

NPS Consultation Response: **Thematic Paper**

**Air quality**

May 2017

**Key Points:**

- Air quality around Heathrow is already some of the worst in London and breaks legal limits for NO<sub>2</sub> emissions which are harmful to public health.
- The NPS does not demonstrate that a third runway can be built without worsening air quality or breaching legal limits.
- The NPS analysis found that if a third runway opened in 2025 – as is planned – there would be a high risk of non-compliance.
- With a third runway, 31 air quality ‘focus areas’, which are deemed to need safeguarding, will be detrimentally affected by an increase in airport-related traffic.
- It is not acceptable that the NPS seeks to rely on air quality mitigations that are designed to deliver gains for public health, to justify expansion at Heathrow.

**1. The air quality challenge**

- 1.1 The Mayor has made reducing NO<sub>2</sub> emissions a priority because of its detrimental impact on health. People who live, work and study in areas with poor air quality are more likely to develop respiratory conditions, and each year the equivalent of up to 9,400 deaths in London are attributed to illnesses related to poor air quality<sup>1</sup>.
- 1.2 To tackle the challenge of air quality the Mayor is introducing a wide range of measures, including charging the most polluting vehicles and upgrading London’s buses. These measures aim to address poor air quality in order to improve the health of Londoners across the city as quickly as possible.
- 1.3 Heathrow is Europe’s busiest airport; its location next to roads with heavy traffic flows and in the vicinity of densely populated areas makes air quality a significant challenge even without expansion.
- 1.4 A third runway will exacerbate the problem because it will generate 260,000 more air transport movements per year<sup>2</sup> alongside an extra 170,000 daily trips (across all

<sup>1</sup> TfL, <https://tfl.gov.uk/corporate/about-tfl/improving-air-quality?cid=transport-emissions>

<sup>2</sup> Draft Airports National Policy Statement, section 1.13

modes) that will result from the additional passengers and staff. The NPS should comprehensively demonstrate how a third runway can be built and operated, with this increase in aircraft emissions and people accessing the airport, without worsening air quality. The NPS fails to do this.

- 1.5 It would be unacceptable if improvements in air quality brought about by Mayoral and national policy, and at significant cost to Londoners, were instead to be appropriated to allow expansion.
- 1.6 If a third runway was to go ahead, it is vital that potentially adverse impacts are properly and thoroughly mitigated, and that this is clearly demonstrated in advance and rigorously enforced throughout.

## **2. Modelling**

- 2.1 The Mayor has asked TfL to undertake an independent assessment of the air quality implications of Heathrow expansion. To do this, we need access to the most appropriate data reflecting the proposed third runway.
- 2.2 Heathrow Airport Limited (HAL) has detailed breakdowns of activity and emissions from the airport, including under expansion scenarios, but despite numerous requests since January 2017, it has failed to share any of this data with TfL. This has slowed, unnecessarily, our efforts to assess the likely air quality impacts of a third runway. Consequently, we are at present unable to offer a definitive quantitative assessment of these air quality impacts.
- 2.3 In the absence of the data from HAL, we have used outputs from our surface access modelling to assess the likely impacts of the additional airport related traffic generated by expansion<sup>3</sup>. The assessment shows that expansion would generate significant additional volumes of traffic on main roads across a wide swathe of west London, including some key sensitive routes. This additional traffic would certainly make air quality worse than it would otherwise be without expansion. It is also likely that it would delay compliance with legal limits for NO<sub>2</sub> in the shortest possible time.
- 2.4 Using the precautionary approach advised by Defra<sup>4</sup> we have made an estimate of the road links that should be regarded as 'at risk' in 2026 without expansion<sup>5</sup>. This assessment shows several links to be 'at risk' across West London and in the vicinity

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<sup>3</sup> The assessments of traffic generation are based on our assumptions of additional demand and available surface transport infrastructure (includes changes to roads, the opening of the Elizabeth Line and the upgrade of the Piccadilly Line).

<sup>4</sup> The precautionary approach advised by Defra treats road links with a value limit value of 36mg/m<sup>3</sup> as being 'at risk' of exceedence (section 8 of Defra UK AQP, Technical Report, May 2017).

