR	*pass*		*Peterborough*	2	1N69	XC	*Birmingham New Street*	*2203½*	2203½	
VAR	2227	2237¼	Cardiff Central	1	1M85	XC	Leicester	2228	2238	
VAR	2239	2238	Leicester	2	1P34	XC	Birmingham New Street	2240	2238¼	6
WTT	*pass*		*Mountsorrel Sdgs*		6G20	ZZ	*Washwood Heath Up Sidings*	*0247½*	*(Q)*	
WTT	*pass*		*Etches Park Sdgs*		5A56	ZZ	*Wolverton Centre Sidings*	*0440½*	*(Q)*	
VAR	*pass*		*Moreton-on-lugg Fhh*		6M39	ZZ	*Radlett Redland Roadstone*	*0455½*	*(Q)*	
CAN	*pass*		*Crewe Bas Hall S.S.M.*		6M39	ZZ	*Radlett Redland Roadstone*	*0455½*	*(Q)*	
STP	*pass*		*East Usk Yard (Fhh)*	1	6Z39	ZZ	*Elstow Redland Sdg*	*0455½*	0453½	
WTT	*pass*		*Tunstead Sdgs*		6M44	ZZ	*Washwood Heath Up Sidings*	*0456*	*(Q)*	
VAR	*pass*		*Margam T.C.*	1	6M94	ZZ	*Corby B.S.C.*	*0506½*	0500¼	
CAN	*pass*		*Crewe Bas Hall S.S.M.*		6M36	ZZ	*Mountsorrel Sdgs*	*0540*	Cancel	
VAR	0555	0555¼	Birmingham New Street	1	1L26	XC	Stansted Airport	0555	0556	3
WTT	*pass*		*Bescot Up Engineers Sdgs*		6F16	ZZ	*Cliffe Hill Stud Farm Gbrf*	*0610½*	*(Q)*	
WTT	0627	0628¼	Birmingham New Street	1	1K01	XC	Leicester	0628	0629	5
VAR	0637	0637¼	Leicester	2	1P00	XC	Birmingham New Street	0638	0638¼	3
CAN	*pass*		*Leicester L.I.P.*		0N42	ZZ	*Crewe South Yard*	*0651½*	*(Q)*	
VAR	*pass*		*Birmingham New Street*	1	1L28	XC	*Stansted Airport*	*0656*	0656¼	3
WTT	0707	0708	Leicester	2	1P02	XC	Birmingham New Street	0708	0708½	3
VAR	*pass*		*Cambridge*	2	1N40	XC	*Birmingham New Street*	*0719½*	0722	3
VAR	0730	0730¼	Birmingham New Street	1	1K03	XC	Leicester	0730	0730½	3
VAR	0741	0742½	Leicester	2	1P04	XC	Birmingham New Street	0742	0743¼	5
VAR	0756	0759	Birmingham New Street	1	1L30	XC	Cambridge	0757	0759¾	3

Highly Misleading Reference to Relevance of Absolute Sound Levels (Context Section)

Paragraph 10.174**: "**BS 4142 goes on to state that 'where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background'."

A Technical Note to BS 4142:2014+A1:2019, dated March 2020, was prepared by The Association of Noise Consultants Good Practice Working Group (WG). This document is publicly available. It contains the following passages:

"The second paragraph notes that absolute levels may be as, or more, important than relative outcomes where background and rating levels are low. It is important to note that both background and rating levels would need to be low for this particular caveat to apply."

"BS 4142 does not indicate how the initial estimate of impact should be adjusted when background and rating levels are low, only that the absolute levels may be more important than the difference between the two values. It is likely that where the background and rating levels are low, the absolute levels might suggest a more acceptable outcome than would otherwise be suggested by the difference between the values. For example a situation might be considered acceptable where a rating level of 30dB is 10dB above a background sound level of 20dB, i.e. an initial estimate of a significant adverse impact is modified by the low rating and background sound levels."

"BS 4142 does not define 'low' in the context of background sound levels nor rating levels. The note to the Scope of the 1997 version of BS 4142 defined very low background sound levels as being less than about 30 dB LA90, and low rating levels as being less than about 35 dB LAr,Tr."

"The WG suggest that similar values would not be unreasonable in the context of BS 4142, but that the assessor should make a judgement and justify it where appropriate."

Given the stated current and projected sound levels in the report, Paragraph 10.174 does not apply to any numbered NSR in the report during any time period. As a result, for this report, it cannot be said that absolute levels are "as, or more relevant than the margin by which the rating level exceeds the background". Including Paragraph 10.174 in the report delivers a highly misleading impression to the reader and it should not have been relied upon for any decisions made.

Given the report chose to include Paragraph 10.174 and given what the report chooses to do in its wake, it's clear the report has relied upon it and has given the reader the impression it is justified in doing so, even though it isn't.

Use and Misuse of Context

Having delivered this misleading impression, in the very next Paragraph (10.175), the report sets about doing as little as it can to add context and as much as it can to have background sound levels supplanted by stated ambient sound levels.

BS 4142: “The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.”

BS 4142: “Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration…”

The Environment Agency Guidance On How Context Affects An Assessment contains a lengthy list of elements of context which can be considered.

However the report is squarely focused on switching from stated background sound levels to its stated ambient sound levels at NSRs.

In doing this, the report takes two sets of incorrect numbers: ambient levels at NSRs (overstated because attenuation corrections have not been applied to LAeq levels from NMP4) and rating levels at NSRs (understated because rating penalties have not been properly applied). It then performs calculations with those two sets of incorrect numbers, attempts to perform analysis and reach conclusions. The report creates a fool’s paradise and expects us to live in it. Trying to work with the numbers the report has produced is an intellectual cul-de-sac.

