**Environmental Research and Consultancy Department** 

# Noise Modelling for the Airports Commission: Compendium of Results

June 2015

# Introduction and contents

The Environmental Research and Consultancy Department (ERCD) of the Civil Aviation Authority (CAA) has been commissioned by the Airports Commission to calculate forecast noise exposure contours for the three short-listed proposals to meet long-term capacity demand in the south east of the UK.

This document presents the results of the noise modelling, which were submitted to the Airports Commission for use in their appraisal.

Details of the modelling methodology and assumptions are provided in a separate CAA report which was published as part of the Noise Assessment reporting by Jacobs.

The contents of this document are presented under the following headings:

- A. Areas, Population and Households
- B. Noise Sensitive Buildings (NSB)
- C. Newly Affected People
- D. Monetisation
- E. Contour maps
- F. Route maps

This document is submitted in three parts, namely:

- 1. Airports Commission Compendium of Results Part A-D
- 2. Airports Commission Compendium of Results Part E
- 3. Airports Commission Compendium of Results Part F

## A. AREAS, POPULATION AND HOUSEHOLDS

#### **GATWICK AIRPORT**

### A1. G13-1R: Gatwick 2013 current, standard modal split

- G13-1R, Summer average 16-hour daytime LAeq,16h
- G13-1R, Summer average 8-hour night-time LAeq,8h
- G11-1R, Annual average Lden
- G11-1R, Annual average Lnight
- G13-1R, Summer average daytime N70
- G13-1R, Summer average night-time N60

#### A2. G30-1R: Gatwick 2030 do-minimum

- G30-1R, Summer average 16-hour daytime LAeq,16h
- G30-1R, Summer average 8-hour night-time LAeq,8h
- G30-1R, Annual average Lden
- G30-1R, Annual average Lnight
- G30-1R, Summer average daytime N70
- G30-1R, Summer average night-time N60

#### A3. G40-1R: Gatwick 2040 do-minimum

- G40-1R, Summer average 16-hour daytime LAeq,16h
- G40-1R, Summer average 8-hour night-time LAeq,8h
- G40-1R, Annual average Lden
- G40-1R, Annual average Lnight
- G40-1R, Summer average daytime N70
- G40-1R, Summer average night-time N60

## A4. G50-1R: Gatwick 2050 do-minimum

- G50-1R, Summer average 16-hour daytime LAeq,16h
- G50-1R, Summer average 8-hour night-time LAeq,8h
- G50-1R, Annual average Lden
- G50-1R, Annual average Lnight
- G50-1R, Summer average daytime N70
- G50-1R, Summer average night-time N60

#### A5. G30-1R-NCT: Gatwick 2030 do-minimum, Need Carbon Traded

- G30-1R, Summer average 16-hour daytime LAeq,16h
- G30-1R, Summer average 8-hour night-time LAeq,8h
- G30-1R, Annual average Lden
- G30-1R, Summer average daytime N70
- G30-1R, Summer average night-time N60

## A6. G40-1R-NCT: Gatwick 2040 do-minimum, Need Carbon Traded

- G40-1R, Summer average 16-hour daytime LAeq,16h
- G40-1R, Summer average 8-hour night-time LAeq,8h
- G40-1R, Annual average Lden
- G40-1R, Summer average daytime N70
- G40-1R, Summer average night-time N60

### A7. G50-1R-NCT: Gatwick 2050 do-minimum, Need Carbon Traded

- G50-1R, Summer average 16-hour daytime LAeq,16h
- G50-1R, Summer average 8-hour night-time LAeq,8h
- G50-1R, Annual average Lden
- G50-1R, Summer average daytime N70
- G50-1R, Summer average night-time N60

#### A8. G30-1R-3R: Gatwick 2030 do-minimum, with HAL Third Runway

- G30-1R-3R, Summer average 16-hour daytime LAeq,16h
- G30-1R-3R, Summer average 8-hour night-time LAeq,8h
- G30-1R-3R, Annual average Lden

### A9. G40-1R-3R: Gatwick 2040 do-minimum, with HAL Third Runway

- G40-1R-3R, Summer average 16-hour daytime LAeq,16h
- G40-1R-3R, Summer average 8-hour night-time LAeq,8h
- G40-1R-3R, Annual average Lden

### A10. G50-1R-3R: Gatwick 2050 do-minimum, with HAL Third Runway

- G50-1R-3R, Summer average 16-hour daytime LAeq,16h
- G50-1R-3R, Summer average 8-hour night-time LAeq,8h
- G50-1R-3R, Annual average Lden

### A11. G30-1R-HH: Gatwick 2030 do-minimum, with Heathrow Hub

- G30-1R-HH, Summer average 16-hour daytime LAeq,16h
- G30-1R-HH, Summer average 8-hour night-time LAeq,8h
- G30-1R-HH, Annual average Lden

### A12. G40-1R-HH: Gatwick 2040 do-minimum, with Heathrow Hub

- G40-1R-HH, Summer average 16-hour daytime LAeq,16h
- G40-1R-HH, Summer average 8-hour night-time LAeq,8h
- G40-1R-HH, Annual average Lden

#### A13. G50-1R-HH: Gatwick 2050 do-minimum, with Heathrow Hub

- G50-1R-HH, Summer average 16-hour daytime LAeq,16h
- G50-1R-HH, Summer average 8-hour night-time LAeq,8h
- G50-1R-HH, Annual average Lden

### A14. G30-2R-X: Gatwick 2030 do-something, GAL - no sensitivity test

- G30-2R-X, Summer average 16-hour daytime LAeq,16h
- G30-2R-X, Summer average 8-hour night-time LAeq,8h
- G30-2R-X, Annual average Lden
- G30-2R-X, Annual average Lnight
- G30-2R-X, Summer average daytime N70
- G30-2R-X, Summer average night-time N60

### A15. G40-2R-X: Gatwick 2040 do-something, GAL - no sensitivity test

- G40-2R-X, Summer average 16-hour daytime LAeq,16h
- G40-2R-X, Summer average 8-hour night-time LAeq,8h
- G40-2R-X, Annual average Lden
- G40-2R-X, Annual average Lnight
- G40-2R-X, Summer average daytime N70
- G40-2R-X, Summer average night-time N60

## A16. G50-2R-X: Gatwick 2050 do-something, GAL - no sensitivity test

- G50-2R-X, Summer average 16-hour daytime LAeq,16h
- G50-2R-X, Summer average 8-hour night-time LAeq,8h
- G50-2R-X, Annual average Lden
- G50-2R-X, Annual average Lnight
- G50-2R-X, Summer average daytime N70
- G50-2R-X, Summer average night-time N60

## A17. G30-2R-X-C: Gatwick 2030 do-something, GAL - no sensitivity test, Carbon Traded

- G30-2R-X-C, Summer average 16-hour daytime LAeq,16h
- G30-2R-X-C, Summer average 8-hour night-time LAeq,8h
- G30-2R-X-C, Annual average Lden
- G30-2R-X-C, Annual average Lnight
- G30-2R-X-C, Summer average daytime N70
- G30-2R-X-C, Summer average night-time N60

#### A18. G40-2R-X-C: Gatwick 2040 do-something, GAL - no sensitivity test, Carbon Traded

- G40-2R-X-C, Summer average 16-hour daytime LAeq,16h
- G40-2R-X-C, Summer average 8-hour night-time LAeq,8h
- G40-2R-X-C, Annual average Lden
- G40-2R-X-C, Annual average Lnight
- G40-2R-X-C, Summer average daytime N70
- G40-2R-X-C, Summer average night-time N60

## A19. G50-2R-X-C: Gatwick 2050 do-something, GAL - no sensitivity test, Carbon Traded

- G50-2R-X-C, Summer average 16-hour daytime LAeq,16h
- G50-2R-X-C, Summer average 8-hour night-time LAeq,8h
- G50-2R-X-C, Annual average Lden
- G50-2R-X-C, Annual average Lnight
- G50-2R-X-C, Summer average daytime N70
- G50-2R-X-C, Summer average night-time N60

### A20. G30-2R-X-NCT: Gatwick 2030 do-something, GAL - Need Carbon Traded

- G30-2R-X-NCT, Summer average 16-hour daytime LAeq,16h
- G30-2R-X-NCT, Summer average 8-hour night-time LAeq,8h
- G30-2R-X-NCT, Annual average Lden
- G30-2R-X-NCT, Summer average daytime N70
- G30-2R-X-NCT, Summer average night-time N60

## A21. G40-2R-X-NCT: Gatwick 2040 do-something, GAL - Need Carbon Traded

- G40-2R-X-NCT, Summer average 16-hour daytime LAeq,16h
- G40-2R-X-NCT, Summer average 8-hour night-time LAeq,8h
- G40-2R-X-NCT, Annual average Lden
- G40-2R-X-NCT, Summer average daytime N70
- G40-2R-X-NCT, Summer average night-time N60

### A22. G50-2R-X-NCT: Gatwick 2050 do-something, GAL - Need Carbon Traded

- G50-2R-X-NCT, Summer average 16-hour daytime LAeq,16h
- G50-2R-X-NCT, Summer average 8-hour night-time LAeq,8h
- G50-2R-X-NCT, Annual average Lden
- G50-2R-X-NCT, Summer average daytime N70
- G50-2R-X-NCT, Summer average night-time N60

### A23. G30-2R-X-QC: Gatwick 2030 do-something, GAL - No core night operations

• G30-2R-X-QC, Summer average 8-hour night-time LAeq,8h

### A24. G40-2R-X-QC: Gatwick 2040 do-something, GAL - No core night operations

G40-2R-X-QC, Summer average 8-hour night-time LAeq,8h

## A25. G50-2R-X-QC: Gatwick 2050 do-something, GAL - No core night operations

G50-2R-X-QC, Summer average 8-hour night-time LAeq,8h

### **HEATHROW AIRPORT**

#### A26. H13-2R: Heathrow 2013 current, standard modal split

- H13-2R, Summer average 16-hour daytime LAeq,16h
- H13-2R, Summer average 8-hour night-time LAeq,8h
- H11-2R, Annual average Lden
- H11-2R, Annual average Lnight
- H13-2R, Summer average daytime N70
- H13-2R, Summer average night-time N60

#### A27. H30-2R: Heathrow 2030 do-minimum

- H30-2R, Summer average 16-hour daytime LAeq,16h
- H30-2R, Summer average 8-hour night-time LAeq,8h
- H30-2R, Annual average Lden
- H30-2R, Annual average Lnight
- H30-2R, Summer average daytime N70
- H30-2R, Summer average night-time N60

#### A28. H40-2R: Heathrow 2040 do-minimum

- H40-2R, Summer average 16-hour daytime LAeq,16h
- H40-2R, Summer average 8-hour night-time LAeq,8h
- H40-2R, Annual average Lden
- H40-2R, Annual average Lnight
- H40-2R, Summer average daytime N70
- H40-2R, Summer average night-time N60

#### A29. H50-2R: Heathrow 2050 do-minimum

- H50-2R, Summer average 16-hour daytime LAeq,16h
- H50-2R, Summer average 8-hour night-time LAeq,8h
- H50-2R, Annual average Lden
- H50-2R, Annual average Lnight
- H50-2R, Summer average daytime N70
- H50-2R, Summer average night-time N60

## A30. H30-2R-NCT: Heathrow 2030 do-minimum, Need Carbon Traded

- H30-2R-NCT, Summer average 16-hour daytime LAeq,16h
- H30-2R-NCT, Summer average 8-hour night-time LAeq,8h
- H30-2R-NCT, Annual average Lden
- H30-2R-NCT, Summer average daytime N70
- H30-2R-NCT, Summer average night-time N60

## A31. H40-2R-NCT: Heathrow 2040 do-minimum, Need Carbon Traded

- H40-2R-NCT, Summer average 16-hour daytime LAeq,16h
- H40-2R-NCT, Summer average 8-hour night-time LAeq,8h
- H40-2R-NCT, Annual average Lden
- H40-2R-NCT, Summer average daytime N70
- H40-2R-NCT, Summer average night-time N60

### A32. H50-2R-NCT: Heathrow 2050 do-minimum, Need Carbon Traded

- H50-2R-NCT, Summer average 16-hour daytime LAeq,16h
- H50-2R-NCT, Summer average 8-hour night-time LAeq,8h
- H50-2R-NCT, Annual average Lden
- H50-2R-NCT, Summer average daytime N70
- H50-2R-NCT, Summer average night-time N60

