Appendix F Report 620.10969-R1 Page 1 of 23 Noise Contour Maps



BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-1

Southern Connection Scenario 1 - Daytime site establishment and removal of existing railway infrastructure

Ν

Aerial Photo: Brisbane City Council 2012



Kilometres 1:5,000 (at A4) Projection: GDA 1994 MGA56

0.1

0.05



Ν 0.1 A

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Study Corridor

Kilometres 1:5,000 (at A4) Projection: GDA 1994 MGA56







BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-3

Southern Connection Scenario 3 - Night-time pipe jacking

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Aerial Photo: Brisbane City Council 2012

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0.05



BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-4

Southern Connection Scenario 4 - Daytime TBM assembly and acoustic shed construction

Aerial Photo: Brisbane City Council 2012



0.1 N res (at A4)

0.05

Kilometres

Projection: GDA 1994 MGA56

1:5,000



BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-5

Southern Connection Scenario 5 - Night-time spoil removal (transient noise)

Aerial Photo: Brisbane City Council 2012



0.1 N

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ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-6

Southern Connection Scenario 6 - Night-time spoil removal (steady state noise)

Aerial Photo: Brisbane City Council 2012



Ν 0.1 A Kilometres (at A4) Projection: GDA 1994 MGA56

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LEGEND

Study Corridor

BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-7

Woolloongabba Station Scenario 1 - Daytime site establishment including demolition of GoPrint building

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Aerial Photo: Brisbane City Council 2012



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BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-8

Woolloongabba Station Scenario 2 -Daytime piling of station shaft

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Aerial Photo: Brisbane City Council 2012



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Kilometres 1:5,000 (at A4) Projection: GDA 1994 MGA56

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BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-9

Woolloongabba Station Scenario 3 -Daytime initial shaft excavation



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Kilometres 1:5,000 (at A4) Projection: GDA 1994 MGA56







ENVIRONMENTAL IMPACT STATEMENT

Woolloongabba Station Scenario 4 -Night-time shaft excavation

Aerial Photo: Brisbane City Council 2012



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1:5,000 (at A4) Projection: GDA 1994 MGA56



Ν

A



George Street Station Scenario 1 - Daytime site establishment including demolition of existing building

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A

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Aerial Photo: Brisbane City Council 2012



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Kilometres 1:3,500 (at A4) Projection: GDA 1994 MGA56



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Projection: GDA 1994 MGA56









1:3,500 (at A4) Projection: GDA 1994 MGA56



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1:6,000 (at A4) Projection: GDA 1994 MGA56

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Aerial Photo: Brisbane City Council 2012





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1:6,000 (at A4) Projection: GDA 1994 MGA56

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Aerial Photo: Brisbane City Council 2012







Kilometres 1:6,000 (at A4) Projection: GDA 1994 MGA56

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A



Aerial Photo: Brisbane City Council 2012



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Kilometres 1:6,000 (at A4) Projection: GDA 1994 MGA56

0.1

0.2 Ν Aerial Photo: Brisbane City Council 2012 \wedge



FIGURE 1-19

Northern Connection Scenario 1 - Daytime site establishment and ICB bridge construction

Aerial Photo: Brisbane City Council 2012

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Study Corridor

1:7,000 Projection: GDA 1994 MGA56

Kilometres



LEGEND

Study Corridor

BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-20

Northern Connection Scenario 2 - Daytime trough excavation

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BUS AND TRAIN PROJECT ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-21

Northern Connection Scenario 3 - Daytime transition structure construction

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Aerial Photo: Brisbane City Council 2012



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0.1 0.2 Kilometres 1:7,000 (at A4) Projection: GDA 1994 MGA56





Appendix G Report 620.10969-R1 Page 1 of 2 Surface Track Work Noise Contour Map



C:\Data\SoundPLAN Projects\620.10969 UBAT Construction Noise\Appendix G - Typical Surface Track Work Noise Contour.sgs

ADDENDUM TO BAT CONSTRUCTION NOISE AND VIBRATION REPORT – EVENING "SHOULDER" PERIOD NOISE GOALS (CBD and WOOLLOONGABBA)

As stated in **Section 3.2.7** of the Construction Noise and Vibration Report for the BaT project, specific noise goals for the evening period (i.e. 6:30 pm to 10:00 pm – Monday to Friday) have not been proposed for the BaT project. As indicated by the ambient noise monitoring results (summarised in **Table 1** below), it is recognised that the evening period in the CBD and Woolloongabba is typically associated with an ambient noise environment with acoustic amenity in-between that for the daytime and night-time periods.

BaT Monitoring Location	Average Measured Ambient Noise Level (dBA)					
	Day		Evening		Night	
	LAeq	LA10	LAeq	LA10	LAeq	LA10
4 - Parkland Crescent	64	67	63	66	60	59
5 - 191 George Street	64	62	66 ¹	69 ¹	59	59
6 - 40 George Street, The Mansions	68	69	64	66	64	62
9 – 803 Stanley Street	67	69	66	67	63	64

Table 1	Summary of CBD	and Woolloongabba	Measured Ambient Noise Levels
---------	----------------	-------------------	--------------------------------------

Note 1 – Evening period noise level elevated due to amplified music played at a nearby hotel.

It would therefore be reasonable to adapt noise goals for the evening period in-between those proposed for the daytime and night-time periods, such as those proposed in **Table 2**. As can be seen in **Table 2**, it is proposed that the evening noise goals be 5 dB less than the day goals. A reduction in noise levels of 5 dB is commonly described as a "noticeable" change. This is considered an acceptable reduction (for the evening period) for these inner urban areas where considerable evening activity is almost always observed.

Table 2	Proposed Internal Evening Period Construction Noise Goals
---------	---

Receiver Type	Existing I Noise Go	BaT Daytime al (dBA)	Proposed BaT Evening Period Noise Goal (dBA)		Existing BaT Night-time Noise Goal (dBA)	
	LAeq	LA10	LAeq	LA10	LAeq	LAmax
Residential in the CBD and Woolloongabba	45	55	40	50	35	42

By applying the 22 dBA facade adjustment to convert the proposed internal evening period noise goals to an external free-field assessment position, the noise goals presented in **Table 3** are proposed. The external evening period noise goals in **Table 3** are comparable to the existing ambient noise levels measured these inner urban areas.

Table 3	Proposed External Ev	enina Period	Construction	Noise Goals
		•••••••••		

Receiver Type	Proposed Ba External Nois	IT Evening Period se Goal (dBA)	Existing Ever Ambient Nois	Existing Evening Period External Ambient Noise Levels (dBA)		
	LAeq	LA10	LAeq	LA10		
Residential in the CBD and Woolloongabba	62	72	63 - 66	66 - 69		

The presence of existing elevated ambient noise levels in the CBD and Woolloongabba during the evening period will enable certain construction activities to proceed with essentially no increase in the overall level of impact and may potentially lead to a reduction in the project duration.

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