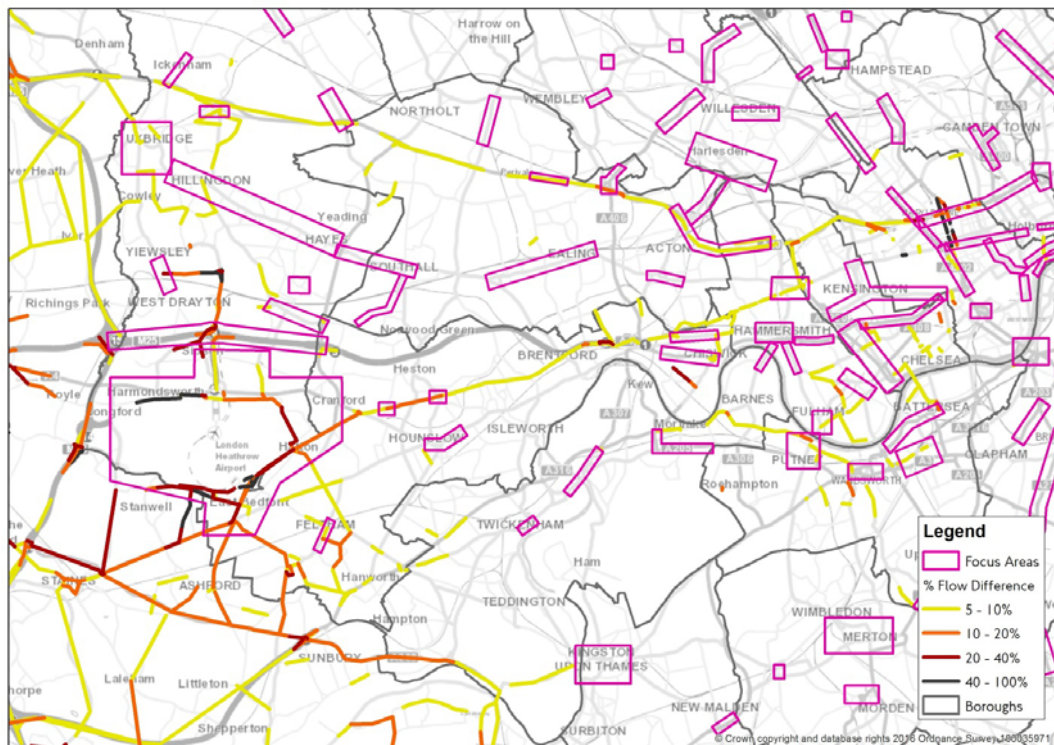
[https://consult.defra.gov.uk/airquality/air-quality-plan-for-tackling-nitrogen-dioxide/supporting\\_documents/Technical%20Report%20%20Amended%209%20May%202017.pdf](https://consult.defra.gov.uk/airquality/air-quality-plan-for-tackling-nitrogen-dioxide/supporting_documents/Technical%20Report%20%20Amended%209%20May%202017.pdf)

<sup>5</sup> A conservative assumption has been applied for this analysis that the airport would be operating at 70 per cent capacity in 2026. We have used our most up-to-date air quality models in our assessment – these are yet to include air quality schemes which are still being designed.

of the airport.

- 2.5 Onto these 'at risk' sections of road, we overlaid the increase in airport related traffic that will be generated from a third runway. This identified a number of the road links that have been deemed to be 'at risk' of exceeding the legal limit values would have additional traffic on them as a result of expansion at Heathrow. In some cases the increase in additional traffic was substantial – up to 22 per cent on an annual average daily flow basis – including the M4/A4 corridor and the A40.
- 2.6 Furthermore, TfL and the Mayor, in consultation with London boroughs, have developed the concept of air quality 'focus areas'. These are locations that are in particular need of safeguarding, because of high pollution levels and high exposure, including residential population and other 'sensitive receptors' such as schools and hospitals.

**Map 1: Air quality focus areas witnessing increased airport-related traffic**



- 2.7 Our analysis demonstrates that 31 air quality 'focus areas' will be detrimentally affected because of the traffic generated by a third runway. Increases in traffic emissions are expected close to busy town centres with high pedestrian activity such as Feltham, Yiewsley/West Drayton and Chiswick. In addition, there are around 140 schools, 15 hospitals and 29 care homes within 200m of the roads affected by expansion. The deterioration of air quality in these locations<sup>6</sup> will disproportionately add to the public health burden of Londoners and compromise the prospects for early compliance with legal objectives.

<sup>6</sup> For a list of these locations, see Appendix A

2.8 Our analysis indicates that a third runway will cause a worsening of air quality across multiple locations, alongside a substantial risk to legal compliance across London including in several air quality focus areas.

