

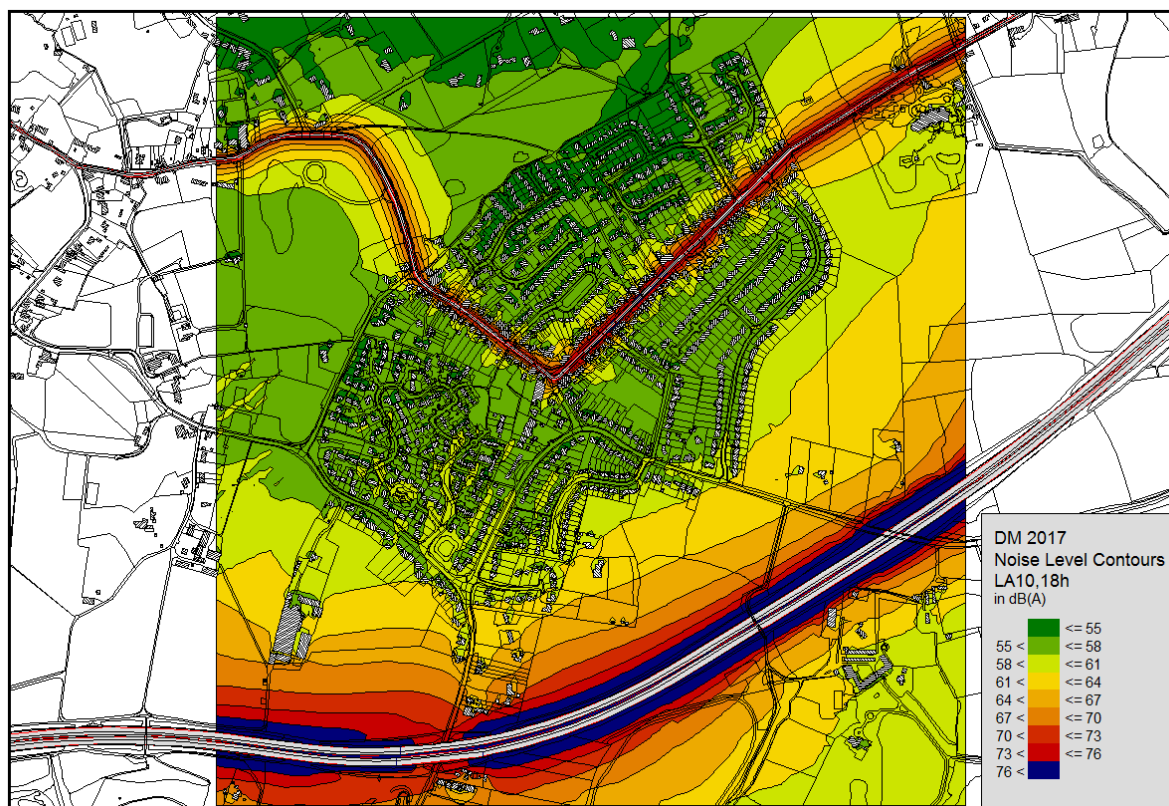
Noise level and air quality at Windlesham: Highways England response to questions raised in relation to the M3 Junctions 2 to 4a smart motorway

Highways England met with the Rt Hon Michael Gove MP, Graham Bullen and Councillors Conrad Sturt and Mike Goodman on 22 June to discuss the M3 Junctions 2 to 4a smart motorway. The discussion focussed on noise and air quality around the village of Windlesham. Highways England committed to answer six questions related to the scheme.

Our responses to each question are provided below:

1) What is Highways England’s best estimate of noise levels in Windlesham from the M3 before the start of the smart motorway scheme?

Figure 1: Calculated Noise Levels across Windlesham without the M3 Jn2-4a Smart Motorway Scheme in 2017



2) What are the current levels of noise from the upgraded motorway in Windlesham?

Figure 2: Calculated Noise Levels across Windlesham with the M3 Jn2-4a Smart Motorway Scheme in 2017

