REVISED

Didcot Garden Town HIF 1 Scheme

Environmental Statement

Volume III

Appendix 10.5: Sensitivity Test Low Noise Surfacing on Sections of the Scheme

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1.1 Short-term changes

1.1.1 Table 1 summarises the short-term change in predicted traffic noise levels in 2024 between the DM (without Scheme) and the DS (with Scheme) scenarios at both residential buildings and other sensitive receptors, including the likely benefit of the adoption of low noise surfacing on selected sections of the Scheme using the methodology set out in the 2018 IOA paper 'Road Surface Corrections for Use with CRTN'. Unlike Design Manual for Roads and Bridges (DMRB) LA 111, this method applies a benefit at speeds less than 75 km/hr as well as above, with the benefit decreasing as the speed decreases. The difference from the results reported in Section 10.10, which adopts the methodology in DMRB LA 111 i.e. only applying a benefit at speeds ≥75 km/hr, is provided in brackets.

Table 1: Short-term change in predicted Do-Something traffic noise levels (DM 2024 to DS 2024)

Change in traffic noise level		Daytime		Night-time	
		Number of residential buildings	Number of other sensitive receptors	Number of residential buildings	Number of other sensitive receptors
Increase in noise level Daytime $L_{A10,18h}$ dB Night-time $L_{night,outside}$ dB	0.1 - 0.9	1174 (-144)	1	1195 (-129)	0
	1.0 - 2.9	156 (-20)	32 (-2)	147 (-20)	10
	3.0 - 4.9	2 (-3)	01	2 (-2)	01
	≥5	5 (-1)	0	3 (-2)	0
No change	0	11 (+3)	0	10 (+1)	0
Decrease in noise level Daytime $L_{A10,18h}$ dB Night-time $L_{night,outside}$ dB	0.1 - 0.9	2656 (+96)	14	2767 (+104)	1
	1.0 - 2.9	1145 (+53)	7 (+1)	1178 (+25)	0
	3.0 - 4.9	604 (+15)	8 (+1)	504 (+20)	0
	≥5	182 (+1)	3	129 (+3)	0

1.1.2 The sensitivity test indicates that during the daytime in the short term the low noise surfacing is likely to reduce the number of moderate and major increases at residential properties by four (located on the northern edge of Clifton Hampden, including the two properties north of the Scheme).

1.2 Long-term changes

1.2.1 Table 2 summarises the long-term change in predicted traffic noise levels between the 2024 DM (without Scheme) and the 2039 DS (with Scheme) scenarios at both residential buildings and other sensitive receptors, including the likely benefit of the adoption of low noise surfacing on selected sections of the Scheme using the

methodology set out in the 2018 IOA paper 'Road Surface Corrections for Use with CRTN'. Unlike DMRB LA 111, this method applies a benefit at speeds less than 75 km/hr as well as above, with the benefit decreasing as the speed decreases. The difference from the results reported in Section 10.5, which adopts the methodology in DMRB LA111 i.e. only applying a benefit at speeds ≥75 km/hr, is provided in brackets.

Table 2: Long-term change in predicted Do-Something traffic noise levels (DM 2024 to DS 2039)

Change in traffic noise level		Daytime		Night-time	
		Number of residential buildings	Number of other sensitive receptors	Number of residential buildings	Number of other sensitive receptors
Increase in noise level Daytime $L_{A10,18h}$ dB Night-time $L_{night,outside}$ dB	0.1 - 2.9	4063 (-52)	15 (-1)	4096 (-66)	1
	3.0 - 4.9	122 (-26)	4~~3~~ (-1)	96 (-13)	1~~0~~
	5.0 - 9.9	16 (-14)	1~~2~~	10 (-16)	0~~1~~
	≥10	3	0	3	0
No change	0	0	0	0	0
Decrease in noise level Daytime $L_{A10,18h}$ dB Night-time $L_{night,outside}$ dB	0.1 - 2.9	1367 (+69)	8 (+2)	1429 (+78)	0
	3.0 - 4.9	269 (+22)	4	232 (+14)	0
	5.0 - 9.9	94	4	69 (+3)	0
	≥10	1 (+1)	0	0	0

1.2.2 The sensitivity test indicates that during the daytime in the long term the low noise surfacing is likely to reduce the number of moderate and major increases at residential properties by 14 (located at the south end of Appleford, and Clifton Hampden, including the two properties north of the Scheme).

1.3 Compliance with Policy

1.3.1 Table 3 details the number of residential buildings in the noise calculation area which would have one or more facades above the daytime or night-time SOAEL for the three assessment scenarios, including the likely benefit of the adoption of low noise surfacing on selected sections of the Scheme using the methodology set out in the 2018 IOA paper 'Road Surface Corrections for Use with CRTN'. Unlike DMRB LA 111, this method applies a benefit at speeds less than 75 km/hr as well as above, with the benefit decreasing as the speed decreases. The difference from the results reported in Section 10.10, which adopts the methodology in DMRB LA111 i.e. only applying a benefit at speeds ≥75 km/hr, is provided in brackets. As discussed in Section 10.5, OCC's traffic consultants have advised that due to the large number of developments in the area the traffic model reaches gridlock before the future assessment year in 2039, when the scheme is not included. Therefore, it is not possible to provide meaningful traffic data for the without scheme future assessment year scenario (DM 2039).

Table 3: Number of residential buildings above the SOAEL

Scenario	Day	Night
2024 Do-Minimum opening year	351	349
2024 Do-Something opening year	164	160
2039 Do-Something future year	223 (-1)	218 (-1)

1.3.2 The low noise surfacing is proposed in locations which experience the greatest increase in traffic noise due to the Scheme, however, the absolute levels are generally not above the SOAEL in these areas, therefore the results for the sensitivity test are virtually identical to Table 10.15.

1.4 Summary

1.4.1 The sensitivity test indicates that the low noise surfacing provides a reduction in traffic noise levels of a few decibels at the closest properties to the Scheme. It is likely to reduce the number of moderate and major increases at residential properties in the short term by four, and in the long term by 14. The adoption of low noise surfacing in key locations also forms part of the demonstration of compliance with policy. In particular, the second aim of the Noise Policy Statement for England (NPSE) to 'mitigate and minimise' adverse impacts.

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