### **3. What the NPS says**

3.1 The NPS requires that the third runway at Heathrow be legally compliant with NO<sub>2</sub> limit values in order to go ahead. It is clear to us that the NPS fails to demonstrate how this could credibly be achieved.

3.2 Crucially, the NPS fails to require Heathrow not to worsen air quality. When set against the urgent need to reduce the adverse impacts of poor air quality on public health, this could result in Londoners suffering from the ill effects of poor air quality far beyond that which would otherwise be the case, given the efforts of the Mayor of London.

3.3 While the NPS itself states that “expansion (with mitigation) is capable of taking place within legal limits”<sup>7</sup>, this was directly contradicted by the NPS ‘updated air quality re-analysis’. This found that with a third runway opening in 2025 – as is planned – there is a “high risk of an impact on the compliance status of the Greater London zone”<sup>8</sup> – including impacts both near the airport and in central London<sup>9</sup>.

3.4 This supports the findings from our analysis, namely that the opening of the third runway in 2025 has a high risk of delaying compliance and causing a significant net worsening of air quality, across the city.

3.5 The ‘updated air quality re-analysis’ goes on to state that if the third runway opened in 2030, the successful implementation of the draft Air Quality Plan (May 2017) and the Real Driving Emissions (RDE) regulation would ensure that the third runway “would be unlikely to impact on the compliance with limit values”<sup>10</sup>.

3.6 This places strong reliance on mitigations unconnected to expansion at Heathrow. The Air Quality Plan – which covers a wide range of measures by the Mayor and local authorities – and the RDE regulation are also both subject to inherent uncertainty – something that was recognised by the NPS’ supporting documents<sup>11</sup>.

#### **Air quality mitigations**

3.7 The air quality plan states that “poor air quality is the largest environmental risk to public health in the UK”<sup>12</sup> and the plan aims to make the UK legally compliant with our NO<sub>2</sub> obligations.

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<sup>7</sup> Draft Airports National Policy Statement, section 3.6

<sup>8</sup> NPS: WSP Updated air quality re-analysis, section 6.3.3

<sup>9</sup> NPS: WSP Updated air quality re-analysis, table 6-2

<sup>10</sup> NPS: WSP Updated air quality re-analysis, section 6.3.1

<sup>11</sup> Appraisal of Sustainability, Appendix 8 Air Quality, section 8.9.60

<sup>12</sup> Draft Revised AQ Plan, paragraph 2

- 3.8 After two legal challenges the latest draft Air Quality Plan was finally published on 9 May 2017. This was towards the very end of the NPS consultation period which has limited the amount of time available for the public and stakeholders to scrutinise the document. Additionally the detailed modelling behind this document has not been made available for independent analysis.
- 3.9 Despite the NPS stating that the successful implementation of the Air Quality Plan is required for a third runway, the draft Air Quality Plan makes no mention of Heathrow airport. This is a stark and telling omission. It also contains no new measures for reducing NO<sub>2</sub> emissions in the aviation sector generally.
- 3.10 The draft Air Quality Plan asserts that (without Heathrow expansion) there will be overall compliance in London by 2025 or earlier. However, there is scant detail as to how this will actually be achieved beyond what the Mayor has already committed to. The draft Air Quality Plan only adds to the uncertainty around the NPS' assertion that a third runway can be delivered within legal limits.
- 3.11 RDE will be introduced from September 2017 and requires cars and vans built to Euro 6 standards to undergo testing on the basis of real driving emissions. This is expected to reduce NO<sub>x</sub> emissions but is subject to uncertainty as its success is wholly reliant on the actions of vehicle manufacturers and on the public buying these reduced emissions vehicles.
- 3.12 By relying on the implementation of the draft Air Quality Plan and the RDE legislation, the NPS is seeking to use measures unconnected to expansion to deliver improvements in air quality but then diverts the benefits, meant to improve public health, to allow a third runway at Heathrow.

