

# A1 Birtley to Coal House

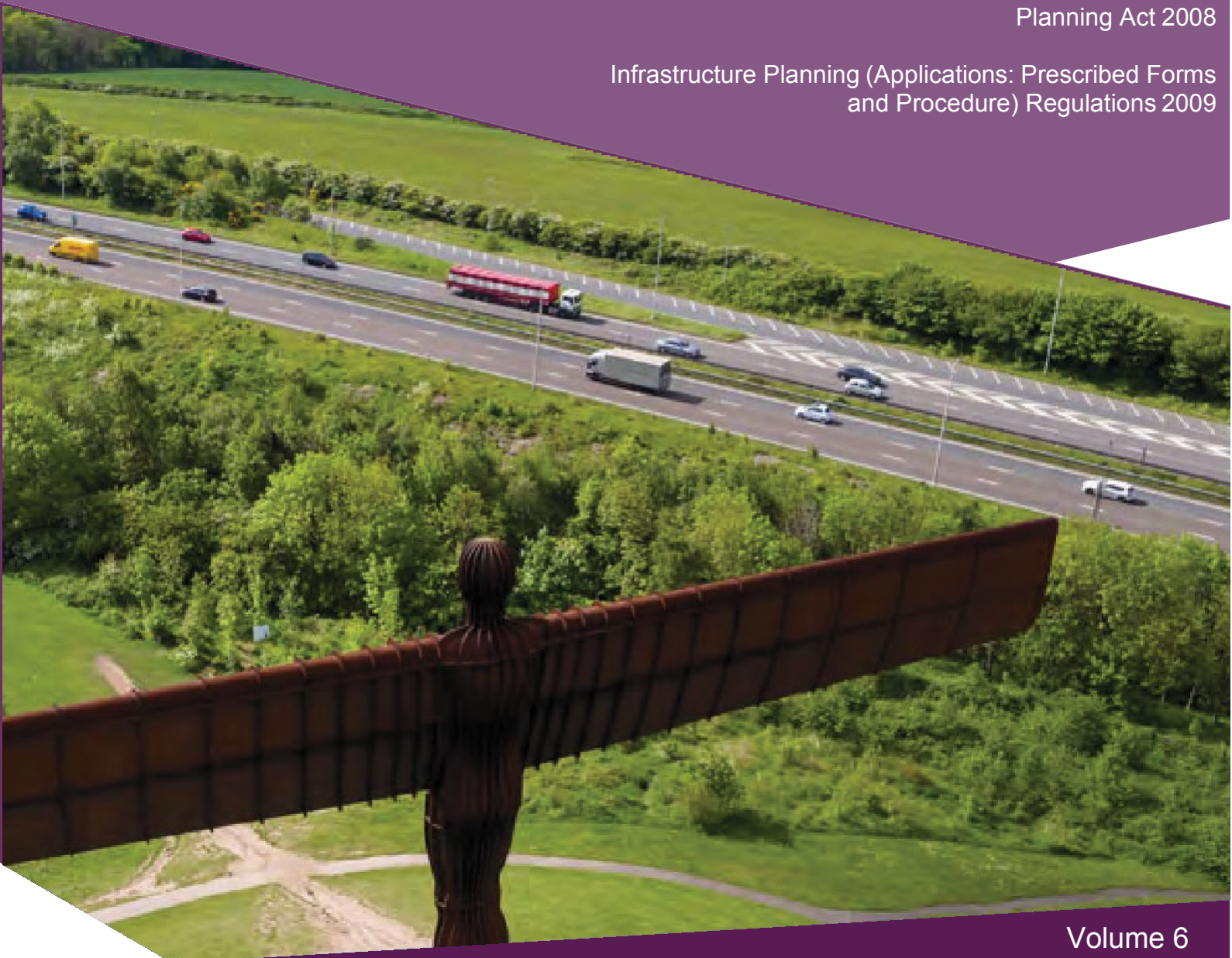
## Scheme Number: TR010031

### 6.3 Environmental Statement – Appendix 5.1 Screening for PM<sub>10</sub> and PM<sub>2.5</sub>

APFP Regulation 5(2)(a)

Planning Act 2008

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



Infrastructure Planning

Planning Act 2008

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

**A1 Birtley to Coal House  
Development Consent Order 20[xx]**

---

**Environmental Statement -  
Appendix**

---

<b>Regulation Reference:</b>	APFP Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010031
<b>Application Document Reference</b>	TR010031/APP/6.3
<b>Author:</b>	A1 Birtley to Coal House Project Team, Highways England

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
Rev 0	14 August 2019	Application Issue

# CONTENTS

---

## SCREENING FOR PM<sub>10</sub> AND PM<sub>2.5</sub>

---

1

---

### ***TABLES***

Table 1-1 - Generated traffic, for both Scheme options, as total flow generated along each route per day	1
Table 1-2 - Vehicle emission rates for NO <sub>x</sub> , as set out in IAN 185/15	2
Table 1-3 - Vehicle emission rates for PM <sub>10</sub> , as set out in IAN 185/15	3