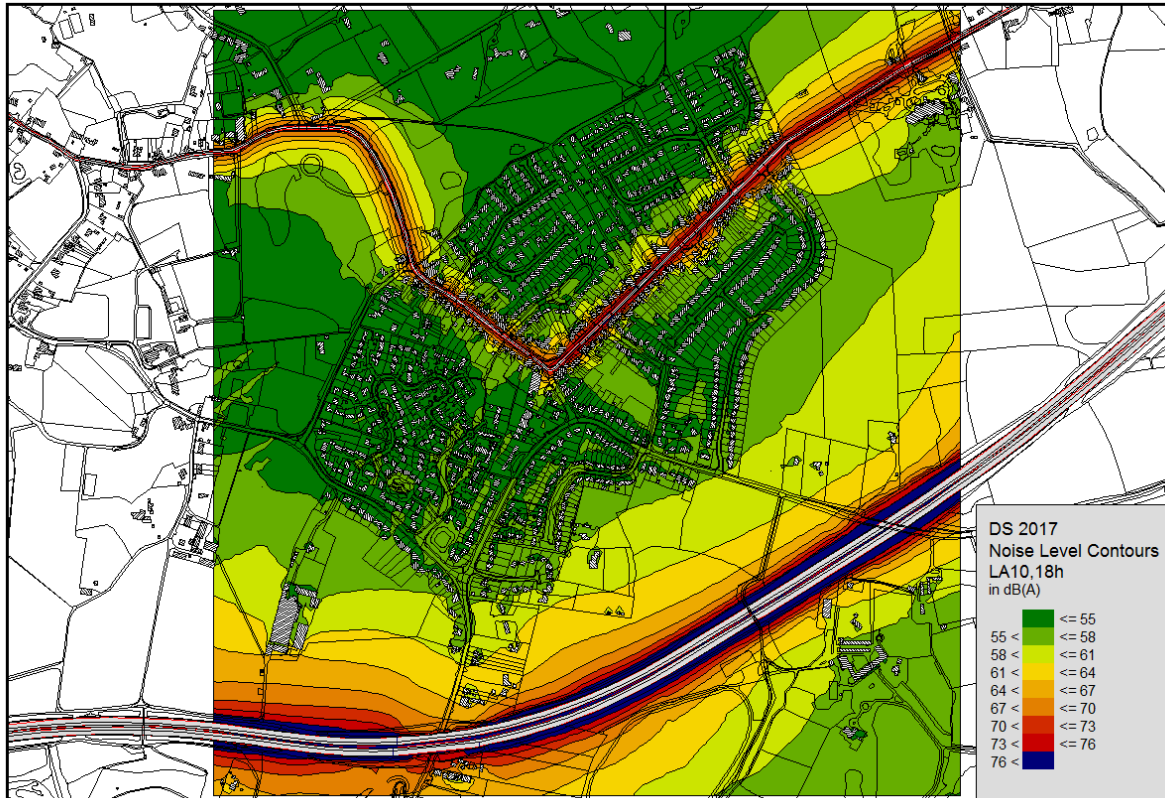
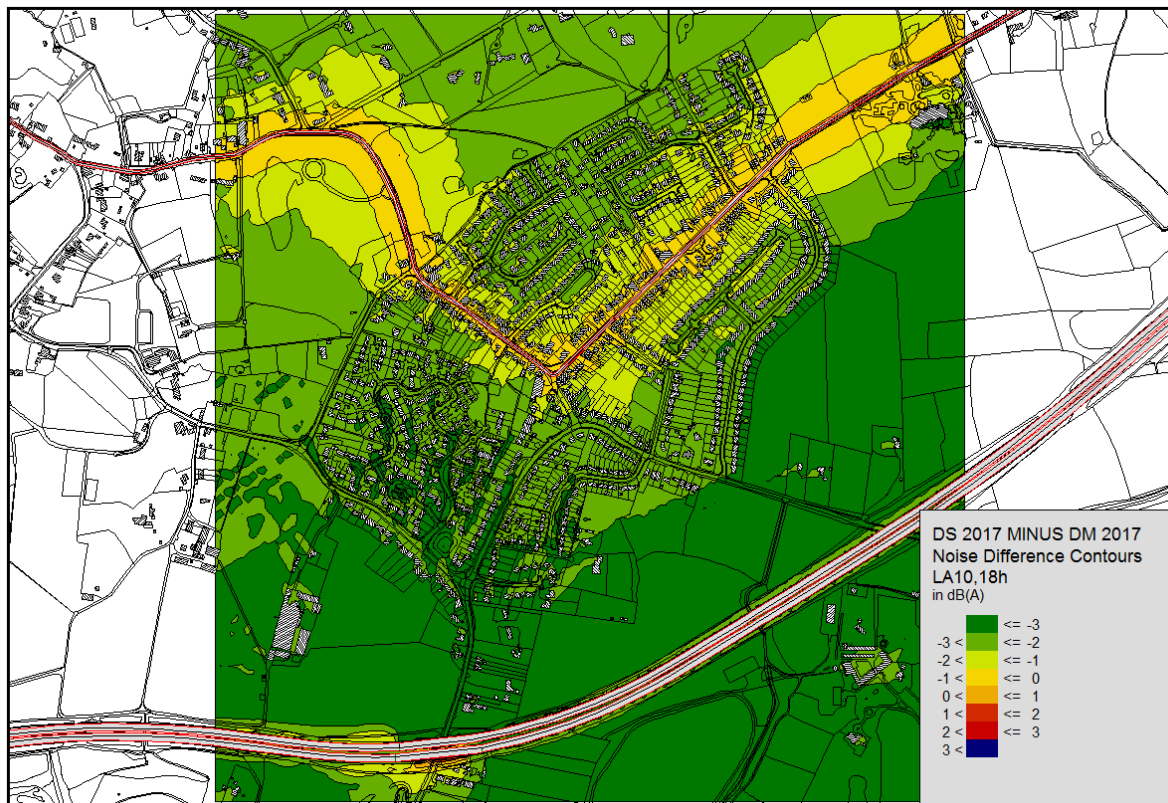


