

General Inputs

Propagation of noise using algorithms within ISO 9613: 1993 Acoustics - Attenuation of sound during propagation outdoors. Railways were modelled as a continuous line source at a height of 8 m above ground with the source 1 m above this level and calibrated using spectral data measured during the survey, which predicts L_{Amax} comparable with the measured L_{Amax} values at Chandos Hall (2017) and MP1(2023).

Default ground absorption $G = 0.0$ (hard ground)

Ground attenuation: spectral all sources

No adverse meteorological effects

Two orders of reflection

Topographical data was obtained using emapsite 2 m contours for the area surrounding the site and data from site observations and topographical data provided by the client has been used for the site.

The heights of buildings within the noise model have been estimated using Google Earth and site observations.

Noise levels at sensitive receptors have been predicted at the most adversely affected façade and are therefore façade levels.

Verification of the Model

The baseline scenario for the L_{Amax} noise indices has been utilised to compare against the measured noise data as detailed in **IQSM3015_ES_V1_Chapter 12- Noise**. The L_{Amax} indices has been used since this has been the driver for the internal noise mitigation measures for the site. Results of the verification process are shown in **Table 13.5.1**. below:

Table 13.5.1 Results of Verification of the CadnaA Model

Measurement Position Night time L_{Amax}	Predicted dB L_{Amax} dB	Measured dB L_{Amax} dB	Variation dB L_{Amax} Predicted - Measured
MP1 Survey Position	74	72.4	1.6
Chandos - F13 (P7) West	70.2	67	3.2
Chandos - F13 (P8) East	71.1	70	1.1
Chandos - F2 (D7) West	72.1	67	5.1
Chandos - F2 (D8) East	73.5	70	3.5
Chandos - F5 (G7) West	72.4	74.3	-1.9
Chandos - F5 (G8) East	72.8	76.8	-4
Chandos - Train 13th Floor	74.8	77.9	-3.1
Chandos - Train 2nd Floor	81.4	83.3	-1.9
Chandos - Train 5th Floor	79.7	82.3	-2.6

Differences occur between predicted and measured levels due to variations in conditions on site compared with the predicted values, in the main the predictions compare favourably with the measured data. The east and west facades are predicting slightly higher, since the main source for validation has been the railway line.