

The Brisbane light rail project and noise

Modern light rail is a comparatively quiet form of public transport. The maximum noise level generated by Brisbane's light rail is expected to be approximately 75dB(A) which equates to the noise level which would be experienced standing 7.5 metres away from a car travelling along a level road at 60 km/h.

Vibration from the proposed state of the art system is expected to be minimal. It is proposed that the track be embedded in a rubber (elastomeric) compound which reduces any vibration.

Construction noise and vibration can be controlled by:

- Using construction equipment with low noise emission levels;
- Maintaining and substituting equipment as necessary; and
- Restricting concrete pours to standard working hours.

Noise and vibration impacts from the construction of Brisbane's light rail network are expected to be transient in nature.

Noise generated by the light rail service once it is operational can be reduced with the following measures:

- an ongoing maintenance program;
- the use of continuously welded rails;
- the possible use of friction modifiers to reduce "wheel squeal". Modifiers can also increase rail and flange life and increase energy efficiency; and
- careful choice of tones and

pressure levels for bells and warning systems can minimise the impact on communities neighbouring the route.

In March 1998, PPK Environment and Infrastructure conducted noise surveys through the network area which included that traffic was the major source of noise in West End, New Farm and Teneriffe areas. This included buses, with roadside noise levels ranging from 60 to 79 dB(A). Typically noise level increase during peak hour traffic times.

These areas were also subject to a variety of urban sound including noise from construction and renovation activity, planes, ferries, children, pedestrian signals and car horns.

These results suggested that the noise generated by the operation of light rail would be well below the maximum acceptable levels. The study also indicated that noise levels generated by the light rail network would be similar in magnitude to road traffic noise currently experienced in these areas.

During construction, the light rail network will result in a temporary increase in noise levels within the vicinity of the network. Noise generated by various construction activities will vary depending upon the number and duration of construction activities taking place. Equipment such as pavement breakers can result in peak noise levels of 80 dB(A) at the nearest resident and commercial areas.

At present, it seems likely that only those residences which are very

In common with many municipalities around the world, Brisbane (Australia) is considering developing a city wide light rail network. Light rail is electrically generated and produces no air emissions, itself. Additionally, a good system should lead to less car use thus less emissions, and less noise. What noise, however, will the light rail project itself generate?

Over-loud buses

San Francisco Municipal Railway's new 40 feet diesel buses, made by Neoplan USA, are causing a bit of a headache. Residents are complaining about the noise they make - up to 90 decibels as against the 83 decibels specified in the contract. And as SFMR have ordered 235 buses and want to order another 175, both it and Neoplan are trying to get the problem identified and sorted out. So far, Neoplan has traced the excessive noise to the engine cooling system. On a few buses, it has cut the noise level to 84 decibels by changing the nine-blade fan in the engine cooling system to eight blades, removed some mounting material and inserted more sound-deadening material. But SFMR are accepting these modifications as only an interim solution and for the order of 175 more buses, want a final design solution from Neoplan.

close to worksites will experience some vibration. These vibrations will be temporary and localised in effect. It is anticipated that blasting will not be required during the construction of the light rail network.

Overall, it seems likely that noise and vibrations during the construction phase of the network is not likely to be excessive and anyway is only temporary; moreover, substantial

construction projects are simply a feature of modern urban life and complaint is otiose. The real noise and vibration benefit will come if, as proponents of light rail systems contend, trains do take significant numbers of cars off the road, and keep them off the road. If the city's background roar can be reduced to a background hum, then a major gain for civilised city living has been made.

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UK Noise Forum

On the 3rd July, in The House of Commons, Mr Bob Russell asked the Secretary of State for Environment, Food and Rural Affairs what action she intends to take on the conclusions contained in publications issued by the Government and on behalf of the Government which were distributed at the United Kingdom Noise Forum's inaugural conference held on 20 May; and if she will make a statement.

Mr. Meacher said,

The 'Noise Incidence Study' (NIS) and 'Noise Attitudes Survey' (NAS), are the latest in a time-series of data on the levels of noise, and people's perception of noise.

The key finding from NIS is that the average noise levels measured during the daytime and evening have decreased to some extent.

The environmental (road, rail and air traffic) noise issues identified within NIS

and NAS, will be addressed during the development of the National Ambient Noise Strategy currently being developed. Moreover, the highlighted problem of neighbour noise will be jointly targeted with the planned amendments to the Noise Act 1996, which will make it easier for councils to use additional powers to control domestic noise, and with the 'Neighbour Noise Communications Plan'. This will involve the characterisation of both noisemakers and noise sufferers so that a hard-hitting publicity campaign can communicate both how to deal with noise nuisance, and how to avoid creating it.

Additionally, the 'Review of European Legislation and Practices (2002)', has identified a variety of enforcement and control measures that my officials will be exploring in more detail. These include: Integration of local authority efforts—the Amsterdam example given in the report appears to offer benefits, Mediation—mediation in Norway is cited as a model service, Education—further research is recommended into the effectiveness of education programmes, particularly in schools.'

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