Figure 3 below shows the difference in noise between Figures 1 and 2. Overall there is a minor noise decrease across Windlesham with the scheme in operation. The reduction in noise can be attributed to the introduction of low noise surfaces, and the installation of barriers at locations alongside the M3 in this area. (See question 5 for more details).

Figure 3: Change in calculated noise levels across Windlesham (Figure 2 data minus Figure 1 data)



The data presented in Figures 1 to 3 have also been published in our Environmental Assessment¹ report and supporting technical reports².

3) What is Highways England's best estimate of air pollution levels in Windlesham from the M3 before the smart motorway scheme?

Air quality data available for the pre-smart motorway operation of the M3 is from 2009. This is the data set that was included in the Environmental Assessment Report published as part of the scheme's development and consent process.

The 2009 data shows nitrogen dioxide (NO₂) levels of 40.3µg/m³ at location M3_15 and 49.3µg/m³ at location M3_16 (see Annex A for location details).

This showed that the measured annual mean nitrogen dioxide (NO₂) concentrations for MO14 was 40.3µg/m³ and for MO12 was 49.3µg/m³. At both locations, before the Smart

¹ http://projects.ursglobal.com/m3/47065129-URS-05-RP-EN-002-4F_EAR_Volume_1_Main_Text.pdf

² <https://highwaysengland.co.uk/projects/m3-junctions-2-4a-smart-motorway/>

motorway was introduced the measured NO₂ concentrations were above the UK air quality threshold of 40µg/m³ for annual mean NO₂.

4) What are the current air pollution levels in Windlesham following the completion of the smart motorway scheme?

The M3 Smart motorway opened in June 2017. Highways England has been monitoring concentrations of NO₂ around this scheme since 2015. In Table 1 below we present data from the three monitoring locations most relevant to Windlesham – M3_14, M3_15 and M3_16 (see Annex A for location details). The data shows average NO₂ concentrations at these locations in 2015, 2016 and 2017.

The data for 2015 and 2016 relates to the period when the M3 smart motorway was in construction, with reduced capacity. The 2017 information includes data from both the period before the smart motorway was operational (until June 2017) and from the period since it has been operational (from June 2017).

2018 data will be available in April 2019.

Table 1 Measured Annual Mean NO₂ Concentrations (µg/m³)

Site ID	2015	2016	2017
	Annual Mean NO ₂ Concentrations (µg/m ³)		
Annual Mean NO₂ Threshold	40	40	40
14	25.4	24.5	24.1
15	38.3	35.7	34.6
16	32.2	32.1	31.8

5) What measures has Highways England taken to mitigate noise and air quality along the M3 smart motorway upgrade and the reason why these mitigations were chosen as the preferred method?

When the scheme was initially designed, the solution included a number of noise barriers at various locations. As part of routine maintenance Highways England subsequently took a decision to resurface all lanes of both carriageways to improve the condition of the road in a cost effective way.

The provision of re-surfacing also treated road noise at source, and therefore provides benefits to all residents across a wide area along the scheme.

The following noise barriers were also erected in the Windlesham area.

Carriageway	Start Marker Post	Finish Marker Post	Barrier Type	Height (m)	Length (m)
Westbound	41/7	42/1	Reflective	2.5	400
Westbound	45/2	45/4	Reflective	3.0	200
Eastbound	41/0	41/2	Reflective	2.5	200
Eastbound	43/5	43/8	Reflective	2.5	300
Eastbound	45/1	45/4	Reflective	3.0	225
East & Westbound	43/7	-	Metal barrier	4.0	15

Highways England has not sought to undertake any air quality mitigation as the measured concentrations are well below the UK's Air Quality Thresholds for NO₂ of 40µg/m³.

6) Outline of potential other noise mitigations and a summary of why Highways England did not implement these mitigations.

No other noise mitigation measures have been considered.

7) Landscape impacts

A number of additional mature trees were planted in autumn 2017. We recognise that unfortunately some trees have been lost due to the hot, dry summer and will replace them in late autumn 2018.

23 July 2018

Annex A

Air Quality – Monitoring Locations

