

A10.3 Predicted Changes in Road Traffic Noise Levels at Noise Sensitive Outdoor Areas

1 Introduction

- 1.1.1 To assess the noise impact on sensitive outdoor areas, the change in noise levels across all sensitive areas within the calculation area have been assessed, and the results presented in this appendix in terms of the percentage of the area impacted by each noise change category. Design Manual for Roads and Bridges (DMRB) 'Noise and Vibration' states that the approach of reporting the least beneficial change in noise level should be used for the impact at areas within open spaces. The approach used in this assessment allows both the least beneficial impact to be determined, but also demonstrates the overall impact on the sensitive outdoor areas. Details on the extent of the sensitive outdoor areas within the calculation area can be found in Table 10.12 of Part 3 (Environmental Assessment), Chapter 10 (Noise and Vibration).
- 1.1.2 As outdoor sensitive areas are assessed in this appendix, only the ground floor daytime scenario has been considered, both in the short and long term.

2 Short-term Assessment with the Proposed Scheme

- 2.1.1 The change in noise levels across sensitive outdoor areas within the calculation area in the short term, in terms of the percentage of the area impacted by each noise change category, are presented in Table 1.

Table 1: Summary – Ground Floor DM 2021 vs. DS 2021 – Outdoor Areas – Day (Without Receptor Specific Mitigation)

Area Name	Change in Noise Level, $L_{A10,18h}$ – Percentage of Area (%)									
	Increase				No Change	Decrease				
	0.1 – 0.9	1.0 – 2.9	3.0 – 4.9	5+		0	0.1 – 0.9	1.0 – 2.9	3.0 – 4.9	5+
Option 1A										
Ashton Road Football Pitch and Playground	0	0	0	0	0	100	0	0	0	0
Culloden House	58	0	0	0	23	19	0	0	0	0
Grebe Avenue Playing Field	88	0	0	0	8	4	0	0	0	0
Inshes District Park	85	0	0	0	9	6	0	0	0	0
Inverness Golf Course	21	0	0	0	58	21	0	0	0	0
Longman and Castle Stuart Bays	4	0	0	0	10	86	0	0	0	0
Option 1B										
Ashton Road Football Pitch and Playground	0	0	0	0	0	100	0	0	0	0
Culloden House	61	0	0	0	18	21	0	0	0	0
Grebe Avenue Playing Field	89	0	0	0	8	3	0	0	0	0
Inshes District Park	89	0	0	0	5	6	0	0	0	0
Inverness Golf Course	16	0	0	0	56	28	0	0	0	0
Longman and Castle Stuart Bays	2	0	0	0	10	88	0	0	0	0

Area Name	Change in Noise Level, $L_{A10,18h}$ – Percentage of Area (%)									
	Increase				No Change	Decrease				
	0.1 – 0.9	1.0 – 2.9	3.0 – 4.9	5+		0.1 – 0.9	1.0 – 2.9	3.0 – 4.9	5+	
Option 2A										
Ashton Road Football Pitch and Playground	0	0	0	0	0	100	0	0	0	
Culloden House	58	0	0	0	21	21	0	0	0	
Grebe Avenue Playing Field	91	0	0	0	6	3	0	0	0	
Inshes District Park	67	0	0	0	3	20	10	0	0	
Inverness Golf Course	44	0	0	0	38	18	0	0	0	
Longman and Castle Stuart Bays	0	0	0	0	8	92	0	1	0	
Option 2B										
Ashton Road Football Pitch and Playground	0	0	0	0	0	100	0	0	0	
Culloden House	62	0	0	0	19	19	0	0	0	
Grebe Avenue Playing Field	92	0	0	0	5	3	0	0	0	
Inshes District Park	67	0	0	0	3	20	10	0	0	
Inverness Golf Course	44	0	0	0	35	21	0	1	0	
Longman and Castle Stuart Bays	0	0	0	0	5	95	0	0	0	
Option 3A										
Ashton Road Football Pitch and Playground	0	0	0	0	0	100	0	0	0	
Culloden House	90	0	0	0	10	0	0	0	0	
Grebe Avenue Playing Field	0	0	0	0	47	53	0	0	0	
Inshes District Park	65	0	0	0	35	0	0	0	0	
Inverness Golf Course	0	0	0	0	6	94	0	0	0	
Longman and Castle Stuart Bays	0	0	0	0	23	77	0	0	0	
Option 3B										
Ashton Road Football Pitch and Playground	0	0	0	0	0	100	0	0	0	
Culloden House	92	0	0	0	8	0	0	0	0	
Grebe Avenue Playing Field	0	0	0	0	36	64	0	0	0	
Inshes District Park	53	0	0	0	47	0	0	0	0	
Inverness Golf Course	0	0	0	0	0	100	0	0	0	
Longman and Castle Stuart Bays	0	0	0	0	19	81	0	0	0	

2.1.2 Table 1 shows that for Options 1A, 1B, 3A and 3B, there are no perceptible changes in noise predicted at any noise sensitive outdoor area.

