

Chapter 7: Noise

7.1 Summary and indicators

7.1.1 Summary

Noise is considered to be "unwanted sound" that causes annoyance to a person. Excessive noise over long periods has been shown to have significant health implications for individuals and communities. The Queensland Department of Environment has set draft guidelines for daytime and night-time noise limits.

State

Noise monitoring of industrial sites within the City is carried out on a complaint basis. There is no regular noise monitoring regime carried out in the Gold Coast City with respect to noise from industrial areas. Approximately 70% of noise complaints that are received by Council are generated from domestic or residential premises. As part of the City's dependence on private car-based transport, noise impacts on some existing roadways are significant and have been shown to be above acceptable noise limits for traffic noise in residential areas, as set by the Department of Transport.

Pressure

It has been found that the number of noise complaints received by Council increases during the summer months, when residents tend to leave windows and doors open for comfort. This allows noise to intrude into an area which it does not usually affect. Areas have appeared within the City where a residential area has been developed adjoining an industrial area. In addition to the existing and growing noise-problem arising from local transport, the further development and intensification of the Pacific Highway is predicted to cause noise 'black-spots' at Beenleigh, Pimpama, Coomera, and Helensvale.

Response

Noise related issues are dealt with by both the Council and various State Government Departments.

Conclusion

Regular local monitoring of noise is required to establish clearer baseline values that can be used to evaluate degradation of the noise-environment. There is likely to be a need to develop strategies to handle transport related noise at a number of locations throughout the City.

7.1.2 Indicators

Sub-theme	Indicators
State- ⇒ Noise from transport	Monitored ambient noise readings for major roads (by time of day)
State- ⇒ Monitored readings from industrial sites and point sources	Monitored readings for major industrial sites and point sources Noise from ERAs
State- ⇒ Noise from other sources	Workplace noise levels Complaints to council and DEH
State ⇒ transport	Traffic volume and location
Pressure- ⇒ Industrial sources	
Pressure- ⇒ residential sources	
Current Responses- ⇒ State or Council codes	Areas where codes apply

7.2 Introduction

Noise is considered to be "unwanted sound" that causes annoyance to a person. Excessive noise over long periods has been shown to have significant health implications for individuals and communities.

In the regulation and control of noise in the community, noise can be divided into two different areas, depending on where the noise is generated. These groups are known as residential and commercial/industrial areas.

Noise that originates from either one of these areas may vary greatly from the type of noise created in the other, due to the varying types of activities that are carried out in each of the areas.

Residential noise results from premises in a residential area affecting one another. Examples of noise that can originate from residences and cause a problem include noise from power tools, pool filters, air conditioners, lawn mowers, toilet exhausts, barking dogs and behavioural noise (music, rowdy behaviour).

Industrial and commercial premises create different types of noise than that of residential areas and as such, can affect their neighbours differently. Examples of noise generated from industrial/commercial premises include noise from heavy machinery, compressors, refrigeration motors, truck deliveries, exhaust fans, amplified music, banging and grinding.

7.3 State

The Queensland Department of Environment has set draft guidelines for daytime and night-time noise limits as shown below:

- 55 dB(A) (L_{eg} (8 hour) night-time (22:00 - 06:00)): This is the equivalent continuous noise exposure level for the specified period.
- 63 dB(A): (L_{10} (18 hour) night-time (06:00 - 00:00)): This is the 'A-frequency range' weighted noise level that is allowed to be exceed for only 10% of the specified time period. The 'A frequency range' approximates that of the human ear.

L_{eg} and L_{10} are thresholds which refer to different average noise levels, of different duration, at different times of the day.

Noise monitoring of industrial sites within the City is carried out on a complaint basis. There is no regular noise monitoring regime carried out in the Gold Coast City with respect to noise from industrial areas. Therefore, all noise measurements that the Council has obtained are as a result of complaints and consequently not all industrial areas have been monitored.

Examples of ambient background readings measured within some of the City's industrial areas between 7am to 10pm are shown in Table 7.1.

Table 7.1: Ambient background noise readings (7am-10pm) from selected industrial areas of the City of Gold Coast

Location	Background noise reading dB(A)
Labrador (Brisbane Rd)	60
Molendinar (Industrial Ave)	55
Miami (Gold Coast Highway)	50
Yatala (Burnside Rd)	50

Environmentally Relevant Activities (ERAs) licensed by Council are usually located within commercial/industrial areas and as such, create the same types of noise that are mentioned above. In 1995/96 there were 44 noise complaints received and actioned that related to ERAs.

Approximately 70% of noise complaints that are received by Council are generated from domestic or residential premises. Officers from Council's Health and Regulatory Services Branch use the Council's Local Laws to solve complaints regarding lawn mowers, air conditioners and barking dogs, whilst the Noise Abatement Regulations 1979 are used to deal with noise complaints regarding pool filters.

All previous information supplied regarding noise has dealt with off-site effects of noise. Excessive noise that affects the employees of a workplace and is generated by that same workplace is regulated by the Division of Workplace Health & Safety, Queensland Government

At this stage, the retrieval of data with respect to the number, type and location of noise complaints (Non ERA) is not possible, however, a revised reporting format has been introduced to allow this by the Department of Environment.

