

SOUNDS IN THE CITY

The inner city is a fantastic place to live because of proximity to shops, restaurants, transport, employment and entertainment. This mix of use contributes to a vibrant and exciting City. If you are considering relocating to the inner city, it is important to think about the sounds generated by these activities.

The acoustic terminology used in this Fact Sheet is explained in *Fact Sheet 11: Acoustic Terminology*.

Sound and Noise

Noise may be defined as unwanted or undesirable sound. Noise is not the same for all people as some sounds that are acceptable to some may be intolerable to others. Inner city noise is often associated with sounds such as garbage collection, construction and traffic, but can include people speaking, spruikers and music from residential or licensed premises.



Understanding Noise

The strength of sound, or sound pressure level, is measured in decibels (dB(A)). Variations of the dB(A) measurement are used to analyse noise and set prescribed levels for noise from commercial sites. *Note: the "A" weighting is used to represent how humans hear sound. Generally speaking:

- A 10 dB(A) increase in sound level is perceived as about twice as loud.
- A 10 dB(A) reduction in sound level is perceived as about half as loud.
- A 3 - 4 dB(A) change in sound level is usually just noticeable.

Factors other than sound level are important. Even at low volume, a sound may be annoying due to the characteristic of the noise such as pitch, duration, impulsiveness or how frequently it occurs.

Some typical noise sources and their respective noise levels		
Noise Level (dB(A))	Source	Subjective Description
120	Rock Concert	Intolerable
110	Accelerating Motorcycle (at five metres)	
100	Pneumatic Hammer (at two metres)	Very Noisy
90	Loud Factory	
80	Kerbside of Busy Street, Shouting	Noisy
70	Busy Traffic	
60	Department Store, Speech Level	
50	Quiet Restaurant	
40	Residential Area at Night	Quiet
30	Theatre	
20	Rustling of Leaves	Very Quiet
10	Human Breathing (at three metres)	
0	Threshold of Hearing for normal young people	

Source: Bies D.A and Hansen C.H, Engineering Noise Control: Theory and Practice.

The Effects of Noise

Noise can have a range of effects on health and wellbeing, particularly when sleep is interrupted. Some effects of noise include stress, annoyance and tiredness. The experience of noise is individual, making it important to consider your own perception of sounds that annoy or disturb you.

Moving into Adelaide City

The diversity of activity in the inner city generates higher levels of external noise than in suburban areas. Noise from activity such as traffic, people on the street, operational commercial sites and waste collection can adversely affect the amenity of those living in the City. In some cases there may also be increased low frequency noise from sources such as truck engines or music.

If you have decided you want to live in the inner city, you should explore the neighbourhood in which you intend to move. Consider spending a night in a hotel or apartment, preferably close to where you intend to purchase. This will give you the opportunity to experience and listen to the activities that make Adelaide such a vibrant place. If possible, choose a hotel or apartment offering windows that open or a balcony, so you can experience the sounds of the City at night. It is also important to investigate the opening hours of the following potential noise sources that may be located nearby.



Clubs, Hotels and Bars

Noise from clubs, hotels and bars can be disruptive to nearby residences. It is important to check the location of any late night entertainment venues around the area that you are interested in so that any potential noise sources can be identified and located. Noise can be from music noise, patron noise and other related activities.

The Office of the Liquor and Gambling Commissioner has venue licence details listed on their web site (www.olgc.sa.gov.au)



The Development Plan provides guidelines on the maximum allowable music noise levels from entertainment premises. The noise criteria is based on the background noise levels in the vicinity of the venue. In addition to music noise, residences can be disturbed by patrons leaving the venue at odd hours and bottle collections. The Development Plan recommends that entrances to such venues be located and designed to keep patrons away from noise sensitive residences. Control of noise due to bottle collections and the like is discussed below under 'Waster Removal'.

Car Parks

The Adelaide (City) Development Plan requires that typical activity within a car park associated with a development should not exceed the requirements of the World Health Organisation for minimising sleep disturbance if it is proposed for use after 10.00pm.

Waste Removal

Residences and businesses in the City generate a large quantity of waste. If rubbish bins are located close to a residential property there is an increased possibility of sleep disturbance from early morning waste collection. Consider the location, number of bins, waste collection routine and number of collections per week.

To ensure minimal disturbance to inner city residences, the Adelaide (City) Development Plan seeks to ensure that ancillary activities such as deliveries, collection, movement of private waste bins, goods, empty bottles and the like should not occur after 10.00pm on any night and before 7.00am Monday to Saturday or before 9am on a Sunday or Public Holiday.

Air Conditioning and Ventilation Equipment

Commercial and residential buildings in the City often have externally located fans or air conditioning cooling towers. Noise from this equipment can be more noticeable during the summer months when such equipment is used more frequently.