The report appallingly fails to contextualise its own stated LAeq values. There’s an obvious difference between an acoustic environment with a fairly continuous stream of 59.2 dB LAeq, and the acoustic environment of NMP4’s weekday day-time 59.2 dB LAeq which consisted of distant road noise, birdsong and the cause of that LAeq number being so high, extremely close proximity sporadic train pass bys. The report simply presents a number.

The output of this supplanting is that major adverse effects within the assessment due to predicted levels as high up to 18 dB above background during weekday daytime are immediately managed down to minor adverse effects. This occurs before any mitigation is applied. Only one relevant NSR is not managed down to a minor adverse effect at that point.

The report later makes use of its rating levels as justification for saying a calculated increase of 3 dB above current stated ambient sound levels as a result of the proposed operations would only just be perceptible. An example of this:

Paragraph 10.302: “As previously discussed, this level of change is considered marginal, and would barely be perceptible to the human ear with changes of 3dB only just perceptible under normal conditions. This relates to noise that is continuous and similar in nature to the existing noise, however by using the rating level, rather than the specific level accounts for this. As such, an

increase of 1.7dB is low, which is likely to result in a permanent, minor adverse effect, when context is taken into consideration, which is not a significant effect."

Thus, because the report has decided no rating penalties should be added to mitigated specific sound, it tacitly takes the view - without ever formally stating it - that once mitigation is applied, the proposed noise is effectively "continuous and similar in nature to the existing noise". It does this even though the predicted noise would so very obviously not be "similar in nature to the existing noise".

The whole approach is utterly misguided, facilitated by the application of the report's incorrect numbers. It amounts to a betrayal of the contextualisation process.

Demonstrable Overstatement of Current Freight Train Passes

Paragraph 10.206: “The change in noise level as a result of the additional rail movements has been calculated based on the existing and proposed train movements.”

Paragraph 10.207: “Realtimetrains has been used to provide the baseline for the existing movements at the current time on a weekday. This provides a comprehensive timetable detailing the scheduled and actual train movements on a given line for the previous seven days. The movements have been confirmed to be correct by the projects Rail Consultant.”

Paragraph 10.208: “The study area is defined earlier in this Chapter. A typical daytime and night-time period have been used as a basis for the assessment, and a number of assumptions have been made regarding the types of trains using the line, the speed and the length. These are detailed below in Table 10.49.”

Table 10.49 claims there are 41 freight “daytime two-way movements based on known movements”. It also claims there are 21 freight “night-time two-way movements based on known movements”.

Table 10.49: Assumptions regarding existing trains

Train type	Assumed speed (Kph)	Assumed composition	No. of daytime two-way movements based on known movements	No. of night-time two-way movements based on known movements
Turbostar Class 170	120	2 carriages	64	5
Class 66 with disc braked freight vehicles	105	1 locomotive and 25 wagons	41	21

Having lived here for decades, as soon as I saw these numbers, I knew they were wrong. I wasn’t able to say how many freight train passes there were on a typical day, but I knew there were far fewer than 62. I, along with others, decided it was necessary to undertake trackside monitoring.

The first monitoring period was the night-time period (2300-0700) starting on Monday 11th September 2023. During the eight hour period on that night, there were 8 freight train passes.

The second monitoring period was the day-time period (0700-2300) starting on Wednesday 13th September 2023. During the sixteen hour period on that day, there were 16 freight train passes.

Fortified by these facts, Realtimetrains was consulted for the periods concerned and the train passes through Hinckley were studied. The information on the website was in complete concordance with recorded observations. All the trains observed passing matched with train Actual Departure Times listed on the website and there weren't any trains with Actual Departure Times which had not been observed passing.

However, there were lots of other freight trains listed on the website which - unlike the freight trains which had passed by - did not have a number in the Actual Departure Time column. Instead, they had a "(Q)". The "(Q)" means the service runs only when required and has not been activated in a railway computer system to indicate its operation.

None of those freight trains ran, because they were not required. Because they did not run, they could not pass by.

It's quite obvious what the report has done. The report doesn't state the number of freight train passes on the line during a typical weekday day-time and night-time.

Instead, the report has stated the number of freight train services listed on Realtimetrains, disregarding how many actually run and pass by during a typical day.

Analysis of other weekday daytime and weekday night-time periods indicates that the current freight train passes stated in the report are ~200-250% of the actual number of freight train passes.

This means that, rather than the proposals increasing freight train passes by ~50% in the day-time, they would actually increase by ~130%. Rather than the proposal increasing freight train passes in the night-time by ~50%, they would actually increase by ~130%.

The consequence of this is that the report **overstates** the current sound due to train passes, and therefore **understates** the increase in dB LAeq which would be caused by the proposals. This leads to an understatement of the severity of the change because the report is assessing severity on the basis of increase in dB LAeq, as shown in Table 10.50 and Paragraph 10.212.

I note that calculations have not been attempted for existing and projected train sound levels during Saturday & Sunday daytime and night-time. This is unreasonable, particularly as the report itself acknowledges that on some Saturday nights there may not presently be any trains passing at all.

The proposers boast that their site would be able to accommodate trains up to 775 metres in length. That seems rather longer than the length assumed for existing freight trains. It seems risky to assume projected freight trains travelling to the proposed location would be identical to those currently taken to be passing by.