#### A33. H30-3R-N: Heathrow 2030 do-something, HAL - Minimise newly affected

- H30-3R-N, Summer average 16-hour daytime LAeq,16h
- H30-3R-N, Summer average 8-hour night-time LAeq,8h
- H30-3R-N, Annual average Lden
- H30-3R-N, Annual average Lnight
- H30-3R-N, Summer average daytime N70
- H30-3R-N, Summer average night-time N60

### A34. H40-3R-N: Heathrow 2040 do-something, HAL - Minimise newly affected

- H40-3R-N, Summer average 16-hour daytime LAeq,16h
- H40-3R-N, Summer average 8-hour night-time LAeq,8h
- H40-3R-N, Annual average Lden
- H40-3R-N, Annual average Lnight
- H40-3R-N, Summer average daytime N70
- H40-3R-N, Summer average night-time N60

## A35. H50-3R-N: Heathrow 2050 do-something, HAL - Minimise newly affected

- H50-3R-N, Summer average 16-hour daytime LAeq,16h
- H50-3R-N, Summer average 8-hour night-time LAeq,8h
- H50-3R-N, Annual average Lden
- H50-3R-N, Annual average Lnight
- H50-3R-N, Summer average daytime N70
- H50-3R-N, Summer average night-time N60

## A36. H30-3R-R: Heathrow 2030 do-something, HAL - Respite

- H30-3R-R, Summer average 16-hour daytime LAeq,16h
- H30-3R-R, Summer average 8-hour night-time LAeq,8h
- H30-3R-R, Annual average Lden
- H30-3R-R, Annual average Lnight
- H30-3R-R, Summer average daytime N70
- H30-3R-R, Summer average night-time N60

### A37. H40-3R-R: Heathrow 2040 do-something, HAL - Respite

- H40-3R-R, Summer average 16-hour daytime LAeq,16h
- H40-3R-R, Summer average 8-hour night-time LAeq,8h
- H40-3R-R, Annual average Lden
- H40-3R-R, Annual average Lnight
- H40-3R-R, Summer average daytime N70
- H40-3R-R, Summer average night-time N60

### A38. H50-3R-R: Heathrow 2050 do-something, HAL - Respite

- H50-3R-R, Summer average 16-hour daytime LAeq,16h
- H50-3R-R, Summer average 8-hour night-time LAeq,8h
- H50-3R-R, Annual average Lden
- H50-3R-R, Annual average Lnight
- H50-3R-R, Summer average daytime N70
- H50-3R-R, Summer average night-time N60

## A39. H30-3R-T: Heathrow 2030 do-something, HAL - Minimise total affected

- H30-3R-T, Summer average 16-hour daytime LAeq,16h
- H30-3R-T, Summer average 8-hour night-time LAeq,8h
- H30-3R-T, Annual average Lden
- H30-3R-T, Annual average Lnight
- H30-3R-T, Summer average daytime N70
- H30-3R-T, Summer average night-time N60

## A40. H40-3R-T: Heathrow 2040 do-something, HAL - Minimise total affected

- H40-3R-T, Summer average 16-hour daytime LAeq,16h
- H40-3R-T, Summer average 8-hour night-time LAeq,8h
- H40-3R-T, Annual average Lden
- H40-3R-T, Annual average Lnight
- H40-3R-T, Summer average daytime N70
- H40-3R-T, Summer average night-time N60

#### A41. H50-3R-T: Heathrow 2050 do-something, HAL - Minimise total affected

- H50-3R-T, Summer average 16-hour daytime LAeq,16h
- H50-3R-T, Summer average 8-hour night-time LAeq,8h
- H50-3R-T, Annual average Lden
- H50-3R-T, Annual average Lnight
- H50-3R-T, Summer average daytime N70
- H50-3R-T, Summer average night-time N60

# A42. H50-3R-T-35: Heathrow 2050 do-something, HAL - Minimise total affected, 3.5 degree approach

- H50-3R-T-35, Summer average 16-hour daytime LAeq,16h
- H50-3R-T-35, Summer average 8-hour night-time LAeq,8h
- H50-3R-T-35, Annual average Lden
- H50-3R-T-35, Annual average Lnight
- H50-3R-T-35, Summer average daytime N70
- H50-3R-T-35, Summer average night-time N60

# A43. H30-3R-T-C: Heathrow 2030 do-something, HAL - Minimise total affected, Carbon Traded

- H30-3R-T-C, Summer average 16-hour daytime LAeq,16h
- H30-3R-T-C, Summer average 8-hour night-time LAeq,8h
- H30-3R-T-C, Annual average Lden
- H30-3R-T-C, Annual average Lnight
- H30-3R-T-C, Summer average daytime N70
- H30-3R-T-C, Summer average night-time N60

# A44. H40-3R-T-C: Heathrow 2040 do-something, HAL - Minimise total affected, Carbon Traded

- H40-3R-T-C, Summer average 16-hour daytime LAeq,16h
- H40-3R-T-C, Summer average 8-hour night-time LAeq,8h
- H40-3R-T-C, Annual average Lden
- H40-3R-T-C, Annual average Lnight
- H40-3R-T-C, Summer average daytime N70
- H40-3R-T-C, Summer average night-time N60

# A45. H50-3R-T-C: Heathrow 2050 do-something, HAL - Minimise total affected, Carbon Traded

- H50-3R-T-C, Summer average 16-hour daytime LAeq,16h
- H50-3R-T-C, Summer average 8-hour night-time LAeq,8h
- H50-3R-T-C, Annual average Lden
- H50-3R-T-C, Annual average Lnight
- H50-3R-T-C, Summer average daytime N70
- H50-3R-T-C, Summer average night-time N60

# A46. H30-3R-T-F: Heathrow 2030 do-something, HAL - Minimise total affected, Heathrow Airport Ltd. fleet mix

- H30-3R-T-F, Summer average 16-hour daytime LAeq,16h
- H30-3R-T-F, Summer average 8-hour night-time LAeq,8h
- H30-3R-T-F, Annual average Lden

# A47. H40-3R-T-F: Heathrow 2040 do-something, HAL - Minimise total affected, Heathrow Airport Ltd. fleet mix

- H40-3R-T-F, Summer average 16-hour daytime LAeq,16h
- H40-3R-T-F, Summer average 8-hour night-time LAeq,8h
- H40-3R-T-F, Annual average Lden

### A48. H30-3R-T-NCT: Heathrow 2030 do-something, HAL - Need Carbon Traded

- H30-3R-T-NCT, Summer average 16-hour daytime LAeq,16h
- H30-3R-T-NCT, Summer average 8-hour night-time LAeq,8h
- H30-3R-T-NCT, Annual average Lden
- H30-3R-T-NCT, Summer average daytime N70
- H30-3R-T-NCT, Summer average night-time N60

## A49. H40-3R-T-NCT: Heathrow 2040 do-something, HAL - Need Carbon Traded

- H40-3R-T-NCT, Summer average 16-hour daytime LAeq,16h
- H40-3R-T-NCT, Summer average 8-hour night-time LAeq,8h
- H40-3R-T-NCT, Annual average Lden
- H40-3R-T-NCT, Summer average daytime N70
- H40-3R-T-NCT, Summer average night-time N60

### A50. H50-3R-T-NCT: Heathrow 2050 do-something, HAL - Need Carbon Traded

- H50-3R-T-NCT, Summer average 16-hour daytime LAeq,16h
- H50-3R-T-NCT, Summer average 8-hour night-time LAeq,8h
- H50-3R-T-NCT, Annual average Lden
- H50-3R-T-NCT, Summer average daytime N70
- H50-3R-T-NCT, Summer average night-time N60

# A51. H30-3R-T-QC: Heathrow 2030 do-something, HAL - Minimise total affected - No core night operations

H30-3R-T-QC, Summer average 8-hour night-time LAeq,8h

# A52. H40-3R-T-QC: Heathrow 2040 do-something, HAL - Minimise total affected - No core night operations

H40-3R-T-QC, Summer average 8-hour night-time LAeq,8h

# A53. H50-3R-T-QC: Heathrow 2050 do-something, HAL - Minimise total affected - No core night operations

H50-3R-T-QC, Summer average 8-hour night-time LAeq,8h

### A54. H30-HH-X: Heathrow 2030 do-something, Hub - no sensitivity test

- H30-HH-X, Summer average 16-hour daytime LAeq,16h
- H30-HH-X, Summer average 8-hour night-time LAeq,8h
- H30-HH-X, Annual average Lden
- H30-HH-X, Annual average Lnight
- H30-HH-X, Summer average daytime N70
- H30-HH-X, Summer average night-time N60

### A55. H40-HH-X: Heathrow 2040 do-something, Hub - no sensitivity test

- H40-HH-X, Summer average 16-hour daytime LAeq,16h
- H40-HH-X, Summer average 8-hour night-time LAeq,8h
- H40-HH-X, Annual average Lden
- H40-HH-X, Annual average Lnight
- H40-HH-X, Summer average daytime N70
- H40-HH-X, Summer average night-time N60

## A56. H50-HH-X: Heathrow 2050 do-something, Hub - no sensitivity test

- H50-HH-X, Summer average 16-hour daytime LAeq,16h
- H50-HH-X, Summer average 8-hour night-time LAeq,8h
- H50-HH-X, Annual average Lden
- H50-HH-X, Annual average Lnight
- H50-HH-X, Summer average daytime N70
- H50-HH-X, Summer average night-time N60

### A57. H30-HH-X-C: Heathrow 2030 do-something, Hub - no sensitivity test, Carbon Traded

- H30-HH-X-C, Summer average 16-hour daytime LAeq,16h
- H30-HH-X-C, Summer average 8-hour night-time LAeq,8h
- H30-HH-X-C, Annual average Lden
- H30-HH-X-C, Annual average Lnight
- H30-HH-X-C, Summer average daytime N70
- H30-HH-X-C, Summer average night-time N60

### A58. H40-HH-X-C: Heathrow 2040 do-something, Hub - no sensitivity test, Carbon Traded

- H40-HH-X-C, Summer average 16-hour daytime LAeq,16h
- H40-HH-X-C, Summer average 8-hour night-time LAeq,8h
- H40-HH-X-C, Annual average Lden
- H40-HH-X-C, Annual average Lnight
- H40-HH-X-C, Summer average daytime N70
- H40-HH-X-C, Summer average night-time N60

#### A59. H50-HH-X-C: Heathrow 2050 do-something, Hub - no sensitivity test, Carbon Traded

- H50-HH-X-C, Summer average 16-hour daytime LAeq,16h
- H50-HH-X-C, Summer average 8-hour night-time LAeq,8h
- H50-HH-X-C, Annual average Lden
- H50-HH-X-C, Annual average Lnight
- H50-HH-X-C, Summer average daytime N70
- H50-HH-X-C, Summer average night-time N60

## A60. H30-HH-X-NCT: Heathrow 2030 do-something, Hub - Need Carbon Traded

- H30-HH-X-NCT, Summer average 16-hour daytime LAeq,16h
- H30-HH-X-NCT, Summer average 8-hour night-time LAeq,8h
- H30-HH-X-NCT, Annual average Lden
- H30-HH-X-NCT, Summer average daytime N70
- H30-HH-X-NCT, Summer average night-time N60

### A61. H40-HH-X-NCT: Heathrow 2040 do-something, Hub - Need Carbon Traded

- H40-HH-X-NCT, Summer average 16-hour daytime LAeq,16h
- H40-HH-X-NCT, Summer average 8-hour night-time LAeq,8h
- H40-HH-X-NCT, Annual average Lden
- H40-HH-X-NCT, Summer average daytime N70
- H40-HH-X-NCT, Summer average night-time N60

### A62. H50-HH-X-NCT: Heathrow 2050 do-something, Hub - Need Carbon Traded

- H50-HH-X-NCT, Summer average 16-hour daytime LAeq,16h
- H50-HH-X-NCT, Summer average 8-hour night-time LAeq,8h
- H50-HH-X-NCT, Annual average Lden
- H50-HH-X-NCT, Summer average daytime N70
- H50-HH-X-NCT, Summer average night-time N60

## A63. H30-HH-R: Heathrow 2030 do-something, Hub - Respite

- H30-HH-R, Summer average 16-hour daytime LAeq,16h
- H30-HH-R, Summer average 8-hour night-time LAeq,8h
- H30-HH-R, Annual average Lden
- H30-HH-R, Annual average Lnight
- H30-HH-R, Summer average daytime N70
- H30-HH-R, Summer average night-time N60

