



West Winch Housing Access Road

Environmental Statement Chapter 10: Noise and Vibration: Appendix 4: Operational Noise Modelling Assumptions

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Document Reference: NCC/3.10.04

Version Number: 001

Date: October 2023



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1 Operational road traffic noise assessment assumptions and source information

1.1.1 The operational road traffic noise modelling assumptions, and key settings are detailed in Table 1.1 below.

Table 1.1 – Noise model assumptions and settings

Noise model component	Comment/description
Noise modelling software	CadnaA Version 2023 (64 bit).
Base mapping	Ordnance Survey (OS) base mapping and Mastermap data have been used in the creation of the noise model.
Terrain data	For the Proposed Scheme alignment, topographic data have been extracted from the 3D engineering drawings, as supplied by WSP. For the remainder of the detailed calculation area, Lidar data have been downloaded from the .gov website, with 1m height contours being generated.



Noise model component	Comment/description
Road traffic source	<p>All roads that are unaltered by the Proposed Scheme have been spatially aligned using the OS base maps/Mastermap.</p> <p>All new and altered roads comprising the Proposed Scheme have been spatially aligned using the engineering drawings provided by the WSP.</p> <p>The traffic data (flow, speed and proportion of heavy vehicles) have been provided for all relevant scenarios:</p> <ul style="list-style-type: none">• Do-minimum year of opening (2027);• Do-something year of opening (2027);• Do-minimum design year (2042); and• Do-something design year (2042).
Road surface	<p>The surface of the road has been assumed to be hot rolled asphalt for all existing and proposed roads.</p>
Buildings	<p>Building outlines have been incorporated from the OS Mastermap layer. A universal height of 6m has been applied within the model and all residential receptors have been assumed to be two storeys.</p> <p>Where Address Base receptor points were identified with no anticipated building, these have been manually incorporated.</p> <p>All buildings have been set to be reflective (absorption coefficient of 0).</p>
Ground cover	<p>A default ground absorption coefficient of 1 has been adopted (i.e. acoustically absorbent ground cover). However, roads and buildings have been set to be acoustically reflecting.</p>



Noise model component	Comment/description
Traffic Speed	Where traffic speeds have been calculated to be lower than 20 kph they have been uplifted to 20kph in the model.
Low traffic flow roads	<p>The CRTN prediction methodology uses Annual Average Weekday Traffic (AAWT) flows over an 18-hour period between 06:00 – 00:00 hours. The CRTN methodology is only valid where the 18-hour traffic flow is 1000 vehicles or greater. Given the rural nature of the Proposed Scheme, several roads within the detailed calculation area have a traffic flow below this threshold. There is no guidance within DMRB LA 111 on how roads with a flow of less than 1000 vehicles in one scenario, but greater than 1000 in another scenario should be considered within the assessment, and therefore, professional judgement is required. The approach adopted (which is typical for assessments such as this) is as follows:</p> <ul style="list-style-type: none">• Where roads have a flow above 1000 vehicles in all scenarios, the road has been included in the noise model.• Where a road has a flow above 1000 vehicles in at least one scenario, the road has been included with the traffic flow as provided by the transport consultants (a noise level is still calculated for a road where the flow is below 1000).• Where a road has a flow of below 1000 vehicles in all scenarios, it has not been included in the noise model.