The impact scale explained in Paragraph 10.41 and shown in Table 10.9 seems rather strange in that the effects of railway noise are not explained at all with reference to Government policy.

They also seem very much at odds with the significance assessments included within the noise and vibration assessment of Northampton Gateway - Rail Freight Interchange, which are based on a combination of the change in noise exposure and the resulting noise exposure. That assessment method is included below:

Table 8.3 Thresholds of potential effects of railway noise at residential buildings

Effect	Time Period	Threshold Value ($L_{Aeq,T}$)[a,b]
LOAEL	07.00 – 23.00	50
	23.00 – 07.00	40
SOAEL	07.00 – 23.00	65
	23.00 – 07.00	55

Notes:

a This is the average daily value at a position one metre from a residential building façade containing a window, ignoring the effect of an acoustic reflection from that façade.

b For the night-time period of 23.00 – 07.00, the relevant noise indicator is Lnight.

Table 8.4 Descriptors of magnitude of daytime railway noise change

Magnitude of Impact	Resulting Exposure	
	Between LOAEL & SOAEL	SOAEL or greater
No Change	0	0
Negligible	Up to 2.9 dB(A)	Up to 0.9 dB(A)
Minor	3.0 – 4.9 dB(A)	1.0 – 2.9 dB(A)
Moderate	5.0 – 9.9 dB(A)	3.0 – 4.9 dB(A)
Major	10.0 dB(A) and over	**5.0 dB(A) and over**

8.3.23 Whether or not a significant adverse effect is expected to occur is determined by comparing the predicted noise level (with the Proposed Development) with the LOAEL and SOAEL values shown in Table 8.3, and also considering the increase in noise due to the Proposed Development. If the result for any property falls in the categories shown by the shaded boxes with text in bold in Table 8.4, that indicates that the property is regarded as experiencing a significant adverse effect with respect to Government policy due to an increase in railway noise during the daytime period. .

8.3.24 If the night-time LOAEL threshold is exceeded, the data in Table 8.5 sets out how the magnitude of the impact is described taking account of the change in night-time noise exposure and the resulting exposure.

Table 8.5 Descriptors of magnitude of night-time railway noise change

Magnitude of Impact	Resulting Exposure	
	Between LOAEL & SOAEL	SOAEL or greater
No Change	0	0
Negligible	Up to 0.9 dB(A)	Up to 0.9 dB(A)
Minor	1.0 - 2.9 dB(A)	1.0 – 2.9 dB(A)
Moderate	3.0 – 4.9 dB(A)	3.0 – 4.9 dB(A)
Major	5.0 dB(A) and over	5.0 dB(A) and over

8.3.25 Whether or not a significant adverse effect is expected to occur is determined by comparing the predicted noise level (with the Proposed Development) with the LOAEL and SOAEL values shown in Table 8.3, and also considering the increase in noise due to the Proposed Development. If the result for any property falls in the categories shown by the shaded boxes with text in bold in Table 8.5, that indicates that the property is regarded as experiencing a significant adverse effect with respect to Government policy due to an increase in railway noise during the night-time period.

The stated current and predicted weekday night-time rail traffic noise levels are above SOAEL, and the predicted increase is +1.8 dB. Applying the significance assessment within Northampton Gateway - Rail Freight Interchange to the stated predicted increases during the weekday night-time as listed in Table 10.50 results in minor adverse impacts which are significant with respect to Government policy.

The report deems this +1.8 dB a negligible adverse impact which is not significant.

Given the report is overstating current freight train passes, the real magnitude of increase would be more dramatic.

If the report had bothered to assess current and predicted weekend train passes, those results would be even more dramatic.

Construction and Construction ‘Mitigation’

Table 10.28 lists the LAeq values predicted to be caused by construction noise at various NSRs. The construction noise is predicted to be above the chosen weekday 7am-7pm 65 dB threshold at NSRs during all four phases of construction, with the highest value being 90 dB.

Some of the predicted values exceed thresholds for noise insulation and even thresholds for temporary rehousing, as set out within Annex E, BS 5228-1:2009+A1:2014 and as expressed in terms of current Government policy. The report does not mention these thresholds at all.

The report describes the effect as “temporary, major adverse at worst for NSRs”. Construction is “likely to be undertaken over a period of up to 10 years”.

The construction mitigation section does not include any predicted mitigated values. It is purely descriptive, filled with generic statements. It includes the rather nauseating statement:

Paragraph 10.278: “Consultation and communication with the local community throughout the construction period also serves to publicise the works schedule, giving warning to residents regarding periods when higher levels of noise may occur during specific operations, and providing them with lines of communication where complaints can be addressed. Dissemination of such information is likely to encourage the community to be more tolerant of short-term disturbance with potential long-term benefits of the proposals.”

There are no benefits for us. There would only be costs. These proposals are not noble public works, they are a profit seeking activity by a business at the permanent expense of NSRs. Paragraph 10.278 typifies the vacuity of the proposed construction ‘mitigation’.

The report self-satisfyingly concludes: “With the proposed mitigation in place, it is considered that the effects of construction noise and vibration would be reduced at existing NSRs to between temporary, minor adverse significance and temporary, moderate adverse significance at worst.”

No numerical basis at all is given for this reduction from major adverse to between minor and moderate adverse significance. In the absence of any lower predicted numerical values, the predicted numerical effect should be considered unchanged.