#### A64. H30-HH-O: Heathrow 2030 do-something, Hub - off-set approaches

- H30-HH-O, Summer average 16-hour daytime LAeq,16h
- H30-HH-O, Summer average 8-hour night-time LAeq,8h
- H30-HH-O, Annual average Lden
- H30-HH-O, Summer average daytime N70
- H30-HH-O, Summer average night-time N60

#### A65. H40-HH-O: Heathrow 2040 do-something, Hub - off-set approaches

- H40-HH-O, Summer average 16-hour daytime LAeq,16h
- H40-HH-O, Summer average 8-hour night-time LAeq,8h
- H40-HH-O, Annual average Lden
- H40-HH-O, Summer average daytime N70
- H40-HH-O, Summer average night-time N60

#### A66. H50-HH-O: Heathrow 2050 do-something, Hub - off-set approaches

- H50-HH-O, Summer average 16-hour daytime LAeq,16h
- H50-HH-O, Summer average 8-hour night-time LAeq,8h
- H50-HH-O, Annual average Lden
- H50-HH-O, Summer average daytime N70
- H50-HH-O, Summer average night-time N60

# A67. H30-HH-O-NCT: Heathrow 2030 do-something, Hub -off-set approaches, Need Carbon Traded

- H30-HH-O-NCT, Summer average 16-hour daytime LAeq,16h
- H30-HH-O-NCT, Summer average 8-hour night-time LAeq,8h
- H30-HH-O-NCT, Annual average Lden
- H30-HH-O-NCT, Summer average daytime N70
- H30-HH-O-NCT, Summer average night-time N60

# A68. H40-HH-O-NCT: Heathrow 2040 do-something, Hub -off-set approaches, Need Carbon Traded

- H40-HH-O-NCT, Summer average 16-hour daytime LAeq,16h
- H40-HH-O-NCT, Summer average 8-hour night-time LAeq,8h
- H40-HH-O-NCT, Annual average Lden
- H40-HH-O-NCT, Summer average daytime N70
- H40-HH-O-NCT, Summer average night-time N60

# A69. H50-HH-O-NCT: Heathrow 2050 do-something, Hub -off-set approaches, Need Carbon Traded

- H50-HH-O-NCT, Summer average 16-hour daytime LAeq,16h
- H50-HH-O-NCT, Summer average 8-hour night-time LAeq,8h
- H50-HH-O-NCT, Annual average Lden
- H50-HH-O-NCT, Summer average daytime N70
- H50-HH-O-NCT, Summer average night-time N60

### A70. H30-HH-X-QC: Heathrow 2030 do-something, Hub - No core night operations

H30-HH-X-QC, Summer average 8-hour night-time LAeq,8h

### A71. H40-HH-X-QC: Heathrow 2040 do-something, Hub - No core night operations

H40-HH-X-QC, Summer average 8-hour night-time LAeq,8h

## A72. H50-HH-X-QC: Heathrow 2050 do-something, Hub - No core night operations

• H50-HH-X-QC, Summer average 8-hour night-time LAeq,8h

G13-1R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	77.1	9,700	3,900
>57	40.9	3,550	1,500
>60	23.0	1,200	500
>60 >63	12.5	350	150
>66	6.7	150	100
>69	3.5	0	0
>72	1.9	0	0

## G13-1R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	91.8	11,200	4,400
>51	47.7	5,050	2,000
>54	25.9	1,550	650
>57	13.9	450	200
>60	7.2	150	100
>63	3.8	50	50
>66	2.0	0	0
>69	1.2	0	0
>72	0.7	0	0

# G11-1R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	85.7	11,300	4,500
>60	31.9	2,000	800
>65	11.9	500	200
>70	4.1	<100	<100
>75	1.5	0	0

# G11-1R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	40.0	4,100	1,700
>55	15.0	700	300
>60	5.2	200	<100
>65	1.8	0	0
>70	0.7	0	0

## G13-1R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	55.3		2,500
>50	37.4	2,500	1,100
>100	27.7	1,400	600
>200	19.2	900	400
>500	1.3	<50	<50

# G13-1R, Summer average night-time N60

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Contour	Area (km²)	Population	Households
>25	104.3	11,600	4,600
>50	32.5	4,900	1,900
>100	0.8	<50	<50

G30-1R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	58.1	8,000	3,200
>57	31.8	2,200	900
>60	17.4	1,100	400
>63	8.9	400	100
>66	4.7	300	100
>69	2.6	200	<50
>72	1.5	<50	<50

# G30-1R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	83.1	11,700	4,700
>51	44.5	5,600	2,200
>54	24.8	1,700	700
>57	13.2	600	200
>60	6.8	400	100
>63	3.6	300	<50
>66	2.0	<50	<50
>69	1.2	<50	<50
>72	0.7	<50	<50

# G30-1R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	70.7	9,400	3,700
>60	25.8	1,900	700
>65	8.9	400	100
>70	3.1	200	<50
>75	1.2	<50	<50

# G30-1R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	34.9	2,900	1,100
>55	12.9	600	200
>60	4.3	300	<50
>65	1.7	<50	<50
>70	0.7	<50	<50

## G30-1R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	32.2	2,100	800
>50	26.0	1,800	700
>100	20.9	1,400	500
>200	15.7	800	300
>500	1.1	200	<50

#### G30-1R, Summer average night-time N60

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Contour	Area (km²)	Population	Households	
>25	88.6	11,800	4,700	
>50	54.1	7,200	2,900	
>100	3.2	200	<50	

G40-1R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	53.6	7,400	2,900
>57	29.7	2,200	900
>60	16.3	900	300
>63	8.4	500	100
>66	4.4	300	<50
>69	2.4	200	<50
>72	1.4	<50	<50

# G40-1R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	76.4	11,100	4,400
>51	41.4	5,500	2,100
>54	23.4	1,700	700
>57	12.6	600	200
>60	6.6	400	100
>63	3.5	300	<50
>66	2.0	<50	<50
>69	1.2	<50	<50
>72	0.7	<50	<50

# G40-1R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	64.1	9,200	3,700
>60	23.9	1,700	700
>65	8.2	400	100
>70	2.9	200	<50
>75	1.2	<50	<50

# G40-1R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	31.7	2,200	900
>55	11.6	600	200
>60	3.9	300	<50
>65	1.5	<50	<50
>70	0.7	<50	<50

## G40-1R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	31.8	2,200	800
>50	24.4	1,700	600
>100	20.0	1,400	500
>200	15.3	800	300
>500	1.1	200	<50

#### G40-1R, Summer average night-time N60

e to 11th outlines average inght time 1100				
Contour	Area (km²)	Population	Households	
>25	86.4	12,200	4,900	
>50	53.3	7,200	2,800	
>100	3.4	200	<50	

G50-1R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	54.6	7,600	3,000
>57	30.7	2,800	1,100
>60	17.1	1,200	400
>63	9.0	500	100
>66	4.7	300	100
>69	2.6	200	<50
>72	1.5	<50	<50

# G50-1R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	76.4	11,200	4,500
>51	41.5	5,600	2,200
>54	23.6	1,700	600
>57	12.8	600	200
>60	6.7	400	100
>63	3.5	300	<50
>66	2.0	<50	<50
>69	1.1	<50	<50
>72	0.7	<50	<50

# G50-1R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	65.2	9,500	3,700
>60	24.6	1,800	700
>65	8.7	500	100
>70	3.0	200	<50
>75	1.2	<50	<50

# G50-1R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	32.8	3,200	1,300
>55	12.3	700	200
>60	4.2	300	<50
>65	1.6	<50	<50
>70	0.7	<50	<50

## G50-1R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	32.2		1,300
>50	25.3	1,900	700
>100	20.6	1,400	500
>200	15.9	800	300
>500	1.4	200	<50

#### G50-1R, Summer average night-time N60

oso 11.) sammer average mgm time 1100				
Contour	Area (km²)	Population	Households	
>25	84.0	11,700	4,700	
>50	51.3	7,100	2,800	
>100	3.6	200	<50	

G30-1R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	60.7	8,200	3,300
>57	33.2	2,700	1,100
>60	18.3	1,200	400
>63	9.4	400	100
>66	4.9	300	100
>69	2.7	200	<50
>72	1.6	<50	<50

# G30-1R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	86.1	13,300	5,400
>51	46.6	5,700	2,200
>54	26.4	1,900	700
>57	14.6	700	200
>60	7.7	400	100
>63	4.1	300	<50
>66	2.3	200	<50
>69	1.4	<50	<50
>72	0.8	<50	<50

# G30-1R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	72.9	9,900	4,000
>60	27.1	1,800	700
>65	9.6	400	100
>70	3.3	200	<50
>75	1.4	<50	<50

# G30-1R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	35.3	3,100	1,200
>50	26.6	1,800	700
>100	21.4	1,400	500
>200	16.0	900	300
>500	1.2	200	<50

### G30-1R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	97.8	15,400	6,300
>50	55.7	7,000	2,800
>100	5.3	200	<50

G40-1R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	54.5	7,500	3,000
>57	30.2	2,300	900
>60	16.5	1,100	400
>63	8.5	500	100
>66	4.4	300	<50
>69	2.5	200	<50
>72	1.4	<50	<50

# G40-1R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	79.2	12,200	4,900
>51	43.0	5,700	2,200
>54	24.4	1,700	700
>57	13.3	600	200
>60	7.0	400	100
>63	3.7	200	<50
>66	2.1	200	<50
>69	1.3	<50	<50
>72	0.8	<50	<50

# G40-1R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	65.7	9,400	3,700
>60	24.7	1,700	700
>65	8.6	500	100
>70	3.1	200	<50
>75	1.3	<50	<50

# G40-1R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	32.1	3,000	1,100
>50	24.3	1,700	600
>100	20.0	1,400	500
>200	15.4	800	300
>500	1.1	200	<50

### G40-1R, Summer average night-time N60

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Contour	Area (km²)	Population	Households
>25	93.2	15,400	6,300
>50	55.9	7,500	3,000
>100	5.3	200	<50

G50-1R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	54.7	7,600	3,000
>57	30.6	2,800	1,100
>60	17.0	1,200	400
>63	8.9	500	100
>66	4.7	300	<50
>69	2.6	200	<50
>72	1.5	<50	<50

# G50-1R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	76.1	11,600	4,700
>51	42.0	5,000	2,100
>54	24.1	1,800	700
>57	13.3	700	200
>60	7.1	400	100
>63	3.8	200	<50
>66	2.2	200	<50
>69	1.3	<50	<50
>72	0.8	<50	<50

# G50-1R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	65.0	9,600	3,800
>60	24.9	1,800	700
>65	9.0	500	100
>70	3.2	200	<50
>75	1.3	<50	<50

# G50-1R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	32.2	3,300	1,300
>50	25.3	1,900	700
>100	20.5	1,500	500
>200	15.8	800	300
>500	1.3	200	<50

### G50-1R, Summer average night-time N60

Contour	Area (km²)	Population	Households	
>25	94.3	15,800	6,500	
>50	49.1	5,200	2,100	
>100	5.4	200	<50	

G30-1R-3R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	47.2	5,900	2,300
>57	26.1	1,900	700
>60	14.0	700	200
>63	7.2	400	100
>66	3.8	200	<50
>69	2.2	200	<50
>72	1.3	<50	<50

G30-1R-3R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	70.9	9,600	3,800
>51	38.7	4,400	1,800
>54	21.9	1,500	600
>57	11.8	600	200
>60	6.2	400	100
>63	3.3	200	<50
>66	1.9	<50	<50
>69	1.1	<50	<50
>72	0.7	<50	<50

G30-1R-3R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	60.0	8,400	3,400
>60	22.2	1,500	600
>65	7.5	400	100
>70	2.7	200	<50
>75	1.1	<50	<50

G40-1R-3R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	42.2	5,300	2,000
>57	23.5	1,600	600
>60	12.4	600	200
>63	6.4	400	100
>66	3.4	200	<50
>69	1.9	<50	<50
>72	1.1	<50	<50

G40-1R-3R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	63.2	8,900	3,600
>51	34.8	3,800	1,500
>54	19.5	1,400	500
>57	10.3	600	200
>60	5.3	400	100
>63	2.9	200	<50
>66	1.7	<50	<50
>69	1.0	<50	<50
>72	0.6	<50	<50

