



Sound Science for Society? Roe Highway Extension 8 - Western Australia's most noisy road even before it was built

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ABSTRACT

The Roe Highway Extension 8 (Roe 8) was likely Western Australia's most expensive and most noise sensitive planned road infrastructure development to date. The building of the road was a highly controversial topic leading up to the 2017 WA State election. The circumstances surrounding the development was likely a major contributing factor towards the largest election loss in history for the incumbent government as there was substantial public opposition to the commencement of building Roe 8 by the clearing of the Beelihar Wetlands, which is a considered a wetland of national and international significance, just 3 months before the election. Significant anomalies identified in the traffic modelling and the subsequent noise mitigation procedures in the Noise Management Plan were first identified early in the environmental impact assessment process but were left uncorrected. The errors appeared to propagate through to the delivery of the final infrastructure plan just before the commencement of clearing. These errors along with the procurement of traffic data from a successful Freedom of Information request indicated significant variances in both total and heavy vehicle volumes projected to 2031 and 2041 to what had previously been accounted for in the Public Environmental Review. These circumstances may have resulted, if challenged, in the re-triggering of the requirement for the proponent (Main Roads WA) and building consortium to deliver a new Noise Management Plan at the 11th hour, at a time where significant environmental and project related financial costs had already been incurred. Additionally, the proponent and building consortium may have, in the worst case, been found to contravene the planning process bringing the validity of the entire project into question and potentially exposing the State to unnecessary liabilities. This talk will discuss the role of assessing noise impact in this project, the problems exposed and the failures in the statutory planning process for noise mitigation. Such failures may have contributed up to \$85 million in costs for the WA State Government and the consequential irreparable environmental and cultural damage to the Beelihar Wetlands. Yet despite these costs, solutions to transport problems with respect to the distribution of freight (and consequential noise impact) in the WA metropolitan area are still pending.

The talk will discuss the errors/anomalies identified in the Noise Mitigation Plan and traffic modelling anomalies:

- (1) The lack of consideration to deliver a Noise Management Plan using a night time noise criterion given the road was expected to deliver freight to a 24-hour operational port.
- (2) The errors in the construction of projected 2031 diurnal traffic profiles which were used as key points for validation of the acoustic assessment.
- (3) Conflicting methods presented to project heavy vehicle percentages on the network at 2031.
- (4) Conflicting traffic figures in the Noise Management Plan, Executive Business Case Summary, and internal correspondence obtained via FOI.

The talk will also discuss the limited understanding on the impact on the Wetlands and surrounding communities from traffic noise until a time when it was too late and irreversible and costly damage had already occurred. This problem highlights the increasing need for acousticians to participate in public scientific debate for high profile noise sensitive projects such as this in ways far more than assisting the proponent fulfil statutory requirements. Political advertising stating that the impact on the Wetlands would be 0.49% grievously failed to consider the propagation of noise over the surrounding lakes and most likely still leads to public misconception on the real impact of the road development. There is an urgent need for greater public education of the harmful effects of noise to both the environment and amenity to strengthen existing noise policies and properly inform public debate when large infrastructure projects are first proposed. Identification of significant noise issues needs to be dealt with properly early in the planning process so public ignorance of science and planning procedures are not exploited or overlooked. Additionally, the talk will examine the need for better understanding and demonstration of the limits of noise impact assessments and mitigation measures, as required by WA State Planning Policy 5.4 and the Environmental Protection Act 1986. New research conducted using speaker arrays to identify impact on fauna from anthropogenic development and recent advances in acoustic sensor arrays for identification of noise fields from heavy vehicles and trains will be discussed as possible mitigation measures.