The reduction from major adverse to moderate and minor adverse is not justified in any objective way, it’s a subjective reduction. As it makes this subjective adjustment, the report does not properly consider the factors included within BS 5228’s “6.3 Issues associated with noise effects and community reaction”. These factors include: attitude to the site operator, noise characteristics (e.g. impulsivity), duration of site operations and existing ambient noise levels.

Assessment of Operational Maximum Noise Levels

Paragraph 10.37: “The potential effects of operational maximum noise levels from the operational phase of the HNRFI will be assessed in accordance with World Health Organisation (WHO 1999) Guidelines for community noise and WHO Environmental Noise Guidelines for the European Region (2018).”

WHO 1999 Guidelines For Community Noise Paragraph 3.4. Sleep Disturbance: “If negative effects on sleep are to be avoided the equivalent sound pressure level should not exceed 30 dBA indoors for continuous noise. If the noise is not continuous, sleep disturbance correlates best with LAmax and effects have been observed at 45 dB or less.”

WHO 1999 Guidelines For Community Noise Paragraph 4.2.3: "...Therefore to avoid sleep disturbance, guidelines for community noise should be expressed in terms of equivalent sound pressure levels, as well as LAmax/SEL and the number of noise events."

WHO guidelines suggest that indoor noise levels from such events should not exceed approximately 45 dB LAFmax more than 10 – 15 times per night.

The report does not state the maximum number of container placements or spreader impacts expected in a night (2300-0700). The report does disclose the LAFmax value thresholds it is using to declare the severity of effect, but does not disclose the methodology which led to those thresholds. It isn’t even clear whether the report has considered the number of container placements or spreader impacts. It also isn’t clear whether the report is considering the incorrect ambient sound levels. Without such information, it isn’t possible to make a proper assessment.

As the assessment is of operational maximum noise levels, potential maximum noise levels from off-site train movements haven’t been considered.

Window Attenuation

Paragraph 10.188: “The criterion adopted for the assessment is based on a free-field external level of 60dB LAFmax which should not be exceeded. Based on an open window providing approximately 15dB reduction, in accordance with BS 8233, this would result in an internal level of 45dB LAFmax which is not to be exceeded more than 10-15 times per night, in accordance with WHO Guidelines.”

BS 8233: “If partially open windows were relied upon for background ventilation, the insulation would be reduced to approximately 15 dB 3), resulting in the target levels being exceeded. However, windows may still be openable for rapid or purge ventilation, or occupant’s choice.”

BS 8233: “3) Note that the level difference through a window partially open for ventilation can vary significantly depending on the window type and the frequency content of the external noise. If the specific details of the window and external noise are known the value for insulation may be adjusted accordingly.”

WHO 1999 Guidelines For Community Noise Paragraph 3.4. Sleep Disturbance: “It should be noted that it should be possible to sleep with a bedroom window slightly open (a reduction from outside to inside of 15 dB).”

BS 8233 does not say that an open window provides approximately 15 dB reduction. It says a window partially open for background ventilation provides approximately 15dB reduction. It also says that having windows open for rapid ventilation, purge ventilation or occupant’s choice would decrease that reduction, that different window types can decrease that reduction and also that different noise frequencies can decrease that reduction.

In the case of other rail freight interchanges, a reduction of 12 dB has been applied for partially open windows.

East Midlands Gateway – Rail Freight Interchange: “6.14 In the first instance, the probability of an awakening has been considered assuming that the windows of the hotel guest rooms are partially open, providing around 12 dB attenuation of external sound levels.”

Northampton Gateway - Rail Freight Interchange: “8.5.42 The impact of night-time maximum noise levels from train movements was assessed at six receptors: R1, R18, R24, R32, R39 and R54. Two assessments were undertaken, one assuming bedroom windows are partly open for ventilation providing an overall sound attenuation of 12 dB(A); the other assuming windows closed providing a sound attenuation of 25 dB(A).”

If - as the report states - it is to be based on an open window, a reduction of external sound levels by 10 dB would be assumed.

If it is to be based on a partially open window, a reduction of external sound levels by 12 dB would be assumed, as in the environmental statements of other rail freight proposals.

Burbage Common & Woods

Deficiencies already explored also pervade the report's assessment of current & projected sound levels at Burbage Common & Woods along the report's subsequent analysis and conclusions.