G40-1R-3R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	53.2	7,400	3,000
>60	20.0	1,400	500
>65	6.7	400	100
>70	2.4	200	<50
>75	1.0	<50	<50

G50-1R-3R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	44.7	6,000	2,400
>57	25.2	2,000	700
>60	13.8	700	200
>63	7.2	400	100
>66	3.8	300	<50
>69	2.2	<50	<50
>72	1.3	<50	<50

G50-1R-3R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	68.8		4,100
>51	37.7	5,000	1,900
>54	21.4	1,600	600
>57	11.6	600	200
>60	6.0	400	100
>63	3.2	300	<50
>66	1.8	<50	<50
>69	1.1	<50	<50
>72	0.7	<50	<50

G50-1R-3R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	56.4	7,800	3,100
>60	21.4	1,600	600
>65	7.4	400	100
>70	2.6	200	<50
>75	1.1	<50	<50

G30-1R-HH, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	48.3	6,100	2,400
>57	26.6	1,900	700
>60	14.3	700	200
>63	7.3	400	100
>66	3.9	200	<50
>69	2.2	200	<50
>72	1.3	<50	<50

# G30-1R-HH, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	72.9	10,100	4,000
>51	39.6	4,600	1,900
>54	22.4	1,500	600
>57	12.0	600	200
>60	6.3	400	100
>63	3.3	200	<50
>66	1.9	<50	<50
>69	1.1	<50	<50
>72	0.7	<50	<50

## G30-1R-HH, Annual average Lden

Contour	Area (km²)	Population	Households
>55	61.9	8,500	3,400
>60	22.9	1,600	600
>65	7.8	400	100
>70	2.7	200	<50
>75	1.1	<50	<50

G40-1R-HH, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	44.1	5,700	2,200
>57	24.5	1,900	700
>60	13.0	700	200
>63	6.7	400	100
>66	3.5	200	<50
>69	2.0	<50	<50
>72	1.2	<50	<50

## G40-1R-HH, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	64.6	9,200	3,700
>51	35.4	3,900	1,600
>54	19.7	1,400	500
>57	10.3	600	200
>60	5.4	400	100
>63	2.9	200	<50
>66	1.7	<50	<50
>69	1.0	<50	<50
>72	0.6	<50	<50

## G40-1R-HH, Annual average Lden

Contour	Area (km²)	Population	Households
>55	55.3	7,700	3,000
>60	20.6	1,500	600
>65	6.9	400	100
>70	2.4	200	<50
>75	1.0	<50	<50

G50-1R-HH, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	47.4		2,500
>57	26.6	2,000	800
>60	14.6	800	300
>63	7.6	400	100
>66	4.0	300	<50
>69	2.2	200	<50
>72	1.3	<50	<50

# G50-1R-HH, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	67.4	9,900	3,900
>51	36.7	5,000	1,900
>54	20.8	1,600	600
>57	11.1	600	200
>60	5.7	400	100
>63	3.0	300	<50
>66	1.7	<50	<50
>69	1.0	<50	<50
>72	0.6	<50	<50

## G50-1R-HH, Annual average Lden

Contour	Area (km²)	Population	Households
>55	57.7	8,100	3,200
>60	21.9	1,600	600
>65	7.6	400	100
>70	2.6	200	<50
>75	1.1	<50	<50

G30-2R-X, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	74.3	17,600	7,100
>57	43.3	4,900	2,000
>60	23.0	1,700	700
>63	11.9	400	200
>66	6.1	<50	<50
>69	3.4	<50	<50
>72	2.1	<50	<50

## G30-2R-X, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	84.2	22,300	9,000
>51	50.1	6,500	2,600
>54	28.8	2,900	1,200
>57	14.3	800	300
>60	7.3	200	100
>63	4.0	<50	<50
>66	2.4	<50	<50
>69	1.5	<50	<50
>72	0.9	<50	<50

# G30-2R-X, Annual average Lden

Contour	Area (km²)	Population	Households
>55	83.7	22,100	8,900
>60	34.1	3,300	1,300
>65	11.1	300	100
>70	3.8	<50	<50
>75	1.7	<50	<50

# G30-2R-X, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	41.4	4,400	1,800
>55	14.3	700	300
>60	4.9	<50	<50
>65	2.0	<50	<50
>70	0.9	<50	<50

## G30-2R-X, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	57.4	10,500	4,300
>50	44.5	5,400	2,200
>100	32.2	3,200	1,300
>200	15.0	400	200

## G30-2R-X, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	82.9	19,500	7,800
>50	24.0	1,300	500
>100	1.1	<50	<50

G40-2R-X, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	76.7	19,400	7,800
>57	45.0	5,300	2,100
>60	24.4	1,900	800
>63	12.3	500	200
>66	6.3	<50	<50
>69	3.6	<50	<50
>72	2.2	<50	<50

## G40-2R-X, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	74.6	17,400	6,900
>51	44.7	5,200	2,100
>54	25.1	2,300	900
>57	12.0	500	200
>60	6.0	100	<50
>63	3.3	<50	<50
>66	2.0	<50	<50
>69	1.2	<50	<50
>72	0.7	<50	<50

# G40-2R-X, Annual average Lden

Contour	Area (km²)	Population	Households
>55	81.5	21,300	8,500
>60	33.3	3,200	1,300
>65	10.6	300	100
>70	3.7	<50	<50
>75	1.6	<50	<50

# G40-2R-X, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	36.9	3,900	1,600
>55	12.1	300	100
>60	4.1	<50	<50
>65	1.7	<50	<50
>70	0.8	<50	<50

## G40-2R-X, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	53.8	10,000	4,100
>50	44.4	7,000	2,900
>100	33.0	3,600	1,500
>200	20.4	1,000	400
>500	0.4	<50	<50

#### G40-2R-X, Summer average night-time N60

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Contour	Area (km²)	Population	Households	
>25	77.8	18,100	7,200	
>50	22.8	1,100	500	
>100	1.0	<50	<50	

G50-2R-X, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	90.3		9,900
>57	54.3	7,200	3,000
>60	31.6	2,800	1,200
>63	15.8	800	300
>66	7.9	200	100
>69	4.3	<50	<50
>72	2.5	<50	<50

## G50-2R-X, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	75.8	18,600	7,400
>51	45.7	5,400	2,200
>54	26.2	2,400	1,000
>57	12.7	700	300
>60	6.3	100	<50
>63	3.5	<50	<50
>66	2.1	<50	<50
>69	1.3	<50	<50
>72	0.8	<50	<50

# G50-2R-X, Annual average Lden

Contour	Area (km²)	Population	Households
>55	90.1	24,600	9,900
>60	37.9	3,800	1,500
>65	12.4	400	100
>70	4.2	<50	<50
>75	1.8	<50	<50

# G50-2R-X, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	37.2	3,800	1,500
>55	12.2	400	200
>60	4.1	<50	<50
>65	1.8	<50	<50
>70	0.8	<50	<50

## G50-2R-X, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	61.9	11,500	4,700
>50	48.6	8,200	3,400
>100	37.3	4,100	1,600
>200	25.6	1,800	700
>500	2.6	<50	<50

# G50-2R-X, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	78.8	18,500	7,300
>50	23.6	1,200	500
>100	1.3	<50	<50

G30-2R-X-C, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	117.3		12,500
>57	68.8	12,700	5,200
>60	40.4	3,900	1,600
>63	21.6	1,200	500
>66	11.0	300	100
>69	5.5	<50	<50
>72	3.1	<50	<50

G30-2R-X-C, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	92.4	24,500	9,900
>51	55.2	7,800	3,200
>54	32.6	3,100	1,300
>57	16.7	900	400
>60	8.4	200	100
>63	4.4	<50	<50
>66	2.6	<50	<50
>69	1.6	<50	<50
>72	1.0	<50	<50

G30-2R-X-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	124.5	34,500	13,900
>60	51.6	7,200	3,000
>65	18.8	1,000	400
>70	6.0	100	<50
>75	2.4	<50	<50

G30-2R-X-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	58.6	9,600	4,000
>55	22.6	1,300	500
>60	7.3	100	<50
>65	2.8	<50	<50
>70	1.3	<50	<50

G30-2R-X-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	80.8	15,400	6,400
>50	57.4	9,600	3,900
>100	43.2	4,700	1,900
>200	28.7	2,400	1,000
>500	3.0	<50	<50

G30-2R-X-C, Summer average night-time N60

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Contour	Area (km²)	Population	Households		
>25	88.0	20,400	8,200		
>50	27.9	1,800	700		
>100	1.7	<50	<50		

G40-2R-X-C, Summer average 16-hour daytime LAeq,16h

		, ,	
Contour	Area (km²)	Population	Households
>54	109.2	28,700	11,600
>57	64.9	11,100	4,600
>60	38.4	3,900	1,600
>63	20.3	1,200	500
>66	10.0	300	100
>69	5.1	<50	<50
>72	2.9	<50	<50

G40-2R-X-C, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	83.9	20,100	8,100
>51	50.6	5,600	2,300
>54	29.8	2,400	1,000
>57	14.7	500	200
>60	7.1	200	100
>63	3.9	<50	<50
>66	2.3	<50	<50
>69	1.4	<50	<50
>72	0.9	<50	<50

G40-2R-X-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	132.9	36,600	14,800
>60	56.6	7,900	3,200
>65	21.3	1,100	400
>70	6.6	100	<50
>75	2.5	<50	<50

G40-2R-X-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	68.4	12,500	5,100
>55	28.6	2,000	800
>60	8.7	300	100
>65	3.1	<50	<50
>70	1.4	<50	<50

G40-2R-X-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	77.1	15,100	6,200
>50	57.1	8,500	3,500
>100	41.4	4,300	1,700
>200	27.5	2,000	800
>500	2.7	<50	<50

G40-2R-X-C, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	86.1	19,500	7,800
>50	27.1	1,700	700
>100	1.5	<50	<50

G50-2R-X-C, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	104.5	27,800	11,200
>57	63.2	10,100	4,100
>60	38.0	3,600	1,500
>63	20.3	1,100	500
>66	10.0	300	100
>69	5.2	<50	<50
>72	2.9	<50	<50

## G50-2R-X-C, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	82.9	20,400	8,200
>51	50.4	5,600	2,300
>54	30.0	2,500	1,000
>57	15.0	600	200
>60	7.3	200	100
>63	4.0	<50	<50
>66	2.3	<50	<50
>69	1.4	<50	<50
>72	0.9	<50	<50

# G50-2R-X-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	128.0		14,400
>60	55.6	7,500	3,100
>65	21.3	1,100	500
>70	6.7	100	<50
>75	2.6	<50	<50

# G50-2R-X-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	67.3	12,400	5,100
>55	28.5	2,000	800
>60	8.8	300	100
>65	3.2	<50	<50
>70	1.4	<50	<50

## G50-2R-X-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	73.9	14,300	5,900
>50	58.6	9,400	3,900
>100	42.1	4,400	1,800
>200	29.6	2,200	900
>500	3.0	<50	<50

#### G50-2R-X-C, Summer average night-time N60

Contour	Area (km²)		Households
>25	85.2	19,500	7,800
>50	27.0	1,600	600
>100	1.6	<50	<50

G30-2R-X-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	80.6		8,300
>57	47.2	5,900	2,400
>60	25.9	2,200	900
>63	13.2	600	200
>66	6.8	200	100
>69	3.8	<50	<50
>72	2.3	<50	<50

# G30-2R-X-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	87.4	21,800	8,800
>51	52.2	6,400	2,600
>54	30.2	2,600	1,000
>57	14.8	700	300
>60	7.3	200	100
>63	4.0	<50	<50
>66	2.3	<50	<50
>69	1.4	<50	<50
>72	0.9	<50	<50

# G30-2R-X-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	89.4	24,100	9,700
>60	36.5	3,800	1,600
>65	11.9	300	100
>70	4.1	<50	<50
>75	1.8	<50	<50

# G30-2R-X-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	59.9	11,300	4,600
>50	46.8	6,900	2,800
>100	34.0	3,500	1,400
>200	17.5	800	300
>500	0.0	<50	<50

### G30-2R-X-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	87.8	20,300	8,100
>50	26.9	1,600	700
>100	1.4	<50	<50

G40-2R-X-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	84.7	22,600	9,000
>57	50.3	6,500	2,700
>60	28.4	2,500	1,000
>63	13.9	700	300
>66	7.1	200	100
>69	3.9	<50	<50
>72	2.3	<50	<50

