

A1 Birtley to Coal House

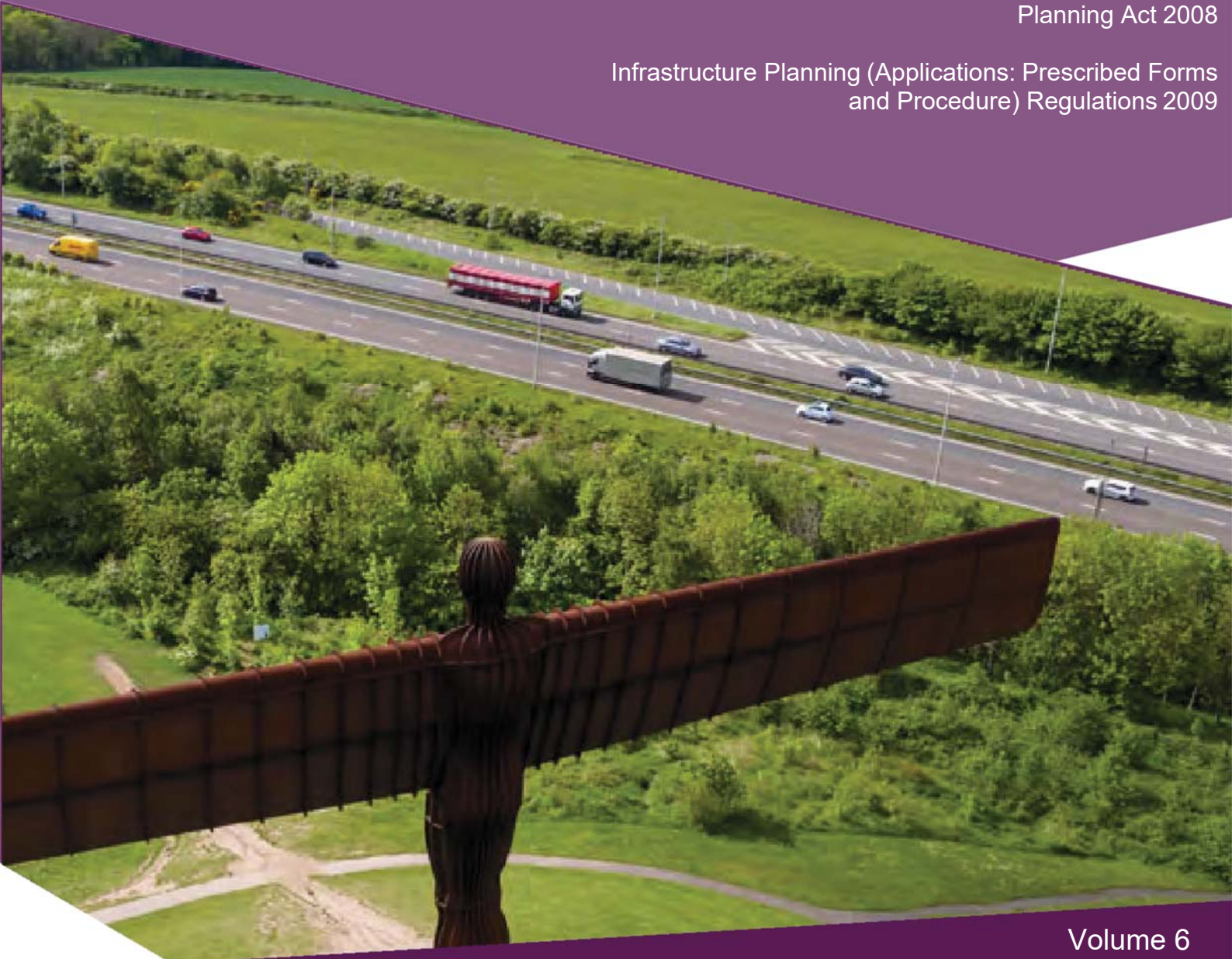
Scheme Number: TR010031

6.3 Environmental Statement – Appendix 11.17 Vibration Nuisance

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms
and Procedure) Regulations 2009



Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedures) Regulations 2009**

**A1 Birtley to Coal House
Development Consent Order 20[xx]**

**Environmental Statement -
Appendix**

Regulation Reference:	APFP Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010031
Application Document Reference	TR010031/APP/6.3
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ASSESSMENT OF CHANGE IN ROAD TRAFFIC INDUCED AIRBORNE VIBRATION NUISANCE ARISING FROM THE SCHEME

- 1.1.1. An assessment of the change in traffic induced airborne vibration nuisance arising as a result of the Scheme has been undertaken following the guidance detailed within HD 213/11.
- 1.1.2. The same approach is adopted as for noise nuisance, but accounting for the DMRB guidance which states that the percentage of people bothered by airborne vibration is 10% lower than for noise, with, on average, traffic induced vibration nuisance tending to zero at a noise level of 58dB LA10,18h. A 40m distance buffer is also applied. These factors mean that fewer dwellings are considered compared to the change in noise nuisance assessment.
- 1.1.3. As required by HD 213/11, the numbers of dwellings within stated ranges of percentage change have been determined, and are reported in **Table 17-1**.

Table 17-1 - Change in traffic induced airborne vibration nuisance

Change in noise nuisance level		Number of dwellings	
		Do Minimum	Do Something
Increase in noise nuisance	< 10%	284	14
	10 < 20%	0	82
	20 < 30%	0	0
	30 < 40%	0	0
	>40%	0	0
No change	0	8	52
Decrease in noise nuisance	< 10%	32	148
	10 < 20%	0	14
	20 < 30%	0	14
	30 < 40%	0	0
	>40%	0	0

- 1.1.4. **Table 17-1** shows that, without the Scheme, all dwellings would be subject to changes in airborne vibration noise nuisance of less than 10%, with 32 benefiting, 8 remaining unchanged, and 284 being adversely affected.
- 1.1.5. That the majority of dwellings would be subject to an increase in airborne vibration nuisance is due to the effect of natural traffic growth. That the resulting increases are relatively small
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(less than 10%) is a product of the fact that in this case, consideration is given to the long-term change only (i.e. the comparison drawn is DM 2023 vs DM 2038), for which the change in nuisance is calculated by applying **Figure 2.2** of **Appendix 11.2** to the noise level for each scenario and the change is determined by calculating the difference, (which invariably is small unless notable noise level changes arise).

- 1.1.6. With the Scheme, the changes in airborne vibration nuisance are split a little more evenly between increases (96 dwellings) and decreases (176 dwellings), with 52 subject to No Change. More dwellings will therefore benefit than be adversely affected. The increases and decreases also extend over larger ranges, from a 10 to 20 % increase to a 20 to 30 % decrease.
- 1.1.7. The range of results is more notable compared to the Do Minimum situation, because this part of the assessment also encompasses consideration of short term noise level changes, for which **Figure 2.1** of **Appendix 11.2** is applied (which is not the case for the Do Minimum analysis). When applying **Figure 2.2**, a noise level change of only 1dB gives rise to a change in airborne nuisance of 21%. In this regard a marked difference in the results for the Do Minimum and Do Something scenarios is almost always expected.
- 1.1.8. Over all, an improvement (reduction) in airborne vibration nuisance is identified across the scheme.

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