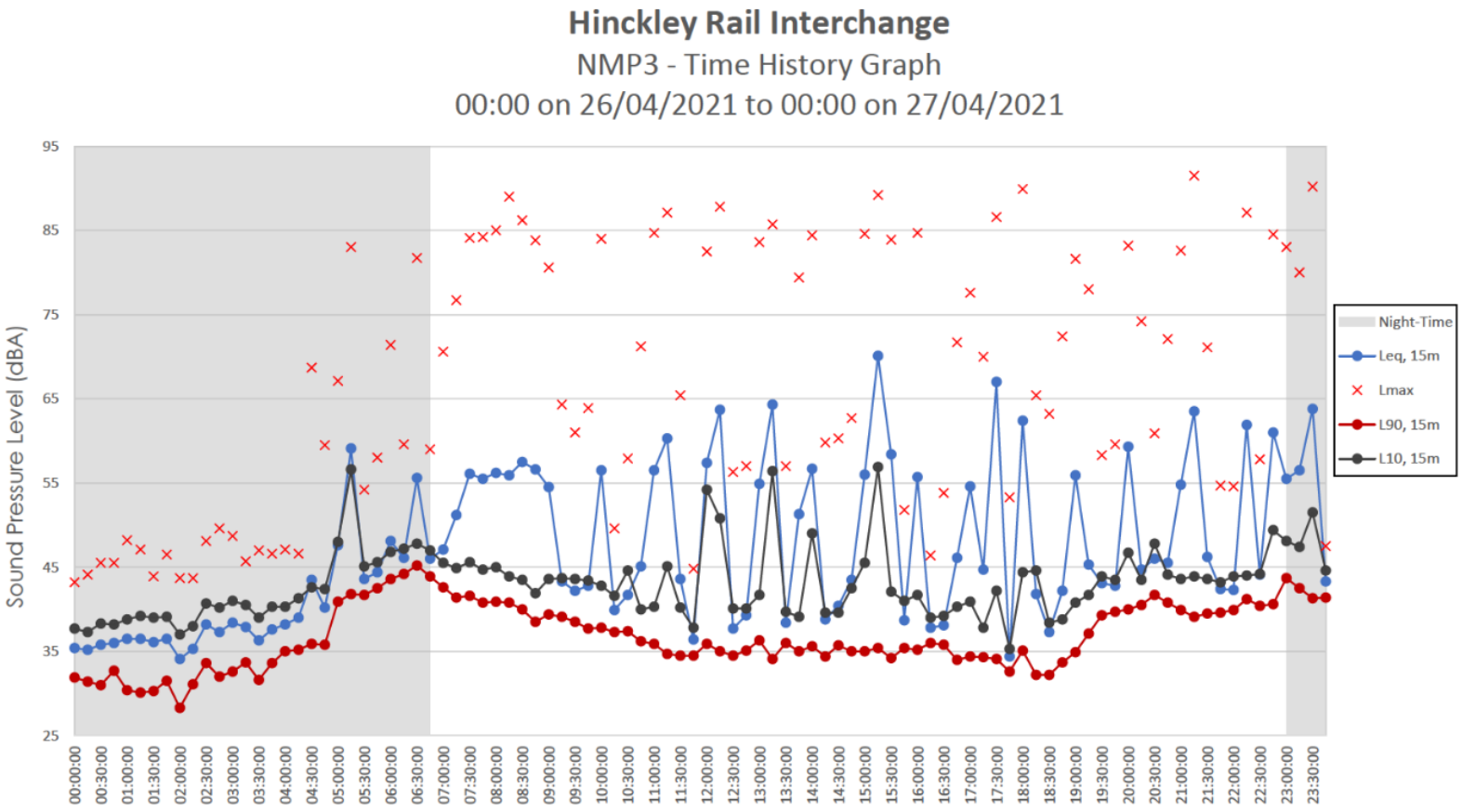
Appendix 6.2.10.5 Noise Survey Method Statement: (ML3, subsequently referred to as NMP3) is said to be "Representative of Burbage Common and woods, Aston Firs SSSI and Elmesthorpe Plantation".

Figure 10.1 Indicates the locations of the identified NSRs.

Figure 10.2 Indicates the locations of the noise monitoring locations. NMP3 is depicted as being in similarly close proximity to the railway line as VMP1 (12 metres) and NMP4.

Paragraph 10.94: "Noise monitoring was undertaken at NMP3, which is considered representative of the existing noise climate at Burbage Common Woods. Noise monitoring commenced at 11:00 hours on Wednesday 21st April 2021, finishing at 12:00 hours on Thursday 29th April 2021. Measurement equipment at NMP3 was established in free-field conditions at a height of 1.5m above local ground level. During periods of attendance the noise climate at NMP3 was noted to be dominated by distant road traffic on the M69, train pass-bys on the rail line, overhead aircraft and natural sources eg. birdsong."

Unsurprisingly, measuring sound levels in extremely close proximity to a railway line led to significant spikes in Leq values as trains passed by. The impact on NMP3's stated Leq values can be seen in full within Appendix 6.2.10.10 Summary Results. An example of results over a twenty-four hour period is included below.



Lack of Attenuation Corrections at Burbage Common & Woods

The report compares predicted operational noise levels during the daytime at NSR 19, the location chosen to represent Burbage Common & Woods, with the stated background at NSR 19. This leads to levels 19 dB above background during the weekday daytime and 17 dB during the weekend daytime, as shown in Table 10.39 & Table 10.41. The report goes through its routine of having background levels supplanted by stated ambient sound levels.

Once again, LAeq levels derived from measurements made in extremely close proximity to the railway line have been taken, and then applied to locations further away, without applying attenuation corrections to train pass bys. The report states NSR 19's current LAeq values as if it were located at the railway line, as NMP3 was. The major adverse impacts are immediately managed down to minor adverse impacts. This occurs before any mitigation is applied. There is no meaningful context section. Given the location of the site and the predicted site operational LAeq at NSR 19, the rating penalty allocations appear too low but they aren't open to scrutiny due to lack of supplied information. Once mitigation is applied, there are no rating penalties applied to predicted specific sound. The routine is familiar.

If the sound of rail pass bys had been attenuated, attention should have been given to both distance and topography. The railway line is in a cutting as it passes near the bridge which forms a barrier and reduces sound levels on the Common. NMP3's measurements did not benefit from those reductions. This failure to apply attenuation corrections to rail pass bys is particularly perverse for two reasons.

The first reason is that the proposed A47 link road and HNRFI site would be perpendicular to the railway line but approximately parallel to Burbage Common & Woods. This means that very little of the area which would be afflicted by noise due to the proposals currently experiences very significant noise from train pass bys. The railway line bisects the Common & Woods, creating a narrow strip of sporadic noise, whereas the proposals would acoustically envelop the Common & Woods. The Figure 10.8 Long-term Development Generated Road Traffic Assessment Unmitigated LA10 18hr and the Figure 10.3 Operational Noise Contours Unmitigated LAeq 16hr illustrate this point.