## G40-2R-X-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	78.1	19,500	7,800
>51	46.7	5,500	2,200
>54	26.3	2,500	1,000
>57	12.7	700	300
>60	6.4	100	<50
>63	3.6	<50	<50
>66	2.1	<50	<50
>69	1.3	<50	<50
>72	0.8	<50	<50

# G40-2R-X-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	87.0		9,600
>60	35.6	3,700	1,500
>65	11.5	300	100
>70	4.0	<50	<50
>75	1.7	<50	<50

# G40-2R-X-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	56.0	10,600	4,300
>50	46.1	7,500	3,100
>100	35.1	4,100	1,600
>200	23.0	1,500	600
>500	1.8	<50	<50

G40-2R-X-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	83.7	19,500	7,800
>50	25.0	1,600	700
>100	1.2	<50	<50

G50-2R-X-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	88.6		9,500
>57	53.1	6,700	2,700
>60	30.8	2,700	1,100
>63	15.2	700	300
>66	7.6	200	100
>69	4.1	<50	<50
>72	2.4	<50	<50

# G50-2R-X-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	82.3	19,800	7,900
>51	49.7	5,600	2,300
>54	29.0	2,400	1,000
>57	14.1	600	200
>60	7.1	200	100
>63	3.9	<50	<50
>66	2.3	<50	<50
>69	1.4	<50	<50
>72	0.9	<50	<50

# G50-2R-X-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	107.5	30,300	12,300
>60	45.2	5,100	2,100
>65	15.5	700	300
>70	5.1	<50	<50
>75	2.1	<50	<50

# G50-2R-X-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	59.8	11,300	4,600
>50	47.6	7,900	3,300
>100	36.3	3,900	1,600
>200	25.3	1,800	700
>500	2.4	<50	<50

### G50-2R-X-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	87.2	20,300	8,100
>50	27.5	1,800	700
>100	1.8	<50	<50

G30-2R-X-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	63.2	14,300	5,800
>51	36.9	4,500	1,800
>54	19.7	1,800	700
>57	10.9	600	200
>60	5.8	<50	<50
>63	3.3	<50	<50
>66	2.1	<50	<50
>69	1.3	<50	<50
>72	0.8	<50	<50

# A24. G40-2R-X-QC: Gatwick 2040 do-something, GAL - No core night operations

G40-2R-X-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	54.1	9,400	3,800
>51	31.5	3,700	1,500
>54	16.4	1,100	500
>57	8.8	200	100
>60	4.7	<50	<50
>63	2.8	<50	<50
>66	1.7	<50	<50
>69	1.1	<50	<50
>72	0.7	<50	<50

# A25. G50-2R-X-QC: Gatwick 2050 do-something, GAL - No core night operations

G50-2R-X-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	56.3	10,800	4,300
>51	33.2	4,000	1,600
>54	17.5	1,500	600
>57	9.5	400	100
>60	5.1	<50	<50
>63	3.0	<50	<50
>66	1.8	<50	<50
>69	1.1	<50	<50
>72	0.7	<50	<50

H13-2R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
Contour	Alea (Kill )	Fopulation	Householus
>54	200.3	632,600	255,800
>57	107.9	266,100	101,400
>60	59.1	118,800	42,200
>63	34.5	48,400	16,900
>66	20.4	14,000	4,600
>69	9.9	2,700	1,000
>72	5.3	200	100

#### H13-2R, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	120.5		171,600
>51	70.1	190,800	72,100
>54	41.3	103,200	35,900
>57	21.5	48,200	16,200
>60	11.3	16,700	5,200
>63	6.0	4,500	1,400
>66	3.3	1,200	300
>69	1.9	<50	<50
>72	1.3	<50	<50

## H11-2R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	221.9	766,100	329,900
>60	79.9	191,500	73,600
>65	31.9	52,700	18,300
>70	10.9	6,600	2,200
>75	3.9	100	<100

## H11-2R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	74.6	211,300	83,800
>55	26.8	67,100	23,200
>60	9.2	15,200	4,900
>65	3.3	1,600	500
>70	1.5	<100	<100

## H13-2R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	159.1	368,100	141,400
>50	95.6	217,700	82,000
>100	53.4	113,000	40,200
>200	34.6	62,700	21,400
>500	1.0	<50	<50

# H13-2R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	70.2	346,300	142,500
>50	1.7	2,600	800

H30-2R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	141.7	493,600	201,200
>57	79.5	221,200	87,400
>60	44.4	109,000	42,000
>63	25.7	35,200	13,500
>66	12.8	7,900	3,200
>69	6.7	2,100	800
>72	3.8	<50	<50

#### H30-2R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	71.9		109,900
>51	42.3	151,300	59,400
>54	18.7	61,100	23,500
>57	9.2	21,900	8,400
>60	4.8	3,900	1,500
>63	2.6	1,300	500
>66	1.7	<50	<50
>69	1.2	<50	<50
>72	0.9	<50	<50

## H30-2R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	152.8	580,500	239,800
>60	59.0	169,600	66,000
>65	22.4	34,800	13,500
>70	6.9	3,000	1,100
>75	2.8	<50	<50

#### H30-2R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	56.0		76,400
>55	16.5	47,300	18,300
>60	5.3	4,200	1,600
>65	2.0	<50	<50
>70	1.2	<50	<50

## H30-2R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	105.1	291,800	115,000
>50	70.9	184,100	72,700
>100	49.1	122,600	47,400
>200	31.5	63,300	24,300
>500	1.8	<50	<50

# H30-2R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	34.6	150,500	62,400
>50	0.5	<50	<50

H40-2R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	130.3		187,700
>57	73.4	219,400	86,500
>60	41.2	103,800	39,900
>63	23.4	33,900	13,100
>66	11.4	7,100	2,800
>69	6.0	2,100	800
>72	3.5	<50	<50

#### H40-2R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	76.5		138,300
>51	44.9	184,600	73,300
>54	20.0	81,300	31,300
>57	9.8	31,400	12,100
>60	5.0	6,400	2,500
>63	2.7	2,400	900
>66	1.7	<50	<50
>69	1.2	<50	<50
>72	0.9	<50	<50

## H40-2R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	145.2		243,500
>60	56.9	179,500	69,900
>65	20.2	36,200	14,100
>70	6.4	3,100	1,200
>75	2.6	<50	<50

## H40-2R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	56.2	209,400	83,500
>55	16.2	54,700	21,100
>60	5.2	4,900	1,900
>65	2.0	<50	<50
>70	1.1	<50	<50

## H40-2R, Summer average daytime N70

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Contour	Area (km²)	Population	Households
>20	96.3	278,300	109,800
>50	66.1	187,900	74,000
>100	46.8	124,700	48,000
>200	29.9	62,200	24,000
>500	1.8	<50	<50

# H40-2R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	47.2	258,300	106,500
>50	0.8	<50	<50

H50-2R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	118.7	435,800	177,500
>57	68.3	219,600	86,700
>60	38.8	103,800	39,800
>63	21.7	34,900	13,400
>66	10.4	7,700	3,000
>69	5.6	2,100	800
>72	3.3	<50	<50

#### H50-2R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	79.5		153,500
>51	46.5	197,400	78,500
>54	21.0	89,200	34,400
>57	10.2	33,900	13,100
>60	5.2	7,100	2,700
>63	2.9	2,600	900
>66	1.8	<50	<50
>69	1.3	<50	<50
>72	1.0	<50	<50

## H50-2R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	135.8	583,500	241,500
>60	54.7	182,100	71,000
>65	18.4	36,400	14,100
>70	6.1	3,100	1,200
>75	2.5	<50	<50

## H50-2R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	59.0	230,300	92,000
>55	16.9	58,400	22,500
>60	5.4	5,400	2,100
>65	2.1	<50	<50
>70	1.2	<50	<50

## H50-2R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	89.8	274,100	108,000
>50	62.5	189,500	74,700
>100	45.8	129,400	49,800
>200	30.9	71,200	27,400
>500	2.1	<50	<50

# H50-2R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	53.5	320,700	132,400
>50	1.6	6,500	2,600

H30-2R-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	140.4	484,500	197,400
>57	78.6	217,300	85,800
>60	43.9	106,400	41,000
>63	25.5	34,400	13,200
>66	12.7	7,300	2,900
>69	6.6	2,100	800
>72	3.8	<50	<50

#### H30-2R-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	88.7	371,000	152,700
>51	53.6	194,200	77,400
>54	26.2	86,900	33,500
>57	12.6	36,000	13,900
>60	6.4	8,600	3,300
>63	3.5	2,400	900
>66	2.0	<50	<50
>69	1.4	<50	<50
>72	1.1	<50	<50

## H30-2R-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	158.8	604,300	249,400
>60	61.3	176,000	68,700
>65	23.8	37,800	14,700
>70	7.3	3,000	1,200
>75	2.9	<50	<50

## H30-2R-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	109.8	296,900	117,300
>50	70.7	182,500	72,100
>100	48.3	120,300	46,400
>200	30.7	61,900	23,900
>500	1.3	<50	<50

## H30-2R-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	62.1	331,400	137,300
>50	1.8	11,600	4,600
>100	0.0	<50	<50

H40-2R-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	130.6	463,200	189,000
>57	73.8	220,900	87,200
>60	41.4	105,500	40,500
>63	23.6	34,600	13,400
>66	11.5	7,200	2,900
>69	6.1	2,100	800
>72	3.5	<50	<50

#### H40-2R-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	79.2		137,400
>51	47.7	187,200	74,300
>54	21.7	81,700	31,500
>57	10.7	31,800	12,200
>60	5.5	6,500	2,500
>63	3.0	2,400	900
>66	1.8	<50	<50
>69	1.3	<50	<50
>72	1.0	<50	<50

#### H40-2R-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	147.9	583,900	241,200
>60	57.8	178,600	69,500
>65	21.8	37,500	14,500
>70	6.7	3,100	1,200
>75	2.7	<50	<50

## H40-2R-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	100.2	291,200	115,100
>50	67.6	189,300	74,700
>100	47.1	124,800	48,200
>200	29.7	64,500	24,900
>500	1.2	<50	<50

## H40-2R-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	49.5	263,200	108,500
>50	0.2	1,800	700
>100	0.0	<50	<50

H50-2R-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	119.3		182,500
>57	68.6	222,200	87,800
>60	39.0	105,600	40,500
>63	21.7	35,800	13,800
>66	10.5	8,000	3,100
>69	5.7	2,600	900
>72	3.3	<50	<50

#### H50-2R-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	86.5		159,800
>51	51.8	202,800	80,600
>54	25.2	89,900	34,700
>57	12.1	33,300	12,800
>60	6.2	7,100	2,800
>63	3.5	2,500	900
>66	2.0	<50	<50
>69	1.4	<50	<50
>72	1.1	<50	<50

## H50-2R-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	140.2	594,400	246,000
>60	56.2	184,600	72,000
>65	19.8	37,500	14,600
>70	6.5	3,200	1,200
>75	2.6	<50	<50

## H50-2R-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	91.7	284,900	112,700
>50	63.9	192,500	75,900
>100	46.1	129,700	50,200
>200	30.2	74,400	28,700
>500	1.4	<50	<50

## H50-2R-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	57.7	316,000	130,300
>50	1.1	5,700	2,200
>100	0.0	<50	<50

H30-3R-N, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	183.2		229,900
>57	107.4	248,800	97,500
>60	63.1	133,400	51,600
>63	35.6	38,400	14,600
>66	18.5	11,600	4,400
>69	9.5	900	300
>72	5.9	<50	<50

#### H30-3R-N, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	108.8		125,600
>51	65.8	177,800	69,100
>54	35.0	73,500	28,300
>57	16.0	11,500	4,400
>60	8.2	900	400
>63	4.9	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

#### H30-3R-N, Annual average Lden

Contour	Area (km²)	Population	Households
>55	196.0	641,500	261,500
>60	81.0	191,600	74,100
>65	31.5	35,400	13,500
>70	9.9	900	400
>75	4.6	<50	<50

## H30-3R-N, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	76.6	201,100	78,700
>55	26.4	38,400	14,600
>60	8.2	700	300
>65	3.8	<50	<50
>70	1.8	<50	<50

## H30-3R-N, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	128.1	276,800	109,000
>50	90.7	191,900	74,600
>100	65.3	141,000	54,600
>200	41.1	64,100	24,600
>500	5.3	200	100