2.1.3 For Option 2A, there are predicted to be perceptible noise decreases across Inshes District Park (10 %) and Longman and Castle Stuart Bays (1 %), although across the majority of these areas the changes in noise are not predicted to be perceptible. No perceptible changes in noise are predicted at any other noise sensitive outdoor area.

- 2.1.4 For Option 2B, there are predicted to be perceptible noise decreases across Inshes District Park (10 %) and Inverness Golf Course (1 %), although across the majority of these areas the changes in noise are not predicted to be perceptible. No perceptible changes in noise are predicted at any other noise sensitive outdoor area.

3 Long-term Assessment with the Proposed Scheme (Day Only)

- 3.1.1 The change in noise levels across the sensitive outdoor areas within the calculation area in the long term, in terms of the percentage of the area impacted by each noise change category, are presented in Table 2.

Table 2: Summary – Ground Floor DM 2021 vs. DS 2036 – Outdoor Areas – Day (Without Receptor Specific Mitigation)

Area Name	Change in Noise Level, $L_{A10,18h}$ – Percentage of Area (%)									
	Increase				No Change	Decrease				
	0.1 – 2.9	3.0 – 4.9	5.0 – 9.9	10 +		0	0.1 – 2.9	3.0 – 4.9	5.0 – 9.9	10 +
Option 1A										
Ashton Road Football Pitch and Playground	75	0	0	0	25	0	0	0	0	
Culloden House	100	0	0	0	0	0	0	0	0	
Grebe Avenue Playing Field	100	0	0	0	0	0	0	0	0	
Inshes District Park	100	0	0	0	0	0	0	0	0	
Inverness Golf Course	100	0	0	0	0	0	0	0	0	
Longman and Caste Stuart Bays	99	0	0	0	1	0	0	0	0	
Option 1B										
Ashton Road Football Pitch and Playground	76	0	0	0	24	0	0	0	0	
Culloden House	99	0	0	0	1	0	0	0	0	
Grebe Avenue Playing Field	100	0	0	0	0	0	0	0	0	
Inshes District Park	100	0	0	0	0	0	0	0	0	
Inverness Golf Course	100	0	0	0	0	0	0	0	0	
Longman and Caste Stuart Bays	99	0	0	0	1	0	0	0	0	
Option 2A										
Ashton Road Football Pitch and Playground	0	0	0	0	23	77	0	0	0	
Culloden House	100	0	0	0	0	0	0	0	0	
Grebe Avenue Playing Field	100	0	0	0	0	0	0	0	0	
Inshes District Park	84	0	0	0	2	14	0	0	0	
Inverness Golf Course	89	0	0	0	2	9	0	0	0	
Longman and Caste Stuart Bays	95	0	0	0	5	0	0	0	0	

Area Name	Change in Noise Level, $L_{A10,18h}$ – Percentage of Area (%)									
	Increase				No Change	Decrease				
	0.1 – 2.9	3.0 – 4.9	5.0 – 9.9	10 +	0	0.1 – 2.9	3.0 – 4.9	5.0 – 9.9	10 +	
Option 2B										
Ashton Road Football Pitch and Playground	0	0	0	0	15	85	0	0	0	
Culloden House	100	0	0	0	0	0	0	0	0	
Grebe Avenue Playing Field	100	0	0	0	0	0	0	0	0	
Inshes District Park	84	0	0	0	2	14	0	0	0	
Inverness Golf Course	100	0	0	0	0	0	0	0	0	
Longman and Caste Stuart Bays	94	0	0	0	6	0	0	0	0	
Option 3A										
Ashton Road Football Pitch and Playground	100	0	0	0	0	0	0	0	0	
Culloden House	100	0	0	0	0	0	0	0	0	
Grebe Avenue Playing Field	100	0	0	0	0	0	0	0	0	
Inshes District Park	100	0	0	0	0	0	0	0	0	
Inverness Golf Course	100	0	0	0	0	0	0	0	0	
Longman and Caste Stuart Bays	100	0	0	0	0	0	0	0	0	
Option 3B										
Ashton Road Football Pitch and Playground	100	0	0	0	0	0	0	0	0	
Culloden House	100	0	0	0	0	0	0	0	0	
Grebe Avenue Playing Field	100	0	0	0	0	0	0	0	0	
Inshes District Park	100	0	0	0	0	0	0	0	0	
Inverness Golf Course	100	0	0	0	0	0	0	0	0	
Longman and Caste Stuart Bays	100	0	0	0	0	0	0	0	0	

3.1.2 Table 2 shows that for all options, there are no perceptible changes in noise predicted at any noise sensitive outdoor area, in the long term.