

**M54 to M6 Link Road**

**TR010054**

**Volume 6**

**6.3 Environmental Statement**

**Appendices**

**Appendix 11.4 Noise Modelling Details**

Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009

October 2020

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedure) Regulations 2009**

**M54 to M6 Link Road  
Development Consent Order 202[ ]**

---

**6.3 Environmental Statement Appendices  
Appendix 11.4 Noise Modelling Details**

---

<b>Regulation Number</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010054
<b>Application Document Reference</b>	6.3
<b>Author</b>	M54 to M6 Link Road Project Team and Highways England

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
03	October 2020	DCO Application – updated due to Proposed Scheme Changes October 2020

# 1. Data Used

1.1 The following data was utilised to inform the noise model:

- OS Mastermap: downloaded from Highways England GeoStore 17/01/2019.
- Existing areas of soft and hard ground: based on OS Mastermap Topographic layer 17/01/2019. Areas of less than 10 m<sup>2</sup> or 1 m width removed.
- Additional areas of soft and hard ground: as modified by the Scheme design, including new ponds, provided by project design team 20/07/20 and 24/08/20.
- OS Address Base Plus: downloaded from Highways England GeoStore 17/01/2019.
- OS Building Height Attribute (BHA) dataset: downloaded from Highways England GeoStore 17/01/2019.
- Existing topographic data provided by project design team 08/05/2019.
- 3D Scheme design: data provided by project design team 20/07/2020 .
- Road surfacing existing: HAPMS database of locations of thin surfacing 30/11/2018 and follow on discussions with the maintenance contractor.
- Road surfacing proposed: locations of proposed thin surfacing on Scheme agreed with project design team 17/10/2019.
- Existing Noise Barriers: HAPMS database 30/11/2018: M54 Junction 2 (estimated 1.8 m height), M54 Junction 1 (advised 1.8 m height by project design team 07/07/2017), and M6 Northbound south of Junction 10a (height varies between 2.5 and 3.0 m, estimated based on site visit observations).
- Round 3 Noise Important Areas: downloaded from data.gov.uk website 08/07/019.
- Traffic data:
  - operational traffic data provided 03/07/2019 and 06/08/2019.
  - construction traffic data provided 19/08/2020.

## 2. Modelling Assumptions

2.1 The following assumptions were used in the noise model:

- Ground absorption: 1.0 for soft ground (vegetated), 0.0 for hard ground including water and road surfaces.
- Building heights for residential buildings generally standardized to 4.0 m: one storey 6.0 m: two storey, 9.0 m: three storey etc. based on initial information from OS Mastermap BHA. Non-residential buildings used height direct from OS Mastermap. Some adjustments required to estimate missing heights or obvious inaccuracies.
- Road surfacing corrections:
  - Standard hot rolled asphalt / high friction surfacing:
    - speed <75 km/hr: -1.0 dB;
    - speed ≥75 km/hr: -0.5 dB;
  - Thin surfacing (low noise surfacing):
    - speed <75 km/hr: -1.0 dB;
    - speed ≥75 km/hr: -3.5 dB;
  - Concrete:
    - speed <75 km/hr: -1.0 dB;
    - speed ≥75 km/hr: +3.5 dB;
- 10 m x 10 m grid used to produce noise change contour plots at height of 4.0 m above ground.