# H30-3R-N, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	64.9	222,500	90,000
>50	4.2	2,600	1,000

H40-3R-N, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	178.3	593,900	241,600
>57	105.2	261,600	102,500
>60	62.1	144,300	55,900
>63	34.6	40,800	15,500
>66	17.6	12,000	4,600
>69	9.0	900	300
>72	5.6	<50	<50

#### H40-3R-N, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	112.7		156,700
>51	69.4	208,700	81,600
>54	37.5	99,800	38,400
>57	16.8	18,500	7,000
>60	8.4	2,400	900
>63	5.0	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

## H40-3R-N, Annual average Lden

Contour	Area (km²)	Population	Households
>55	198.9	702,500	287,400
>60	83.0	209,800	81,400
>65	32.0	41,100	15,600
>70	9.9	1,000	400
>75	4.6	<50	<50

## H40-3R-N, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	79.2		87,300
>55	27.4	47,000	17,900
>60	8.3	900	400
>65	3.8	<50	<50
>70	1.8	<50	<50

## H40-3R-N, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	117.6	276,300	108,700
>50	86.5	198,900	77,300
>100	63.3	148,600	57,700
>200	42.1	76,300	29,400
>500	6.6	1,100	400

# H40-3R-N, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	81.7	328,600	134,800
>50	8.4	5,800	2,100

H50-3R-N, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	167.7	594,300	242,300
>57	100.0	264,200	103,700
>60	59.7	148,300	57,400
>63	33.2	42,800	16,300
>66	16.9	11,000	4,100
>69	8.8	800	300
>72	5.5	<50	<50

#### H50-3R-N, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	104.9		151,800
>51	64.5	204,900	80,000
>54	33.0	92,300	35,500
>57	14.5	12,300	4,700
>60	7.6	900	300
>63	4.7	200	100
>66	3.1	<50	<50
>69	1.9	<50	<50
>72	1.0	<50	<50

## H50-3R-N, Annual average Lden

Contour	Area (km²)	Population	Households
>55	191.2	726,600	298,300
>60	80.9	218,300	85,300
>65	30.4	42,700	16,200
>70	9.6	1,000	400
>75	4.5	<50	<50

## H50-3R-N, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	80.0	235,700	92,800
>55	27.3	52,300	20,000
>60	8.3	1,100	400
>65	3.8	<50	<50
>70	1.8	<50	<50

## H50-3R-N, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	106.7	•	107,900
>50	83.0	204,700	79,500
>100	63.9	156,700	60,700
>200	45.3	101,400	39,200
>500	7.3	1,800	600

# H50-3R-N, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	71.3	294,000	120,400
>50	5.2	3,400	1,200

H30-3R-R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	164.9		173,500
>57	101.4	234,800	91,100
>60	62.0	131,100	50,800
>63	35.6	38,600	14,700
>66	18.6	11,900	4,500
>69	9.5	900	300
>72	5.9	<50	<50

#### H30-3R-R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	99.4		106,700
>51	63.6	173,000	67,000
>54	34.9	73,400	28,200
>57	16.0	11,600	4,500
>60	8.2	900	400
>63	4.9	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

## H30-3R-R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	174.8	482,800	190,300
>60	79.0	191,400	74,600
>65	31.5	35,800	13,700
>70	9.9	900	400
>75	4.6	<50	<50

## H30-3R-R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	73.6		72,800
>55	26.5	38,900	14,800
>60	8.2	600	200
>65	3.8	<50	<50
>70	1.8	<50	<50

## H30-3R-R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	128.9	304,800	119,500
>50	86.1	186,300	72,100
>100	62.6	138,100	53,600
>200	41.2	67,000	25,800
>500	5.3	200	100

# H30-3R-R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	51.7	141,200	54,500
>50	4.2	2,600	1,000

H40-3R-R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	159.8		179,300
>57	99.2	243,200	94,400
>60	61.1	141,200	54,600
>63	34.6	42,100	16,000
>66	17.6	11,900	4,500
>69	9.0	900	300
>72	5.6	<50	<50

H40-3R-R, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	101.5	308,900	121,600
>51	65.9	190,600	73,800
>54	36.9	97,200	37,400
>57	16.8	18,300	7,000
>60	8.4	2,400	900
>63	5.0	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

H40-3R-R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	176.5	515,200	203,100
>60	80.6	205,900	80,200
>65	32.1	42,300	16,100
>70	9.9	1,000	400
>75	4.6	<50	<50

H40-3R-R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	75.8	203,100	78,900
>55	27.4	47,300	18,000
>60	8.3	900	400
>65	3.8	<50	<50
>70	1.8	<50	<50

H40-3R-R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	117.6	297,400	116,500
>50	83.0	192,500	74,500
>100	61.7	146,700	56,900
>200	42.0	77,800	29,900
>500	6.6	1,400	500

H40-3R-R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	65.2	194,200	75,200
>50	8.2	5,400	2,000

H50-3R-R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	149.8	454,700	179,000
>57	94.5	242,200	93,900
>60	58.8	145,800	56,400
>63	33.2	43,300	16,500
>66	16.9	11,200	4,200
>69	8.8	800	300
>72	5.5	<50	<50

#### H50-3R-R, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	94.5		117,000
>51	61.5	189,600	73,400
>54	32.5	89,700	34,500
>57	14.5	12,500	4,800
>60	7.6	900	300
>63	4.7	200	100
>66	3.1	<50	<50
>69	1.9	<50	<50
>72	1.0	<50	<50

#### H50-3R-R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	167.8	516,700	203,800
>60	78.3	210,100	81,700
>65	30.5	43,100	16,400
>70	9.6	1,000	400
>75	4.5	<50	<50

## H50-3R-R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	76.3	211,300	82,100
>55	27.4	52,700	20,000
>60	8.3	900	400
>65	3.8	<50	<50
>70	1.8	<50	<50

## H50-3R-R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	106.4	280,100	109,500
>50	80.0	196,800	76,700
>100	61.9	155,300	60,200
>200	45.3	101,800	39,200
>500	7.3	2,000	700

# H50-3R-R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	55.1	165,100	63,600
>50	5.2	3,400	1,200

H30-3R-T, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	173.8	456,200	178,400
>57	104.0	237,100	92,200
>60	62.7	128,200	49,700
>63	35.7	38,300	14,600
>66	18.5	12,000	4,500
>69	9.5	900	300
>72	5.8	<50	<50

H30-3R-T, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	102.3		104,100
>51	63.5	167,200	64,800
>54	34.9	72,200	27,800
>57	16.0	11,600	4,500
>60	8.2	900	400
>63	4.9	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

H30-3R-T, Annual average Lden

Contour	Area (km²)	Population	Households
>55	189.2	556,200	221,400
>60	79.4	185,200	71,600
>65	31.6	35,500	13,500
>70	9.9	900	400
>75	4.6	<50	<50

H30-3R-T, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	73.6		72,100
>55	26.4	38,500	14,600
>60	8.2	700	300
>65	3.8	<50	<50
>70	1.8	<50	<50

H30-3R-T, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	127.2	277,600	108,800
>50	91.5	196,000	76,100
>100	65.3	139,700	54,300
>200	41.2	64,600	24,800
>500	5.3	200	100

H30-3R-T, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	49.3	128,600	49,600
>50	4.2	2,600	1,000

H40-3R-T, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	170.1	488,600	192,100
>57	101.5	249,900	97,000
>60	61.5	137,000	53,100
>63	34.7	41,300	15,700
>66	17.6	11,800	4,500
>69	9.0	900	300
>72	5.6	<50	<50

H40-3R-T, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	105.1	308,500	119,900
>51	65.9	188,800	73,200
>54	36.8	95,700	36,800
>57	16.8	18,100	6,900
>60	8.4	2,400	900
>63	5.0	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

H40-3R-T, Annual average Lden

Contour	Area (km²)	Population	Households
>55	193.6	618,100	247,100
>60	81.0	200,400	77,600
>65	32.1	41,500	15,800
>70	9.9	1,000	400
>75	4.6	<50	<50

H40-3R-T, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	75.9		79,600
>55	27.4	45,900	17,500
>60	8.3	900	400
>65	3.8	<50	<50
>70	1.8	<50	<50

H40-3R-T, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	117.3	278,900	109,200
>50	87.2	203,800	79,100
>100	63.3	147,400	57,200
>200	42.2	76,700	29,500
>500	6.6	1,100	400

H40-3R-T, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	63.4	197,200	78,300
>50	8.2	5,400	2,000

H50-3R-T, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	160.4	491,900	194,000
>57	96.0	249,300	96,700
>60	58.9	140,600	54,400
>63	33.3	42,900	16,300
>66	16.9	10,900	4,100
>69	8.8	800	300
>72	5.5	<50	<50

H50-3R-T, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	97.3		115,600
>51	61.2	185,600	71,900
>54	32.4	88,600	34,000
>57	14.5	12,100	4,700
>60	7.6	900	300
>63	4.7	200	100
>66	3.1	<50	<50
>69	1.9	<50	<50
>72	1.0	<50	<50

H50-3R-T, Annual average Lden

Contour	Area (km²)	Population	Households
>55	186.7	637,700	255,900
>60	78.5	205,700	80,100
>65	30.5	42,600	16,200
>70	9.6	1,000	400
>75	4.5	<50	<50

H50-3R-T, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	76.4	218,900	85,100
>55	27.3	51,900	19,700
>60	8.3	1,000	400
>65	3.8	<50	<50
>70	1.8	<50	<50

H50-3R-T, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	106.4	275,800	108,100
>50	83.7	209,400	81,200
>100	63.7	155,000	60,100
>200	45.1	97,600	37,600
>500	7.3	1,700	600

H50-3R-T, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	51.7	147,300	56,500
>50	5.2	3,200	1,200

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H50-3R-T-35, Summer average 16-hour daytime LAeq,16h

or				
Contour	Area (km²)	Population	Households	
>54	155.0	448,100	175,000	
>57	94.0	239,200	92,700	
>60	57.9	136,500	52,800	
>63	32.8	39,600	15,100	
>66	16.7	10,400	3,900	
>69	8.7	800	300	
>72	5.5	<50	<50	

H50-3R-T-35, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	93.9	281,500	110,200
>51	59.4	181,400	70,200
>54	31.3	80,200	30,800
>57	14.0	10,200	3,900
>60	7.5	600	200
>63	4.6	200	100
>66	3.1	<50	<50
>69	1.9	<50	<50
>72	1.0	<50	<50

H50-3R-T-35, Annual average Lden

Contour	Area (km²)	Population	Households
>55	179.5	594,000	236,900
>60	76.6	200,500	78,000
>65	29.9	39,400	15,000
>70	9.4	900	400
>75	4.5	<50	<50

H50-3R-T-35, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	73.8	206,900	80,300
>55	26.5	45,900	17,400
>60	8.1	800	300
>65	3.8	<50	<50
>70	1.8	<50	<50

H50-3R-T-35, Summer average daytime N70

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Contour	Area (km²)	Population	Households
>20	101.1	253,300	99,100
>50	80.4	195,000	75,500
>100	61.8	146,400	56,600
>200	44.1	91,300	35,200
>500	7.3	1,700	600

H50-3R-T-35, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	52.0	148,000	56,800
>50	5.3	3,400	1,200

H30-3R-T-C, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	189.7	543,300	215,800
>57	111.4	261,200	101,600
>60	67.3	140,300	54,400
>63	38.6	46,000	17,600
>66	20.2	13,900	5,300
>69	10.2	1,300	500
>72	6.1	<50	<50

H30-3R-T-C, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	107.8	303,200	117,900
>51	67.5	183,100	71,100
>54	38.2	93,400	35,900
>57	17.7	19,500	7,400
>60	8.8	2,600	1,000
>63	5.2	200	100
>66	3.4	<50	<50
>69	2.1	<50	<50
>72	1.2	<50	<50

H30-3R-T-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	217.7	684,600	274,900
>60	88.7	205,900	79,700
>65	36.5	48,600	18,500
>70	11.3	2,100	900
>75	5.0	<50	<50

H30-3R-T-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	82.7	214,300	83,400
>55	31.5	56,300	21,600
>60	9.3	2,300	900
>65	4.1	<50	<50
>70	2.0	<50	<50

H30-3R-T-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	130.3	286,500	112,400
>50	94.1	204,100	79,400
>100	68.8	148,400	57,300
>200	44.7	79,100	30,500
>500	6.9	1,600	600