For more information see *Fact Sheet 7: Sound Insulation for Air Conditioners and Other External Mechanical Plant*.



Image Courtesy of City of Melbourne

Roads

All roads in the City have the potential for traffic movements at night. It may take only one vehicle passing late at night to disturb your sleep. You may also need to consider the late night (10.00pm - 1.00am) and early morning (5.00am - 7.00am) movement of buses, and the routes taken by pedestrians to and from bus stops. For more information see *Fact Sheet 9: Adelaide City Road Traffic Noise Map*.

Acoustic design of a residence needs to take into account the sounds experienced in the inner City. Although a resident within the City has the right to live comfortably, disputes over noise can be long and extremely costly. To avoid disputes, a decision to rent or purchase should take account of nearby noise sources, acoustic design and your perception of sound.

Adelaide (City) Development Plan

The Adelaide (City) Development Plan seeks to minimize noise by setting out what are:

- The allowable noise emission from new developments with noise sources. Noise attenuation measures are required for a development with noise sources to achieve several different noise criteria relating to music and mechanical plant noise. In addition, there are requirements as to ancillary activities associated with the development and the use of related car parks.
- The allowable noise intrusion into new noise sensitive developments. Noise attenuation measures are required for a noise sensitive development to achieve several different noise criteria such as sleep disturbance criteria, internal design sound level criteria and music criteria.

The Development Plan seeks to ensure that noise levels generated within new developments are reasonable and the amenity of those living within the City is maintained.

Acoustic Consultant

If you are considering any sound insulation, it is recommended that you verify any sound insulation specifications with your architect/builder and/or employ the services of an acoustic consultant to ensure the proposed changes provide significant noise reduction.

To contact an acoustic consultant visit the Yellow Pages Directory (under Acoustical Consultants) or for an acoustic consultant who is part of the Association of Australian Acoustical Consultants (AAAC) visit www.aaac.org.au

Other Fact Sheets

A number of other Noise Technical Fact Sheets complement the information in this document. These can be downloaded from the City of Adelaide website: www.cityofadelaide.com.au/noise

Fact Sheet 1: Sound Insulation Guidelines

Fact Sheet 2: Gaps and Flanking Paths

Fact Sheet 3: Sound Insulation for Windows

Fact Sheet 4: Sound Insulation for Glazed Doors and Standard Doors

Fact Sheet 5: Sound Insulation for Exterior Walls and Facade Systems

Fact Sheet 6: Ventilation

Fact Sheet 7: Sound Insulation for Air Conditioners and Other External Mechanical Plant

Fact Sheet 8: Sounds in the City

Fact Sheet 9: Adelaide City Road Traffic Noise Map

Fact Sheet 10: Noise Ready Reckoner

Fact Sheet 11: Acoustic Terminology

Fact Sheet 12: Frequently Asked Questions

Fact Sheet 13: Sound Insulation for Internal/Common Walls

Fact Sheet 14: Sound Insulation of Floors

Fact Sheet 15: Mechanical Plant for Commercial Buildings

Fact Sheet 16: AAAC Star Rating

The Building Code of Australia Compliance

The Building Code of Australia (BCA) should be consulted to ensure that any sound insulation upgrades comply with the requirements of the BCA. It should be noted that although the upgrade of a building element may be acoustically beneficial, it may not comply with the requirements of the BCA.

Australian Building Codes Board

The Noise Technical Fact Sheets contain content sourced from the Building Code of Australia and Guidelines on Sound Insulation, published by the Australian Building Codes Board (ABCB). These documents can be purchased from the ABCB website: www.abcb.gov.au

Standards

The standards which apply in the Development Plan are:

- Australian/New Zealand Standard 2107:2000 “Acoustics - Recommended design sound levels and reverberation times for building interiors”
- World Health Organisation, Guidelines For Community Noise, Edited by B Berglund et al, 1999) (<http://www.who.int/docstore/peh/noise/guidelines2.html>)
- Recognised liquor licensing noise limits (www.olgc.sa.gov.au). These are modified to apply within bedroom and living areas.

Contacts / Additional Information

Additional information can be obtained from:

- Australian Association of Acoustic Consultants (www.aaac.org.au)
- Australian Acoustical Society (www.acoustics.asn.au)
- Office of the Liquor and Gambling Commissioner (www.olgc.sa.gov.au)
- South Australian EPA (www.epa.sa.gov.au/noise.html)
- South Australian Police (www.sapolice.sa.gov.au)
- Yellow Pages (www.yellowpages.com.au search “acoustic”)
- Australian Window Association (www.awa.org.au)

NOISE TECHNICAL FACT SHEET

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Contact Us

For further information call City of Adelaide on (08) 8203 7203 or email city@cityofadelaide.com.au

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