---

## SCREENING FOR PM<sub>10</sub> AND PM<sub>2.5</sub>

**Table 1-1 - Generated traffic, for both Scheme options, as total flow generated along each route per day**

Year	PM <sub>10</sub>	PM <sub>2.5</sub>
Objective	40	20*
*Target value only, not legally binding		
<b>Total Pollutant Concentrations</b>		
2017	9.6 – 13.5	6.3 – 8.3
2023	9.3 – 13.2	6.0 – 7.9
<b>Sector Removed Concentrations (Road Sector Removed)</b>		
2017	9.5 – 13.2	6.2 – 8.1
2023	9.3 – 13.1	6.0 – 7.9

- 1.1.1. **Table 1-1** above shows the range of Defra modelled PM<sub>10</sub> and PM<sub>2.5</sub> background concentrations both with and without the road sectors removed. As is shown in the table, all values are well below the relevant annual mean objectives. Additionally, the road sector comprises a maximum of 3% of the overall value.
- 1.1.2. Interim Advice Note (IAN) 185/15 sets out vehicle emissions rates for the assessment of air quality for NO<sub>x</sub>, PM<sub>10</sub>, and CO<sub>2</sub>. There are currently no vehicle emission rates for PM<sub>2.5</sub> included within the IAN. The NO<sub>x</sub> and PM<sub>10</sub> emission rates for light/heavy vehicles in the baseline and scheme opening years are shown in **Table 1-2** and **Table 1-3**, below.

**Table 1-2 - Vehicle emission rates for NO<sub>x</sub>, as set out in IAN 185/15**

<b>Road Type</b>	<b>Congestion Level</b>	<b>2017 – Light Vehicle Emissions</b>	<b>2017 – Heavy Vehicle Emissions</b>	<b>2023 – Light Vehicle Emissions</b>	<b>2023 – Heavy Vehicle Emissions</b>
Urban	Heavy Congestion	0.27	1.972	0.27	1.972
Urban	Light Congestion	0.201	0.826	0.201	0.826
Urban	Free Flow	0.163	0.504	0.163	0.504
Urban	High Speed	0.19	0.415	0.19	0.415
Rural	Heavy Congestion	0.289	1.328	0.289	1.328
Rural	Light Congestion	0.215	0.578	0.215	0.578
Rural	Free Flow	0.174	0.388	0.174	0.388
Rural	High Speed	0.205	0.341	0.205	0.341

**Table 1-3 - Vehicle emission rates for PM<sub>10</sub>, as set out in IAN 185/15**

Road Type	Congestion Level	2017 – Light Vehicle Emissions	2017 – Heavy Vehicle Emissions	2023 – Light Vehicle Emissions	2023 – Heavy Vehicle Emissions
Urban	Heavy Congestion	0.036	0.179	0.032	0.133
Urban	Light Congestion	0.034	0.15	0.031	0.124
Urban	Free Flow	0.033	0.138	0.031	0.121
Urban	High Speed	0.034	0.136	0.031	0.12
Rural	Heavy Congestion	0.028	0.139	0.024	0.103
Rural	Light Congestion	0.026	0.117	0.023	0.097
Rural	Free Flow	0.025	0.108	0.022	0.094
Rural	High Speed	0.026	0.106	0.022	0.093

1.1.3. The tables above show that vehicle emissions of PM<sub>10</sub> are an order of magnitude smaller than the equivalent NO<sub>x</sub> emissions. This is because vehicle emissions comprise a smaller proportion of PM<sub>10</sub> than NO<sub>x</sub>/NO<sub>2</sub>, as highlighted within the atmospheric modelled values within the Defra modelling shown in **Table 1-3** wherein the road contribution to PM<sub>10</sub> background levels is relatively low (i.e. 3%).

- 1.1.4. Since the annual mean objective values for PM<sub>10</sub> and NO<sub>2</sub> are numerically similar (i.e. both are 40µg/m<sub>3</sub>), the magnitude of the impacts required to cause a significant effect, as set out in IAN174/13 are the same for both pollutants. Similarly, since background levels of PM<sub>10</sub> are generally lower than NO<sub>x</sub> within the assessment area, the Scheme will not cause an exceedance of the annual mean PM<sub>10</sub> objective without there being a larger exceedance in NO<sub>2</sub>. Therefore, if the Scheme does not cause a significant effect in terms of NO<sub>2</sub>, it will not result in a significant effect in PM<sub>10</sub>. As such, NO<sub>2</sub> is used as an indicator for PM<sub>10</sub> impacts and effects, and further assessment of PM<sub>10</sub> is scoped out until such a point where a significant NO<sub>2</sub> impact is discovered.

If you need help accessing this or any other Highways England information, please call **0300 470 4580** and we will help you.

---

© Crown copyright 2019.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence:

visit [www.nationalarchives.gov.uk/doc/open-government-licence/](http://www.nationalarchives.gov.uk/doc/open-government-licence/)

write to the **Information Policy Team, The National Archives,**

**Kew, London TW9 4DU**, or email

[psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk).

This document is also available on our website at [www.gov.uk/highways](http://www.gov.uk/highways)

If you have any enquiries about this document [A1BirtleytoCoalhouse@highwaysengland.co.uk](mailto:A1BirtleytoCoalhouse@highwaysengland.co.uk) or call **0300 470 4580\***.

\*Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls.

These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.

Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ  
Highways England Company Limited registered in England and Wales number 09346363