This also means that if sound levels had been attenuated for distance and topography, then the selection of location NSR 19 in Figure 10.1 (~85 metres from the railway line) as Burbage Common's sole NSR would understate the predicted change in LAeq in other areas of Burbage Common. This is because, at locations further from the railway line, the reduction in noise from the railway line due to greater distance and topography is much more significant than the reduction in noise due to greater distance from the proposals. This is a consequence of the proposed A47 link road and the railway line being approximately at right angles to each other.

Grid coordinates (445147, 295096) near the ponds at Burbage Common, ~240 metres from the railway line would be a good example of this effect. NMP3's LAeq values with train pass bys attenuated for distance and topography would lead to larger LAeq increases due to the proposals than would be calculated at NSR 19 in Figure 10.1, even though the predicted noise level due to the proposals is lower than at NSR 19. As the report has applied no attenuation corrections, the report would have given this location the same current LAeq values as NMP3 and so its LAeq increase would wrongly be stated as smaller than at NSR 19.

The second reason it's particularly perverse that no attenuation corrections have been applied is due to the comparisons the report has chosen not to make within the tranquillity section.

The report's tranquillity section has chosen not to compare any metric of predicted sound levels at Burbage Common & Woods with stated current LA90 values, as it did in the general assessment of operational noise.

The report's tranquillity section has chosen not to compare any metric of predicted sound levels at Burbage Common & Woods with stated current LA10 values, as in the general assessment of road traffic noise.

The report has solely chosen to compare stated current LAeq with predicted LAeq. This means the only sound comparison in the tranquillity section is between predicted sound levels at the NSR and stated current sound levels, using stated current sound levels containing unattenuated train pass bys.

As ever, the predicted LAeq sound levels have been carefully attenuated to the NSR location.

Related Mischaracterisation and Consequences of Decisions Involving Burbage Common & Woods

Paragraph 10.270: “It is also worth noting that a review of the noise model indicates that the proposed noise levels are dominated by road traffic on the proposed link road. As the site is already surrounded by busy roads, and the background noise levels are characterised by road traffic, it is considered that the resultant noise levels will not be out of character.”

This is incredibly slippery and takes some effort to expose. The report has not previously mentioned background levels at Burbage Common & Woods. It finally does so, purely to mount a specious argument, without stating the background levels. According to the report’s own numbers, the background level at Burbage Common & Woods during weekday day-time is 36 dB LA90, 16hr. The report attempts to use this 36 dB to state a predicted 57 dB LAeq 16hr dominated by road noise from the proposed close proximity A47 link road along with the previously non-existent HNRFI site would “not be out of character”. This is absurd, and its absurdity is further highlighted by other data.

As only LAeq values containing unattenuated train pass bys at NMP3 have been stated in the report, those values are not useful to study present vs predicted road traffic noise.

Paragraph 10.110: “In accordance with guidance from BS 8233, the LAeq,16hr noise level can be determined by subtracting 2 dB from the measured or derived LA10,18hr noise level, provided the noise climate at the measurement position is dominated by road traffic.”

The report states its predicted noise levels at Burbage Common & Woods are dominated by road traffic on the proposed link road. Therefore, if we take the predicted LAeq,16hr at Burbage Common due to the proposals (57 dB) and add 2 dB we have the predicted LA10,18hr at Burbage Common (59 dB).

The report does not state measured LA10 values at NMP3. However, a baseline noise survey was undertaken by Hydrock in 2018 at similar measurement positions (shown on page 29) to those adopted for the current noise survey. The LA10 values of that survey were disclosed in the PEIR report (shown on page 30). LA10 values provide the benefit of being less skewed than LAeq values by the extremely close proximity train pass bys at NMP3 as those pass bys are inherently brief. LA10 values are also the values typically used for assessing the effect of road noise and LA10 values have been used to assess the effect of road noise for other NSRs in the report.

The value at ML2 (stated by the report to be a similar location to NMP3) for LA10,**16**hr was 43 dB during the weekday day-time. The value for LA10,**8**hr was 38 dB during the weekday night-time. These values were measured in close proximity to the railway line and would have also included aeroplanes, natural sounds e.g. birdsong etc. **not just road noise**. This is far lower than the predicted 59 dB LA10,18hr dominated by road traffic noise.

Analysis of NMP3’s LA10 data Appendix 6.2.10.10 Summary Results is yet further confirmation.

This reinforces just how radically the acoustic environment would be changed by the proposals. The current distant road noise at Burbage Common is nothing like the predicted 57 dB LAeq which would be dominated by the proposed close proximity A47 link road. The report studiously avoids

revealing this fact by hiding behind stated current weekday daytime 57 dB LAeq values and stated current weekend daytime 52 dB LAeq values resulting from unattenuated train pass bys.

It shouldn't be surprising that NMP3's unattenuated trackside LAeq values were used, for the following three reasons:

1. It is in keeping with the report's failure to attenuate railway sound measured at NMP4.
2. If the sound of train pass bys had been attenuated to a meaningful distance away from the railway line, the change would have been exposed.
3. If measured LA10 values had been used - as they often are for current versus predicted road noise comparisons, the change would have been exposed.

The only method which would conceal this change was the one chosen for the report: unattenuated trackside LAeq values. I don't think that is a coincidence.