The development of road-based transport systems has been vital to the economy of the Gold Coast. This situation is likely to continue for the near future. For example, without such development the average trip time will more than treble from today's 13 minutes for the average trip of 9km to around 75 minutes for a trip of 14km. Such congestion will have impacts on amenity, noise and air quality on the Gold Coast.

As part of the City's dependence on private car-based transport, noise impacts on some existing roadways associated with the Pacific Highway are significant and have been shown to be above the Department of Transport noise limits. These were at:

- Dublin Drive, Eagleby;
- The Esplanade, Coomera;
- The Gardenvale Caravan Park (Oxenford);
- Entrance Road (Gaven);
- Arjuna Way (Nerang);
- Parkridge Drive (Nerang);
- Nerang Street (Nerang);
- and Cayuga Street (Nerang).

The Main Roads Department has also conducted a noise modelling study into noise levels associated with other Gold Coast roads and predicts that approximately 4000 residences are currently affected by excessive noise. Figure 7.1 shows the location of noise affected residences along major Gold Coast roads.

Another area affected by transport related noise is the Southern Gold Coast surrounding the Coolangatta Airport. Problems associated with aircraft noise could increase if the airport traffic is increased and International flights come directly to Coolangatta.



Figure 7.1: Residences exposed to road traffic noise levels above 68 dB(A) in 1997. (Source: Huson and Assoc. 1997)

7.4 Pressure

It has been found that the number of noise complaints received by Council increases during the summer months, when residents tend to leave windows and doors open for comfort. This allows noise to intrude into an area which it does not usually affect.

Areas have appeared within the City where a residential area has been developed adjoining an industrial area. This creates problems, due to the loud nature of activities carried out in an industrial area, affecting the quiet of the adjoining residential area. In these situations, both parties believe that they have conflicting rights.

Suitable buffer zones may prevent this situation from arising. This issue also relates to the Gold Coast Airport, the adjoining residential areas and those in the flight path.

In addition to this the further development and intensification of the Pacific Highway is predicted to cause noise 'black-spots' at Beenleigh, Pimpama, Coomera, and Helensvale (Rust PPK 1997). These areas correspond with the 'air black-spots' shown in Figure 4.1. Huson and Assoc (1997) also predict that the number of noise affected residences along State-controlled Gold Coast roads will increase to over 7000 by the year 2007.

These impacts are driven by growth of vehicle usage in the City. The Gold Coast has one of the highest rates of growth for new residences and has a high ownership of vehicles per capita. These facts are compounded by the high use of cars for transport in the Gold Coast and the low vehicle occupancy rate. The result of this is a significant noise problem from transport in the City.

7.5 Response

There is a range of legislation used by Council's Health and Regulatory Services Branch to control the levels of noise generated by certain premises. The legislation used by Health and Regulatory Services Branch includes:

- The Environmental Protection Act 1994 - Devolved environmentally relevant activities (ERAs).
- The Noise Abatement Act 1978 - All commercial/industrial premises in the former Gold Coast City Council area only (explained below).
- The Noise Abatement Regulation 1979 - Swimming pool equipment.
- Gold Coast City Council Local Laws - All domestic noise issues.

Other noises not included above that are generated within the City are regulated by other State Authorities, including the Department of Environment, Queensland Police Service and the Licensing Commission.

Complaints received regarding commercial/industrial (non ERAs) are only investigated within the former Gold Coast City, as the responsibility for its control was devolved to the former Council under the Noise Abatement Act 1978. In the former Albert Shire, all commercial and industrial premises (non ERAs) are regulated by the State Department of Environment.

Complaints from commercial and industrial (including ERA) premises concern mainly machinery and tool noise, eg, compressors, refrigeration motors, grinders.

The Main Roads Department proposes to spend \$8M on noise abatement along State-controlled Gold Coast roads by the year 2002. They will also undertake community consultation on this issue and will cooperate with the Gold Coast City Council to establish effective planning controls (Huson and Assoc. 1997)

7.6 Conclusions and possible future responses

Noise is not an acute issue for most of the City of Gold Coast. However where it is, it is mostly associated with pets, light industry and transport and to some extent aircraft. In some areas, particularly those adjacent to major roads and the Pacific Highway, problems associated with traffic noise are likely to increase.

The Gold Coast City Council is looking to locate permanent noise monitoring sites throughout the City. These devices will provide more reliable data and will enable a more consistent approach to noise regulation. This monitoring would be in conjunction with the development of the upgraded Pacific Highway and will include the linking of the upgrade to the new Town Plan so that impacts from noise can be reduced. These data would then allow noise contours to be developed that may assist in the design and assessment of development proposals.

7.6 References

Huson and Assoc. (1997) *South Coast -Hinterland District Road Traffic Noise management Strategy*, Main Roads Department, Queensland Government

Rust PPK (1996) *Pacific Motorway Review of Environmental Factors: Human, Natural and Economic*, Main Roads Queensland Government