H30-3R-T-C, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	62.4	181,500	72,300
>50	8.2	5,100	1,900

H40-3R-T-C, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	178.2		206,900
>57	105.3	259,300	100,800
>60	63.9	143,100	55,400
>63	36.2	44,300	16,900
>66	18.4	12,800	4,900
>69	9.4	900	400
>72	5.7	<50	<50

H40-3R-T-C, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	108.5	309,700	120,500
>51	68.1	189,800	73,700
>54	39.6	97,300	37,400
>57	18.7	20,900	7,900
>60	9.2	2,800	1,000
>63	5.4	200	100
>66	3.6	<50	<50
>69	2.3	<50	<50
>72	1.3	<50	<50

H40-3R-T-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	206.7	667,200	267,500
>60	85.6	209,600	81,100
>65	34.9	47,700	18,200
>70	10.7	1,500	700
>75	4.8	<50	<50

H40-3R-T-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	82.7	220,200	85,700
>55	32.6	,	22,600
>60	9.8	2,600	1,000
>65	4.3	<50	<50
>70	2.1	<50	<50

H40-3R-T-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	122.4	288,300	113,100
>50	91.0	207,800	80,700
>100	65.3	151,200	58,800
>200	43.7	84,200	32,400
>500	6.6	1,300	400

H40-3R-T-C, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	64.5	179,100	71,200
>50	8.9	5,300	1,900

H50-3R-T-C, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	171.9	536,200	212,800
>57	101.9	263,800	102,600
>60	62.5	151,200	58,600
>63	35.5	50,000	19,000
>66	18.0	12,900	4,900
>69	9.2	900	300
>72	5.6	<50	<50

H50-3R-T-C, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	108.2	340,400	132,300
>51	67.2	204,600	79,400
>54	37.6	105,500	40,500
>57	17.0	21,700	8,200
>60	8.5	2,900	1,100
>63	5.0	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

H50-3R-T-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	200.2	682,700	274,400
>60	83.2	215,500	83,400
>65	33.4	50,300	19,200
>70	10.2	1,500	600
>75	4.6	<50	<50

H50-3R-T-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	80.9	226,200	88,000
>55	30.7	58,800	22,500
>60	9.2	2,200	800
>65	4.1	<50	<50
>70	2.0	<50	<50

H50-3R-T-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	117.9	•	114,600
>50	87.7	217,200	84,500
>100	67.1	164,000	63,700
>200	47.1	107,500	41,400
>500	7.5	2,100	700

H50-3R-T-C, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	65.2	233,700	94,100
>50	8.3	5,700	2,100

H30-3R-T-F, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
Contour	Alea (Kill )	Population	nousenous
>54	175.8	447,400	175,000
>57	102.5	224,700	87,300
>60	60.7	120,900	46,800
>63	33.3	32,500	12,400
>66	16.5	8,100	3,100
>69	8.5	600	200
>72	5.4	<50	<50

H30-3R-T-F, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	94.5		89,600
>51	55.7	125,800	48,700
>54	28.4	33,300	12,700
>57	13.2	5,700	2,200
>60	7.2	400	200
>63	4.7	<50	<50
>66	3.2	<50	<50
>69	2.0	<50	<50
>72	1.1	<50	<50

H30-3R-T-F, Annual average Lden

Contour	Area (km²)	Population	Households
>55	185.1	508,100	200,200
>60	74.9	168,900	65,100
>65	27.3	23,800	9,100
>70	8.7	700	300
>75	4.3	<50	<50

H40-3R-T-F, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	173.6	466,500	182,500
>57	101.6	238,100	92,500
>60	60.6	129,200	49,900
>63	33.3	35,700	13,600
>66	16.2	8,100	3,100
>69	8.3	600	200
>72	5.3	<50	<50

H40-3R-T-F, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households		
>48	96.0	254,800	99,100		
>51	57.7	149,100	57,600		
>54	28.9	44,100	16,700		
>57	13.0	7,200	2,700		
>60	7.0	500	200		
>63	4.5	<50	<50		
>66	3.0	<50	<50		
>69	1.9	<50	<50		
>72	1.0	<50	<50		

H40-3R-T-F, Annual average Lden

Contour	Area (km²)	Population	Households
>55	188.3	552,700	218,900
>60	76.5	183,000	70,600
>65	28.2	27,600	10,600
>70	8.7	900	300
>75	4.3	<50	<50

H30-3R-T-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	182.5	504,400	198,900
>57	108.2	252,000	97,800
>60	65.5	135,300	52,500
>63	37.7	42,500	16,300
>66	19.7	13,700	5,200
>69	10.1	1,100	400
>72	6.1	<50	<50

H30-3R-T-NCT, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	103.7	278,900	108,700
>51	64.9	173,400	67,200
>54	36.4	83,200	32,100
>57	16.8	15,600	5,900
>60	8.5	1,600	600
>63	5.0	200	100
>66	3.3	<50	<50
>69	2.1	<50	<50
>72	1.1	<50	<50

H30-3R-T-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	203.5	612,400	244,600
>60	84.4	193,600	74,900
>65	34.5	41,200	15,700
>70	10.8	1,300	500
>75	4.9	<50	<50

H30-3R-T-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	128.9	286,200	112,400
>50	94.1	203,100	79,000
>100	68.2	145,400	56,500
>200	43.4	73,400	28,300
>500	6.3	900	300

H30-3R-T-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	52.8	135,700	52,500
>50	5.3	3,100	1,100
>100	0.0	<50	<50

H40-3R-T-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	176.2		203,400
>57	104.5	257,800	100,100
>60	63.3	142,100	55,100
>63	35.9	44,000	16,800
>66	18.3	12,800	4,800
>69	9.4	900	400
>72	5.8	<50	<50

H40-3R-T-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	105.8		117,700
>51	67.0	186,900	72,500
>54	37.8	92,500	35,600
>57	17.6	17,800	6,800
>60	8.8	2,400	900
>63	5.2	200	100
>66	3.4	<50	<50
>69	2.2	<50	<50
>72	1.2	<50	<50

H40-3R-T-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	201.9	651,500	261,100
>60	83.8	205,200	79,400
>65	33.9	44,800	17,100
>70	10.4	1,100	400
>75	4.7	<50	<50

H40-3R-T-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	120.5	285,800	112,000
>50	90.1	207,500	80,500
>100	65.2	151,000	58,700
>200	43.6	82,900	32,000
>500	6.7	1,300	400

H40-3R-T-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	63.7	174,100	68,700
>50	8.7	5,200	1,900
>100	0.0	<50	<50

H50-3R-T-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	157.0	444,900	173,700
>57	95.4	240,200	93,200
>60	58.5	135,400	52,400
>63	33.3	42,800	16,300
>66	16.6	11,000	4,100
>69	8.6	900	300
>72	5.3	<50	<50

H50-3R-T-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	104.6		125,000
>51	66.1	199,900	77,600
>54	37.2	103,700	39,800
>57	17.4	24,100	9,100
>60	8.7	3,600	1,300
>63	5.1	200	100
>66	3.3	<50	<50
>69	2.0	<50	<50
>72	1.1	<50	<50

H50-3R-T-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	183.1	593,500	236,600
>60	78.7	201,900	78,600
>65	31.4	46,100	17,500
>70	9.7	1,400	500
>75	4.4	<50	<50

H50-3R-T-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	118.5	289,600	113,900
>50	87.7	214,300	83,200
>100	65.2	158,100	61,400
>200	43.2	86,100	33,300
>500	7.0	1,100	400

H50-3R-T-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	66.3	219,600	88,700
>50	8.9	6,100	2,200
>100	0.0	<50	<50

H30-3R-T-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	92.0	233,700	90,700
>51	55.9	134,100	51,800
>54	29.5	42,100	16,000
>57	13.9	7,700	2,900
>60	7.4	600	200
>63	4.6	<50	<50
>66	3.1	<50	<50
>69	1.9	<50	<50
>72	1.0	<50	<50

A52. H40-3R-T-QC: Heathrow 2040 do-something, HAL - Minimise total affected - No core night operations

H40-3R-T-QC, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km2)	Population	Households
>48	95.3	265,500	103,900
>51	59.9	168,300	65,200
>54	31.9	66,600	25,500
>57	14.7	10,300	3,900
>60	7.7	600	200
>63	4.7	200	100
>66	3.1	<50	<50
>69	2.0	<50	<50
>72	1.0	<50	<50

A53. H50-3R-T-QC: Heathrow 2050 do-something, HAL - Minimise total affected - No core night operations

H50-3R-T-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	86.3	254,400	99,300
>51	54.0	157,700	61,000
>54	26.8	50,900	19,300
>57	12.5	7,200	2,700
>60	6.9	500	200
>63	4.4	<50	<50
>66	2.9	<50	<50
>69	1.8	<50	<50
>72	0.9	<50	<50

H30-HH-X, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	185.6	709,800	295,600
>57	104.1	297,400	118,500
>60	61.4	158,400	61,200
>63	34.0	63,800	24,900
>66	17.8	17,100	6,700
>69	9.9	3,900	1,500
>72	5.8	600	300

#### H30-HH-X, Summer average 8-hour night-time LAeq,8h

		<u> </u>	
Contour	Area (km²)	Population	Households
>48	102.8		160,900
>51	61.6	201,900	80,500
>54	33.2	96,200	37,200
>57	17.1	34,900	13,500
>60	9.0	6,700	2,600
>63	5.1	2,200	800
>66	3.0	200	100
>69	1.8	<50	<50
>72	1.0	<50	<50

## H30-HH-X, Annual average Lden

Contour	Area (km²)	Population	Households
>55	201.4	806,800	337,500
>60	79.4	232,700	91,900
>65	30.0	62,000	24,200
>70	10.6	5,000	2,000
>75	4.4	400	200

#### H30-HH-X, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	74.6	247,700	99,200
>55	26.1	67,700	26,100
>60	9.1	5,900	2,300
>65	3.7	300	100
>70	1.6	<50	<50

## H30-HH-X, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	121.7	298,300	118,100
>50	83.8	221,200	87,400
>100	59.8	142,500	55,000
>200	39.1	97,500	37,800
>500	2.6	<50	<50

# H30-HH-X, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	72.6	348,200	143,600
>50	4.7	24,500	9,500

H40-HH-X, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	178.6	726,000	302,500
>57	100.9	305,700	121,800
>60	59.9	167,100	64,500
>63	32.2	66,900	26,000
>66	16.7	17,600	6,900
>69	9.3	4,000	1,600
>72	5.5	700	300

#### H40-HH-X, Summer average 8-hour night-time LAeq,8h

		<u> </u>	
Contour	Area (km²)	Population	Households
>48	112.6		196,900
>51	66.6	228,100	91,100
>54	37.1	114,100	44,300
>57	18.6	42,100	16,300
>60	9.9	8,800	3,500
>63	5.7	2,800	1,100
>66	3.4	300	100
>69	2.0	100	<50
>72	1.2	<50	<50

## H40-HH-X, Annual average Lden

Contour	Area (km²)	Population	Households
>55	201.4	856,200	358,500
>60	79.6	248,100	98,100
>65	29.5	67,400	26,200
>70	10.5	5,600	2,200
>75	4.3	400	200

#### H40-HH-X, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	78.1	268,900	107,100
>55	27.9	74,900	28,900
>60	9.8	6,900	2,700
>65	4.0	400	100
>70	1.7	<50	<50

## H40-HH-X, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	117.1	306,800	121,500
>50	81.8	231,900	91,700
>100	58.8	149,900	57,800
>200	39.0	105,800	41,000
>500	2.7	<50	<50

# H40-HH-X, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	93.3	497,900	208,300
>50	15.7	65,100	25,700

H50-HH-X, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	163.3	702,600	293,400
>57	93.6	303,900	121,100
>60	55.9	167,800	64,800
>63	29.5	67,000	26,100
>66	15.6	17,700	6,900
>69	8.8	3,900	1,500
>72	5.2	600	300

#### H50-HH-X, Summer average 8-hour night-time LAeq,8h

		<u> </u>	
Contour	Area (km²)	Population	Households
>48	110.0		214,400
>51	64.1	238,500	95,300
>54	34.6	117,100	45,300
>57	16.9	41,500	16,000
>60	9.0	8,100	3,200
>63	5.2	2,700	1,000
>66	3.1	300	100
>69	1.8	<50	<50
>72	1.1	<50	<50