Paragraph 10.268: "Review of the resultant noise levels at Aston Firs indicates that the levels are below the upper guideline value of 55dB LAeq,16h for external areas in accordance with WHO guidelines and BS 8233. It also considered that the noise levels across the majority of the nature reserves will also be below 55dB LAeq,T. Therefore, the amenity of visitors to these areas will be protected."

Aston Firs is private woodland so there wouldn't be many visitors there. Referencing BS 8233 in this context seems somewhat strange. The referenced passage is contained within BS 8233 sub clause 7.7.3 on living accommodation, and reads as follows:

"For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB LAeq,T, with an upper guideline value of 55 dB LAeq,T which would be acceptable in noisier environments."

Burbage Common & Woods (including Elmesthorpe Plantation) aren't related to living accommodation, and they are not "noisier environments".

The National Planning Policy Framework (NPPF) sets out the Government's planning policy for England. The NPPF states planning policies and decisions should: "Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."

For Hinckley and the surrounding towns and villages, Burbage Common & Woods are exactly such areas.

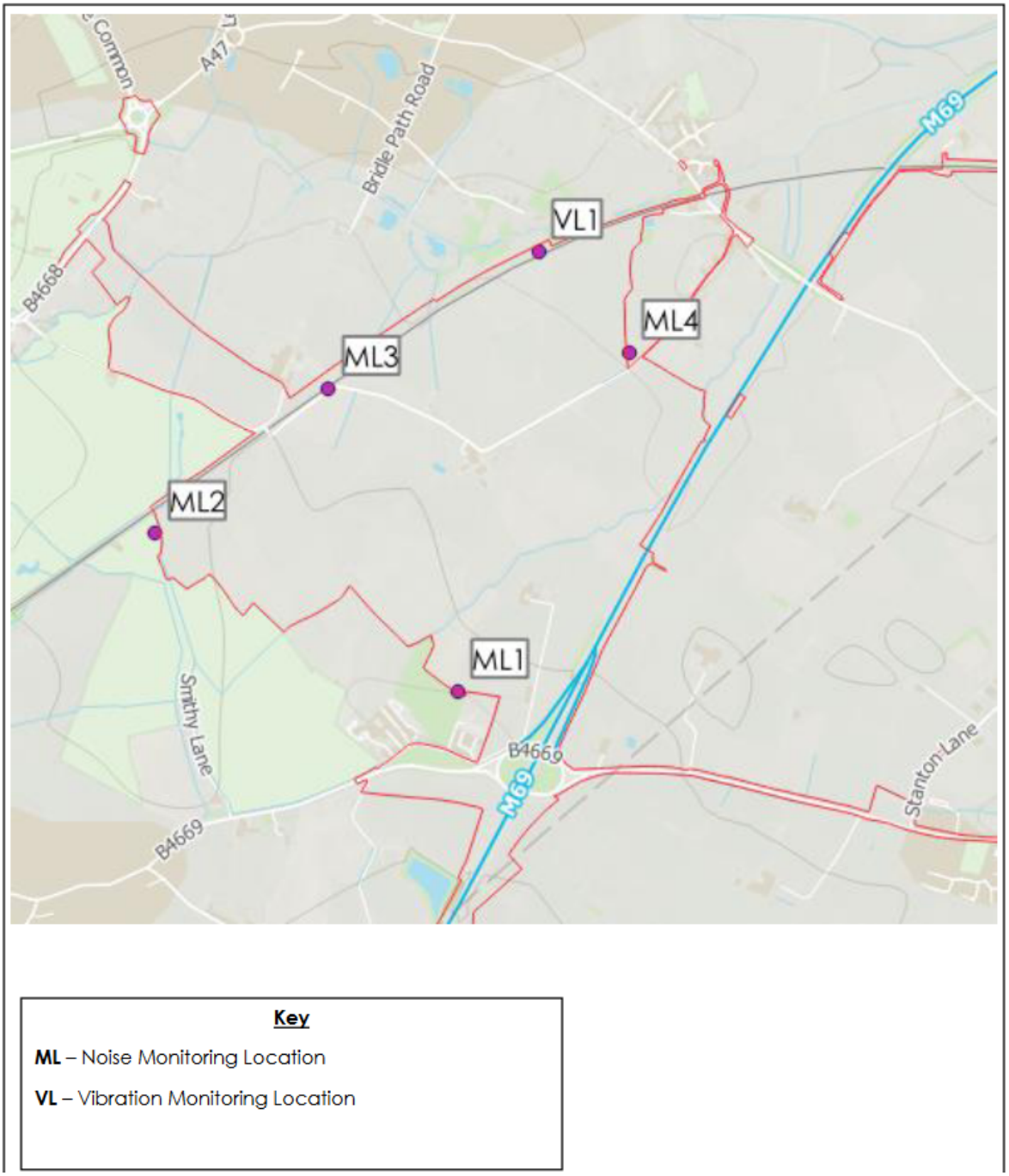
The WHO 1999 Guidelines For Community Noise states: "Existing quiet outdoor areas should be preserved and the ratio of intruding noise to natural background sound should be kept low."

The report erroneously treats these areas as if they were someone's garden in a noisy area.

The report has not included increased noise due to all site noise, only operational noise. The report has not included increased noise due to the predicted increased off-site rail movements.

The mischaracterisation of the acoustic environment at Burbage Common & Woods is egregious and would be outrageous to anyone who knows the Common and became aware of the report's contortion of reality.

