



INFORMATION SHEET – MANAGING NOISE

Albury Wodonga Hume Freeway – Ettamogah to Murray River

September 2005

The Albury Wodonga Hume Freeway will link the Hume Freeway at Wodonga with the present Hume Highway at Ettamogah, north of Albury.

Abigroup has been contracted to design and construct the freeway. Major construction commenced in June 2005 with the freeway scheduled to open to traffic in mid 2007.

The Roads and Traffic Authority (RTA) is managing the project in NSW. This section is fully funded by the Australian Government.

Abigroup is committed to working with the RTA to minimise the impact of the freeway on the local community. Abigroup understands that freeway aesthetics and traffic noise is a significant issue for the community, particularly in residential areas.

How does the human ear work?

The ear is sensitive to sound pressure. Sound waves represent tiny oscillations of pressure in the air, just above and just below atmospheric pressure. These pressure oscillations impinge on the ear and we hear the sound. Noise is measured on a logarithmic scale so that numbers describing levels of sound pressure are more manageable. The units of this scale are decibels (dB).

Although the perceived loudness of a sound depends primarily on sound pressure, it is also influenced by frequency. The human ear is most sensitive to mid-band or high frequencies and is less sensitive to low frequency sounds. Because of this varying sensitivity, a weighting scale known as the 'A' scale is used.

An illustrative range in noise levels measured in dB(A) follows:

- 140 dB(A) – jet take off (25m distance)
- 85 dB(A) – noisy workplace (factory)
- 80 dB(A) – average street traffic
- 65 dB(A) – business office
- 40 dB(A) – living room
- 20 dB(A) – quiet bedroom

What's all the noise about?

The levels and characteristics of road traffic noise depend on factors such as the composition of the traffic, vehicle speeds, vehicle ages, driver behaviours, the type of road surface, surrounding topography and the grade or slope of the road.

The principal effects of traffic noise are annoyance, the drowning out of wanted sounds such as bird calls and rustling leaves, and fatigue as a result of sleep deprivation.

Target noise levels for day time and night time traffic are established through The NSW Department of Environment and Conservation (DEC) Environmental Criteria for Road Traffic Noise (ECRTN) and the RTA's Environmental Noise Management Manual. Both documents provide guidance on implementing the criteria.

The 'target' noise levels for the project are:

Target	New road*	Existing road*
Day time (7am - 10pm)	55 dB(A)	60 dB(A)
Night time (10pm - 7am)	50 dB(A)	55 dB(A)

* New road - generally south of Davey Road

* Existing road - generally north of Davey Road

Where existing traffic noise already exceeds the target levels, and where it is not reasonable or feasible to reduce traffic noise to the target level, there is an 'allowance' criterion.

New road	Existing noise plus 0.5 dB(A)
Existing road	Existing noise plus 2 dB(A)

This criterion is based on the current noise levels with an allowance for additional noise from the new road.

How is the need for noise treatment determined?

An acoustics consultant has undertaken an independent assessment of existing traffic noise at 28 locations along the freeway corridor.

The height and location of noise barriers, such as earth mounds and noise walls, are determined using a computer traffic noise model. This model considers:

- Existing traffic noise levels.
- The location and height of the freeway and associated entry and exit ramps.
- Landform and topography.
- Proximity and exposure of houses in the surrounding area.
- Traffic volumes, composition and vehicle speeds.
- Pavement types to minimise traffic noise.
- Road design geometry.
- Cost effectiveness to comply with performance requirements.

When will noise barriers be considered?

Noise barriers will be considered where traffic noise levels are predicted to exceed the project noise goals at houses in the surrounding area and where shown to be reasonable and feasible.

Noise treatment will be provided for land/buildings currently developed for residential, educational, religious or health care purposes where traffic noise levels will be above the project noise goals upon opening the project. Vacant land zoned for these purposes will also be considered for noise mitigation. However, developers are generally responsible for noise treatments for developments approved after the date of approval for this project (23 January 1998).

How do noise barriers work?

A noise barrier is an obstacle placed between a noise source (freeway traffic) and the listener (residents), which disrupts the path of the sound waves (noise). Effective noise barriers typically reduce noise levels by 5 to 12 dB(A), reducing the loudness of traffic noise by as much as 'one half'.

The barrier must generally be tall enough and long enough to block the view of traffic on the freeway from the area that is to be protected. Noise barriers (above the traffic) can only provide limited benefit for homes on a hillside or buildings taller than the barrier.

Barriers may be a landscaped earth mound or fence made of various materials. Where a barrier is not a feasible or reasonable solution, it may be necessary to reduce its height and length and/or treat the dwellings, such as double glazing windows, to reduce noise impact.

The choice of treatment depends on the space available, aesthetics, visual impact and the level of noise reduction that can be achieved.

What will the noise barriers look like?

Noise barriers come in various materials, textures, colours and finishes. An urban design and landscape consultant has been engaged to assess the aesthetic aspects of noise barrier design for the Albury Wodonga Hume Freeway. They consider the characteristics of the surrounding environment and issues such as potential overshadowing of properties or loss of view. One of their objectives is to design noise barriers in such a way as to minimise the impact on the local environment.

The acoustic (noise) consultant provides the urban designer with the details of the location, height and density needed to achieve the noise level targets.

Has the community been consulted?

Ongoing consultation with the Department of Environment and Conservation (DEC) and the Department of Infrastructure, Planning and Natural Resources (DIPNR) helps develop the noise mitigation measures.

Consultation also occurs with landowners, residents and the local community.

Noise wall plans will be made available at the Community Display Centre on Dalling Road, Albury.

Where can I get more information?

For more information on the project:
Phone toll free 1800 674 934
Email albury@abigroup.com.au
Log on to www.rta.nsw.gov.au/albury or
www.auslink.gov.au/projects/natnet/NSW/cnnh066.aspx
Visit the Community Display Centre on Dalling Road, Monday to Friday from 9am - 5pm (excluding public holidays).



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