

29 Noise

29.1 Introduction

This section should be read together with Part D, Section 14 for a summary of the legislative requirements, existing environment, road traffic noise effects and treatment measures.

In addition to the information in Section 14, the predicted road traffic noise effects for Port Wakefield Road are outlined below.

29.2 Noise effects of the project

29.2.1 Predicted traffic noise

The modelling indicates that the change in noise levels would typically be below 2 dB(A), with the exception of the near vicinity to the Port Wakefield Road and Northern Expressway interchange. Therefore, the increase in traffic noise level would not be perceptible for the majority of residents.

Tables 29.1 and 29.2 provide an overview of the noise effect by indicating the number and percentage of sensitive receptors, which fall within a specific noise level range.

Table 29.1

Predicted daytime noise effect ($L_{eq,15h}$)

Catchment area (No. of receptors)	Model scenario	> 70 dB(A) (%)	65–70 dB(A) (%)	60–65 dB(A) (%)	55–60 dB(A) (%)	< 55 dB(A) (%)
H (185)	Without NExy 2011	0	18	58	6	18
	With NExy 2011	2	59	16	12	11
	Without NExy 2016	1	45	31	6	17
	With NExy 2016	2	62	14	12	14

Notes:

- Without Northern Expressway (NExy) 2011 represents the predicted 2011 traffic noise levels with the existing road network, i.e. without the Northern Expressway.
- NExy 2011 represents the predicted traffic noise levels of the Northern Expressway alignment at road opening in 2011.
- Without NExy 2016 represents predicted traffic noise levels with the existing road network, i.e. without the Northern Expressway.
- NExy 2016 represents predicted traffic noise levels of the Northern Expressway alignment 5 years after opening (2016).

Table 29.2

Predicted night time noise effect ($L_{eq,9h}$)

Catchment area (No. of receptors)	Model scenario	> 65 dB(A) (%)	60–65 dB(A) (%)	55–60 dB(A) (%)	50–55 dB(A) (%)	< 50 dB(A) (%)
H (185)	Without NExy 2011	2	59	16	10	13
	With NExy 2011	4	66	10	11	9
	Without NExy 2016	1	66	9	8	15
	With NExy 2016	5	66	11	10	8

Notes:

- Without Northern Expressway (NExy) 2011 represents the predicted 2011 traffic noise levels with the existing road network, i.e. without the Northern Expressway.

- *NExy 2011 represents the predicted traffic noise levels of the Northern Expressway alignment at road opening in 2011.*
- *Without NExy 2016 represents predicted traffic noise levels with the existing road network, i.e. without the Northern Expressway.*
- *NExy 2016 represents predicted traffic noise levels of the Northern Expressway alignment 5 years after opening (2016).*

Tables 29.1 and 29.2 indicate the following:

- Port Wakefield Road receptors are currently exposed to a significant level of traffic noise.
- Traffic noise emission from Port Wakefield Road will continue to increase from 2011 to 2016 as a result of the natural yearly growth in traffic volume.
- The effect of the Northern Expressway Project will increase noise levels (and traffic on Port Wakefield Road) above the expected increase in noise from the natural growth in traffic volume. However, with reference to Section 29.2.3, the majority of receptors would experience an increase in noise of less than 2 dB(A), which is not a perceptible noise level change to the human ear.

29.2.2 Receptor noise effects above criteria

Table 29.3 summarises the difference between the predicted 2016 daytime and night time noise levels versus the noise criteria adopted for individual sensitive receptors in the catchment area. The majority of noise sensitive receptors are predicted to be marginally above daytime noise criteria.

Table 29.3

Predicted 2016 future noise effect versus noise criteria

Noise descriptor	> 8 dB(A) above (%)	5–8 dB(A) above (%)	3–5 dB(A) above (%)	1–2 dB(A) above (%)	Below criteria (%)
Daytime ($L_{eq,15h}$)	0	2	15	65	18
Night time ($L_{eq,9h}$)	0	3	38	28	30

29.3 Environmental management

29.3.1 Mitigation of road traffic noise impacts

The use of targeted Stone Mastic Asphalt (SMA), as a low noise road surface, will be considered for new road surfacing required as part of the upgrade. However, Dense Graded Asphalt will be used within and around intersections.

The Port Wakefield Road Upgrade component of the Northern Expressway project will provide adequate, fit for purpose capability to 2016 when further improvement to the link between the Northern Expressway and Salisbury Highway will be required.

A comprehensive noise assessment will be carried out as part of the future project to determine the appropriate level of noise treatments required.