#### 4. Appendix A

##### Focus Areas<sup>13</sup> detrimentally affected by traffic generated by a third runway

- 1 West Drayton/Yiewsley
- 2 York road (A3205) from Wandsworth Bridge to Latchmere Road
- 3 A5 Edgware Road from Avenue Hall/Marylebone/Seymour St
- 4 A4 Cromwell Road from Talgarth/Earls Court /Gloucester Rd/Thurloe Place/Knightsbridge
- 5 Hanger Lane /Twyford Abbey Road
- 6 Hounslow A4 Great West Road/Vicarage Farm Road
- 7 Putney Bridge and junction with Fulham Road/New Kings Road/Fulham Palace Road
- 8 Heston A4 Great West Road/Heston Road/Lampton Road
- 9 Feltham High Street
- 10 Oxford Street from Marble Arch to Bloomsbury
- 11 Earl's Court Road and Warwick Road (A3220) from Cromwell Road to Cremorne Road
- 12 Heathrow area
- 13 Embankment Charing Cross to Tower Hill
- 14 The Strand from Charing Cross to Fleet Street including Aldwych
- 15 A40/Swakeleys Road
- 16 Marylebone Road from Marble Arch/Euston/King's Cross Junction
- 17 Marble Arch to Hyde Park Corner
- 18 Wandsworth Gyratory/Wandsworth High Street/Armoury Way
- 19 A40 / South Ruislip
- 20 Putney High Street/Putney Bridge Road/Richmond Road
- 21 Perivale A40 Western Avenue Teignmouth Gardens to Alperton Lane
- 22 A40 / Long Lane
- 23 Holland Park Uxbridge Rd/Shepherd's Bush Road/Bush Green/Holland Rd
- 24 Uxbridge Road Corridor
- 25 Chiswick (A4) Cedars Road/Hogarth Lane
- 26 M4 Focus Area
- 27 Hayes North Hyde Road
- 28 Uxbridge Town Centre
- 29 Acton A40 North Acton Rail/Gypsy Corner/Savoy Circus/White City
- 30 Clapham Junction Falcon Road/Northcote Road/Battersea Rise/Lavender Hill
- 31 Chiswick Town Centre (A315)

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<sup>13</sup> Further details and locations can be found at <https://data.london.gov.uk/dataset/laei-2013-london-focus-areas>

**Educational Establishments<sup>14</sup> within 200m of roads where Heathrow expansion is expected to increase traffic**

1	High View Primary School	38	Orchard House School Site 1
2	Little Paradise	39	Providence Road School
3	Westbridge Primary School	40	St. Helens College Lower School
4	The Roche School	41	Cybertots
5	St. Marys C Of E School	42	Heathrow Primary School
6	St. Josephs Primary School	43	The Co-Operative Childcare
7	The Oakland Medical Center, Stepping Stones Academy Childcare Ltd	44	Whitton Day Nursery
8	Albemarle College	45	Feltham Hill Infant & Nursery School
9	Oak Farm Junior & Infant School	46	The Sir Michael Perry Technology Centre, Centrica
10	Our Lady of Dolours School	47	Knightsbridge School
11	Sweetcroft Day Care	48	Greenacres Day Nursery School Ltd
12	Reach Academy	49	Tara Kindergarten
13	The Rise School	50	Abercorn School
14	Ladybird Day Nursery	51	Ashburnham Community School
15	Thomas Academy	52	Coats Of Many Colours Nursery
16	Bright Sparks Montessori School	53	Lady Margaret Secondary School For Girls
17	Sir John Lillie Primary School	54	Edgware Academy
18	London School Of Economics	55	St. Lawrence R C Primary School
19	Little Venice Nursery	56	Victoria Junior School
20	Stepping Stones Early Years Centre	57	Ethelburga Early Years
21	Mortlake Training Centre	58	Francis Holland School
22	Hurlingham School	59	Harvard Park Day Nursery
23	Teddies Nursery	60	St. Thomas of Canterbury RC Primary School
24	Canada Blanch	61	Oak Hill Academy West London
25	Snowflakes Day Nursery & Montessori	62	British Airways Plc
26	Courtland Institute Of Arts	63	Rutherford House School
27	Latimer A P Academy	64	Violet Melchett Nursery
28	Lionel Road Primary School	65	Blackshaw Nursery
29	Buttercups Day Nursery At Chiswick	66	St. Vincents RC Primary School
30	Rolfes Nursery School	67	Edward Wilson Primary School
31	Phoenix High School	68	Kinderoos Pre School & Nursery
32	Academy Gardens Children's Centre	69	Little Cherubs Day Nursery
33	Centre for Counselling & Psychotherapy Education	70	Holy Cross School
34	Minford Gardens Pre School	71	Redwood College
35	Brocklebank Nursery	72	Little Munchkins Montessori Nursery
36	Bridge Training Centre	73	The Engineering Training Centre
37	Babcock Emergency Services Training Centre	74	The Little School Daycare
		75	Pield Heath House RC School