PEIR monitoring locations. ML2 is said to be in a similar position to NMP3:



Measurements at PEIR monitoring location ML2. ML2 is said by the report to have been in a similar position to NMP3:

Table 10.18: Summary of measured sound pressure levels at ML2

Day and date	Measured noise levels, dB re, 2 x 10^{-5} Pa							
	Daytime (0700 – 2300)				Night-time (2300 – 0700)			
	$L_{Amax,f}$[1]	$L_{A10,15m}$[2]	$L_{Aeq,15m}$[3]	$L_{A90,15m}$[4]	$L_{Amax,f}$[1]	$L_{A10,15m}$[2]	$L_{Aeq,15m}$[3]	$L_{A90,15m}$[4]
Tuesday 24th July 2018	80	43	51	34	81	42	53	32
Wednesday 25th July 2018	80	43	51	35	79	43	52	36
Thursday 26th July 2018	78	45	49	39	81	41	52	32
Friday 27th July 2018	77	43	49	37	78	40	46	34
Saturday 28th July 2018	79	49	51	43	72	40	42	36
Sunday 29th July 2018	76	46	48	42	71	40	41	34
Monday 30th July 2018	76	44	49	39	80	40	48	31
Tuesday 31st July 2018	88	45	50	37	77	38	47	30

[1] Highest L_{Afmax} sound pressure level during measurement period
[2] Arithmetic average of the measured 15min periods
[3] Logarithmic average sound pressure levels during measurement period
[4] Representative $L_{A90,15m}$ value to be used following statistical analysis of $L_{A90,15m}$, including max, min, mode, median and mean

Fundamental Incompatibility Between the Proposer's Measured Facts and the Proposer's Modelled Road Noise

Following the preceding three sections on Burbage Common & Woods, the proposer and their associates may well seek solace - and others may seek answers - in the proposer's modelled current and projected LA10 values for the area due to road noise. So I decided to study the available contour maps, which revealed a broader problem. The report's modelled road traffic noise values are incompatible with their own measurements at noise monitoring positions. The modelled road traffic noise numbers at Burbage Common are significantly higher than the report's measured facts at noise monitoring positions. When measured values are in conflict with a model produced by the proposer, measured values should take precedence.

The report's modelled current LA10 values due to road noise are shown within Figure 10.4: Short-term Development Generated Road Traffic Assessment without Mitigation - Noise Contours 'without development' dB LA10, 18hr. This states that essentially all of Burbage Common is within the 50.0-54.9 dB(A) LA10, 18hr noise contour for road traffic noise.

We know that isn't true. We know it because the proposer has undertaken two noise monitoring surveys in that area which both showed LA10 values **due to all noise sources** significantly below 50-54.9 dB(A) LA10, 18hr. The first set of numbers (ML2 within the PEIR) can be seen on page 30 of this document. The second (NMP3) can only be eyeballed within the Appendix 6.2.10.10 Summary Results. Again, only LA10 values due to road traffic would be relevant, other noise would not be. A few periods have LA10 values which have been clearly skewed by train pass bys which would not be relevant. These LA10 values during both surveys would also include birdsong, aeroplanes, dogs, people etc. This means measured LA10 values **due to road traffic noise** at Burbage Common & Woods are lower than those numbers at ML2 on page 30 and those data points at NMP3.

The report's modelled projected LA10 values due to road noise are shown within Figure 10.5: Short-term Development Generated Road Traffic Assessment without Mitigation - Noise Contours 'with development' dB LA10, 18hr.

Presumably the report has then subtracted the stated current LA10, 18hr road traffic noise values from the stated predicted LA10, 18hr with development road traffic noise values to obtain the predicted changes which would be caused by the development.

These predicted changes are then shown in Figure 10.6: Short-term Development Generated Road Traffic Assessment without Mitigation - Noise Contours 'difference between with and without development' dB LA10, 18hr.

The stated predicted increase in LA10, 18hr due to road traffic noise at Burbage Common & Woods is significantly **understated** because the stated current values are significantly **overstated**. Anecdotally, I would add that distant traffic noise at monitoring locations ML2 & NMP3 are higher than in some other areas of Burbage Common & Woods.

Lack of Cumulative Impact Assessment

Predicted sound levels at NSRs are given for various proposed noise sources.

However, there is no cumulative ‘all in’ assessment of predicted sound levels at NSRs due to the cumulative effect of projected sources of sound during all time periods. These would include all noise from the site, increased road traffic noise and increased off-site rail movements.

As a result, it isn’t stated what the report’s cumulative projected increases above stated background and ambient sound levels are at each NSR.

The Black Box & Conclusion

There should have been almost nothing in the report to comment on. Instead, even I, a member of the public with no relevant qualifications or previous experience, have managed to uncover a veritable buffet of failure and wrongful behaviour. I shouldn't have been able to do this and I shouldn't have had to do it. The failures and wrongful behaviour all go in one direction: to the benefit of the proposer.

Given what the proposer's report does wrong in those areas which are on public display and are therefore somewhat open to investigation, those areas of the report which can't be interrogated should be treated with a high degree of scepticism. It would be foolish to have confidence in the report's predicted sound levels, predicted distance attenuations and predicted reductions due to proposed mitigation.

Only those involved in the report have access to the report's noise model and its outputs. They are a black box: impenetrable to outsiders. They can only be taken on trust. Those involved in the creation and submission of the report have shown they do not merit that trust.

I don't think the report can confidently be seen as an authoritative, reliable, independent document by anyone other than the proposer. It certainly makes me wonder about the reliability of the environmental statements covering other areas which have been submitted by the proposer. I can only hope others will give them the scrutiny they need.