

ArupTransport

Tyne and Wear Passenger Transport Authority

New Tyne Crossing

Summary of Proof of Evidence on Noise and Vibration

By Christopher Manning, BSc, MSc, CEng, MI Mech E, FIOA

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Arup Transport

Central Square, Forth Street, Newcastle Upon Tyne NE1 3PL, UK
Tel +44 (0)191 2616080 Fax +44 (0)191 2617879
www.arup.com/acoustics

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		Name	Chris Manning	Jo Webb	Colin Waters
		Signature			
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1. SUMMARY OF PROOF OF EVIDENCE ON NOISE AND VIBRATION

- 1.1** My name is Christopher James Manning. I hold a Bachelor of Science degree in Special Physics from the University of London and a Master of Science degree in Noise and Vibration Studies from the University of Southampton. I am a Chartered Engineer, a Member of the Institution of Mechanical Engineers and a Fellow of the Institute of Acoustics.
- 1.2** I am a Director of Ove Arup & Partners Ltd with particular responsibilities for noise and vibration consultancy within the firm. I have more than thirty years experience in the fields of transportation and environmental noise and vibration control, and have acted as an expert witness on many occasions.
- 1.3** I was responsible for the Noise and Vibration assessment carried out as part of the Environmental Assessment for the New Tyne Crossing, which covers noise and vibration from temporary construction activities, long term operational issues from fixed plant and road traffic using the new highways and increases in traffic on existing roads.
- 1.4** My detailed Proof describes the assessment methods used for these temporary (construction) and permanent (operational) issues.
- 1.5** For construction noise I have identified the potential for significant effects at a number of properties due mainly to tunnel cut and cover works both north and south of the river Tyne.
- 1.6** I have not identified any significant effects from vibration either in terms of comfort for occupants of buildings or damage risk to structures.
- 1.7** A Code of Construction Practice (as appended to Paul Johnson's proof of evidence) has been proposed which will be contractually binding on the Concessionaire to minimise any disturbance from construction noise. This will require the Concessionaire to prepare detailed method statements and carry out noise predictions for submission to the Local Authority to obtain prior consent for all work packages. This allows for the Local Authority to place restrictions on working hours, require use of low-noise plant and methods, and provision of temporary screens.
- 1.8** The Code of Construction Practice also confirms the need for the Concessionaire to employ Best Practicable Means (BPM) to minimise noise and vibration from construction works. Where, despite the use of BPM, predicted noise levels are likely to exceed the trigger levels contained in the Code of Construction Practice, a scheme for provision of noise insulation to the property and temporary relocating of the occupants will be provided.
- 1.9** Ambient noise surveys were carried out by Newcastle City Council, as lead authority for the Tyne and Wear Passenger Transport Authority, and Arup Acoustics to determine existing conditions, and these confirmed road traffic is the dominant source of noise in the study area.
- 1.10** Background noise levels were recorded in the area potentially affected by the additional ventilation building. I do not predict that this additional ventilation building would give rise to any significant noise effects, and fan selection and building design can be undertaken to comply with appropriate standards.
- 1.11** The assessment of traffic noise followed the guidance of DMRB, comparing predicted noise levels for "do minimum" and "do something" scenarios. Based on this, I conclude that the scheme would not give rise to significant operational (traffic) noise effects.
- 1.12** Predicted traffic noise changes as a result of the scheme are generally below 3 dB, and all such changes are rated "negligible". Some properties in Priory Road would actually see a small reduction of 3 - 4 dB in traffic noise levels as a result of reduced traffic flow along that road.

- 1.13** Some properties in Mitford Street, Brinkburn Street, Meldon Street, Regent Road and Epinay Walk are already subject to high existing traffic noise levels and the small increases due to the scheme might just cause the trigger values under the Noise Insulation Regulations (at Appendix L to my proof of evidence) to be exceeded. This will need to be assessed in detail in accordance with the Regulations within one year of the scheme opening date, and eligibility for noise insulation confirmed or otherwise.
- 1.14** An assessment was also made of indirect traffic noise effects over a wider area, based on predicted future traffic growth. On further examination much of this growth comes from anticipated development and, having visited these areas, I am satisfied that these indirect traffic noise effects are in fact negligible.
- 1.15** In conclusion, I have shown that, whilst there might be some temporary effects from construction noise, these can be minimised and effectively managed by implementation of the Code of Construction Practice.
- 1.16** Design of fixed plant at the additional ventilation building can be controlled by conditions so as to be unlikely to give rise to noise complaints.
- 1.17** Increases in traffic noise levels due to the scheme have been minimised by choosing a route and crossing location adjacent to the existing transport corridor. No significant traffic noise effects are predicted.