<sup>14</sup> Educational establishments as identified in the Department for Education's EduBase  
<http://www.education.gov.uk/edubase/home.xhtml>

76	Ravenstone Primary School	108	Hurlingham & Chelsea School
77	King Solomon Academy	109	Pride & Joy Nursery
78	Latymer Day Nursery	110	St. Marys C of E Primary School
79	Playdays Nursery	111	Vyners School
80	Belvue School	112	Brandlehow Primary School
81	The Old Rectory Nursery School (T O R N S)	113	Pippa Pop-Ins Nursery
82	Orchard House School Site 2	114	Sulivan Primary School
83	Golborne & Maxilla Children's Centre	115	St. Marys Hampton C of E Primary School
84	Oldfield Primary School	116	Park Walk Primary School
85	London Preparatory Schools Ltd	117	Meadow School
86	William Perkin C of E High School	118	Al Bayan Magazine
87	Eveline Day Nursery	119	Oratory School
88	Centre Academy	120	International Community School
89	London School of Economics & Political Science	121	Waverton Day Nursery
90	Kensington Preparatory School	122	St. Bernadette's RC School
91	Merchant Square Day Nursery	123	Baby Room Nurseries Ltd
92	A P H Nurseries Ltd	124	Little People of Fulham Nursery
93	Chiswick & Bedford Park Preparatory School	125	Fulham Prep School
94	Working Mums Daycare & Pre School Centre	126	Sinclair House School Ltd
95	St. Cuthbert with St. Mattias School	127	Phileas Fox Nursery School
96	Christchurch Bentinck C of E School	128	St. Anne's & Avondale Park Nursery School
97	Children's Day Nursery	129	W R C D T
98	Parkview Lodge Preschool	130	Cameron House School
99	Busy Bees Day Nursery at Chiswick	131	Chiswick School
100	Stourton Nursery	132	Little Stepping Stones Day Nurseries
101	London School of Economics Nursery	133	Buttercups Day Nursery at Homefield Recreation Ground
102	St. Marylebone C of E Secondary School	134	All Saints C of E School
103	Bridge Lane Nursery	135	Tiggers Nursery School
104	Oasis Academy Putney	136	Oxford Gardens Primary School
105	Isaac Newton Professional Development Centre	137	St. Augustine's Primary School
106	Ark Bentworth Primary Academy	138	Somerset Nursery School & Children's Centre
107	Our Lady Queen of Peace Day Nursery	139	Buffer Bear Ltd
		140	Lampton School



**Hospitals and Care Homes<sup>15</sup> within 200m of roads where Heathrow expansion is expected to increase traffic**

1	Imperial College Healthcare NHS Trust Hammersmith Hospital	1	Sir Jules Thorn Court Care Home
2	Imperial College, National Heart and Lung Institute, Guy Scaddling Building	2	Baths Court, Retirement Housing
3	Hillingdon Hospital	3	London Care Partnership Ltd Care Home
4	Florence Nightingale Hospital	4	Hampton Care
5	Clayponds Hospital	5	Hazel Court Day Centre and Nursing Home
6	Abbey Riverside Hospital	6	Meadbank Care Home
7	The Western Ophthalmic Hospital	7	Battersea Bridge House
8	Charter Clinic	8	The Chiswick Nursing Centre
9	St. Georges Hospital	9	Sanctuary Care Limited
10	Central & North West London NHS Trust	10	Carlton Gate Care Home
11	Royal Marsden Hospital	11	Chertsey Road Care Home
12	The London Clinic	12	West Mead Elderly Resource Centre
13	Princess Grace Hospital	13	Wardley Street Care Home
14	Brompton Hospital	14	Autism Consultants Ltd
15	The Portland Hospital	15	Stamford Brook Nursing Home
		16	Marian House Nursing Home, The Sisters Of The Sacred Hearts Of Jesus & Mary
		17	Tavistock Co-Operative
		18	Shenehom Housing Association Ltd
		19	Haymill Close Care Home
		20	Vicarage Farm Nursing Home
		21	Clifton Gardens Home For The Elderly
		22	Support For Living Limited
		23	Sweetcroft Residential Care Home, Ilford Homes
		24	Vicarage Farm Nursing Home
		25	Minford Gardens Care Home
		26	Rose Cottage Care Home
		27	Sherwood Lodge Care Home
		28	Woodlawn Crescent Care Home
		29	Wood House Care Home

<sup>15</sup> Hospitals and care homes sourced from Ordnance Survey 'Address Base Plus'