#### H50-HH-X, Annual average Lden

Contour	Area (km²)	Population	Households
>55	187.5	852,500	358,800
>60	75.5	253,000	100,100
>65	27.4	67,200	26,100
>70	9.8	5,400	2,100
>75	4.1	500	200

#### H50-HH-X, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	76.3	281,200	112,700
>55	26.2	80,400	31,000
>60	9.0	7,700	3,000
>65	3.7	300	100
>70	1.5	<50	<50

## H50-HH-X, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	101.4	288,400	114,100
>50	76.3	230,000	90,700
>100	59.0	169,300	65,900
>200	39.1	110,400	42,800
>500	2.9	<50	<50

# H50-HH-X, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	91.0	520,900	218,600
>50	14.0	64,300	25,400

H30-HH-X-C, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	194.0		308,300
>57	109.1	310,800	123,900
>60	64.3	166,600	64,400
>63	36.1	68,900	26,800
>66	19.1	20,600	8,100
>69	10.5	4,300	1,700
>72	6.1	700	300

#### H30-HH-X-C, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	119.8		215,300
>51	70.6	238,400	95,000
>54	40.0	121,100	47,000
>57	19.7	46,600	18,100
>60	10.4	11,600	4,400
>63	5.9	3,100	1,200
>66	3.5	200	100
>69	2.1	100	<50
>72	1.2	<50	<50

#### H30-HH-X-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	220.5	899,800	377,700
>60	86.7	258,300	102,200
>65	33.8	73,800	28,600
>70	11.7	6,500	2,500
>75	4.8	500	200

## H30-HH-X-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	86.7	281,300	112,500
>55	31.5	87,200	33,700
>60	10.8	10,000	3,900
>65	4.3	400	200
>70	1.9	<50	<50

## H30-HH-X-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	125.6	312,100	123,600
>50	87.3	231,800	91,600
>100	62.5	148,600	57,400
>200	41.5	103,000	39,500
>500	3.1	<50	<50

# H30-HH-X-C, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	94.0	503,300	211,600
>50	18.4	84,500	34,000

H40-HH-X-C, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	183.0	737,400	307,300
>57	103.4	312,100	124,300
>60	61.3	171,100	66,200
>63	33.5	69,700	27,100
>66	17.5	19,400	7,600
>69	9.8	4,300	1,700
>72	5.7	700	300

H40-HH-X-C, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	121.4		220,500
>51	71.9	248,600	99,400
>54	41.6	130,100	50,500
>57	20.8	51,200	19,900
>60	11.1	13,200	5,100
>63	6.2	3,300	1,300
>66	3.7	300	100
>69	2.2	100	<50
>72	1.3	<50	<50

H40-HH-X-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	212.6	901,500	378,100
>60	84.2	263,700	104,500
>65	32.0	75,300	29,200
>70	11.3	6,600	2,600
>75	4.6	500	200

H40-HH-X-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	86.8		116,700
>55	32.3	93,600	36,200
>60	11.2	11,200	4,300
>65	4.5	400	200
>70	2.0	100	<50

H40-HH-X-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	120.4	310,600	123,100
>50	84.1	237,300	93,800
>100	61.0	155,700	60,200
>200	40.1	107,300	41,600
>500	2.8	<50	<50

H40-HH-X-C, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	103.5	577,700	243,400
>50	21.7	90,700	36,800

H50-HH-X-C, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	172.9	732,200	305,500
>57	98.9	317,300	126,600
>60	59.2	175,800	68,000
>63	31.6	74,500	28,900
>66	16.7	20,100	7,800
>69	9.4	4,400	1,700
>72	5.5	600	300

#### H50-HH-X-C, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	126.5	641,800	269,700
>51	73.1	271,300	108,300
>54	41.2	154,400	60,300
>57	19.4	56,200	21,800
>60	10.2	14,100	5,400
>63	5.8	3,500	1,300
>66	3.4	400	200
>69	2.0	100	<50
>72	1.1	<50	<50

## H50-HH-X-C, Annual average Lden

Contour	Area (km²)	Population	Households
>55	204.5	936,200	394,100
>60	82.0	273,900	108,800
>65	30.2	78,600	30,500
>70	10.7	7,000	2,800
>75	4.4	500	200

## H50-HH-X-C, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	87.3	324,100	130,200
>55	31.2	101,800	39,500
>60	10.5	11,600	4,500
>65	4.2	600	300
>70	1.8	<50	<50

## H50-HH-X-C, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	111.2	304,600	120,700
>50	80.4	240,900	95,000
>100	62.3	179,700	70,200
>200	41.2	116,300	44,600
>500	3.0	<50	<50

# H50-HH-X-C, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	103.0	644,000	272,500
>50	20.9	113,900	46,900

H30-HH-X-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	193.0	743,500	310,100
>57	108.6	310,400	123,800
>60	64.0	167,400	64,700
>63	35.6	69,700	27,100
>66	18.7	20,400	8,000
>69	10.3	4,300	1,700
>72	6.0	600	300

#### H30-HH-X-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	120.7	491,400	203,600
>51	70.8	228,600	90,800
>54	39.7	112,300	43,600
>57	19.8	40,600	15,800
>60	10.6	8,300	3,200
>63	6.1	2,800	1,100
>66	3.7	400	200
>69	2.2	200	100
>72	1.3	<50	<50

## H30-HH-X-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	213.5	865,600	362,900
>60	84.1	249,500	98,800
>65	32.4	69,200	26,900
>70	11.3	5,500	2,200
>75	4.7	500	200

## H30-HH-X-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	123.9	306,100	121,400
>50	86.2	229,800	90,800
>100	61.9	149,900	58,000
>200	40.8	102,000	39,600
>500	3.0	<50	<50

## H30-HH-X-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	97.5	471,000	196,900
>50	18.5	65,300	25,800
>100	0.0	<50	<50

H40-HH-X-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	177.4	719,400	299,700
>57	100.3	304,200	121,200
>60	59.6	166,100	64,100
>63	32.2	66,600	25,900
>66	16.7	17,300	6,800
>69	9.4	4,000	1,600
>72	5.5	700	300

#### H40-HH-X-NCT, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	118.9	517,200	214,600
>51	69.0	243,100	96,600
>54	37.3	119,700	46,500
>57	18.3	46,000	17,900
>60	9.7	10,900	4,200
>63	5.5	3,100	1,200
>66	3.2	200	100
>69	1.9	100	<50
>72	1.1	<50	<50

## H40-HH-X-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	202.5	868,800	364,200
>60	80.5	251,800	99,600
>65	30.1	69,400	27,000
>70	10.6	5,700	2,200
>75	4.4	400	200

## H40-HH-X-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	117.1	301,400	119,300
>50	82.1	231,900	91,600
>100	59.1	150,400	58,100
>200	39.2	105,500	40,900
>500	2.7	<50	<50

## H40-HH-X-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	98.4	529,900	222,600
>50	18.2	78,300	31,600
>100	0.0	<50	<50

H50-HH-X-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	165.1	701,800	292,900
>57	94.3	305,900	122,000
>60	56.3	169,000	65,300
>63	29.7	67,100	26,200
>66	15.8	17,500	6,800
>69	8.9	3,900	1,500
>72	5.3	600	300

#### H50-HH-X-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	116.2	592,700	248,500
>51	67.2	254,600	101,800
>54	36.8	132,900	51,700
>57	17.5	48,700	18,900
>60	9.2	11,500	4,400
>63	5.3	3,200	1,200
>66	3.1	300	100
>69	1.8	100	<50
>72	1.0	<50	<50

## H50-HH-X-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	193.2	876,500	369,000
>60	77.2	257,700	101,900
>65	28.4	70,700	27,500
>70	10.2	5,800	2,300
>75	4.3	500	200

## H50-HH-X-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	101.8	291,100	115,400
>50	76.9	231,300	91,100
>100	59.3	169,800	66,100
>200	39.2	110,600	42,900
>500	2.9	<50	<50

## H50-HH-X-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	100.9	590,800	249,000
>50	20.0	96,700	39,300
>100	0.0	<50	<50

H30-HH-R, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	186.1	689,300	286,200
>57	103.9	289,900	115,100
>60	61.0	155,500	59,800
>63	34.0	62,400	24,300
>66	17.8	17,000	6,700
>69	10.0	4,300	1,700
>72	5.9	700	300

#### H30-HH-R, Summer average 8-hour night-time LAeq,8h

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Contour	Area (km²)	Population	Households
>48	101.4		151,400
>51	61.1	198,300	78,900
>54	33.3	89,600	34,600
>57	17.0	31,000	12,000
>60	9.1	4,900	1,900
>63	5.2	800	300
>66	3.0	200	100
>69	1.8	<50	<50
>72	1.0	<50	<50

## H30-HH-R, Annual average Lden

Contour	Area (km²)	Population	Households
>55	199.5	780,100	324,800
>60	78.6	225,600	88,700
>65	30.3	59,000	23,000
>70	10.7	4,700	1,900
>75	4.4	400	200

## H30-HH-R, Annual average Lnight

Contour	Area (km²)	Population	Households
>50	73.3	239,600	95,800
>55	26.2	62,400	24,100
>60	9.1	4,700	1,800
>65	3.7	200	100
>70	1.6	<50	<50

## H30-HH-R, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	97.4	253,300	100,100
>50	67.2	168,500	65,500
>100	46.6	112,900	43,000
>200	24.2	44,100	17,300

## H30-HH-R, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	72.6	336,400	138,500
>50	5.4	24,400	9,400

H30-HH-O, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	173.2		190,800
>57	98.6	257,900	101,000
>60	60.1	157,500	60,800
>63	34.0	63,700	24,800
>66	17.8	17,100	6,700
>69	9.9	3,900	1,500
>72	5.8	600	300

# H30-HH-O, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	92.8		103,400
>51	57.2	177,400	69,400
>54	33.0	87,800	33,900
>57	17.0	31,000	12,000
>60	9.1	4,900	1,900
>63	5.2	800	300
>66	3.0	200	100
>69	1.8	<50	<50
>72	1.0	<50	<50

# H30-HH-O, Annual average Lden

Contour	Area (km²)	Population	Households
>55	188.9	558,600	223,400
>60	75.5	212,300	82,600
>65	30.2	60,300	23,500
>70	10.6	4,700	1,800
>75	4.4	400	200

# H30-HH-O, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	122.9	307,100	120,700
>50	82.6	212,500	83,100
>100	59.6	146,700	56,700
>200	39.0	98,000	38,000
>500	2.6	<50	<50

# H30-HH-O, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	58.0	193,900	75,900
>50	4.8	18,900	7,400

H40-HH-O, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	166.6	488,900	194,100
>57	95.4	264,700	103,600
>60	58.3	164,400	63,300
>63	32.2	67,500	26,200
>66	16.7	17,700	6,900
>69	9.4	4,000	1,600
>72	5.5	700	300

# H40-HH-O, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	100.7		117,300
>51	61.6	193,800	75,900
>54	36.5	107,300	41,700
>57	18.6	36,900	14,200
>60	9.9	6,800	2,700
>63	5.7	1,600	600
>66	3.3	300	100
>69	2.0	100	<50
>72	1.2	<50	<50

# H40-HH-O, Annual average Lden

Contour	Area (km²)	Population	Households
>55	189.3	600,900	240,400
>60	75.6	223,500	87,100
>65	29.7	66,000	25,700
>70	10.5	5,100	2,000
>75	4.3	400	200

# H40-HH-O, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	118.3	314,500	123,500
>50	81.0	220,500	86,200
>100	58.6	155,900	60,300
>200	38.8	106,600	41,400
>500	2.7	<50	<50

# H40-HH-O, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	80.0	265,400	105,000
>50	13.4	47,900	18,600

H50-HH-O, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households
>54	151.0		183,800
>57	87.9	261,200	102,200
>60	54.5	165,500	63,700
>63	29.5	67,100	26,200
>66	15.6	17,800	6,900
>69	8.8	3,900	1,500
>72	5.2	600	300

# H50-HH-O, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	96.6		120,600
>51	58.9	197,200	77,100
>54	33.8	110,300	42,800
>57	16.9	36,400	14,000
>60	9.0	6,200	2,400
>63	5.2	1,600	600
>66	3.1	200	100
>69	1.9	<50	<50
>72	1.1	<50	<50

# H50-HH-O, Annual average Lden

Contour	Area (km²)	Population	Households
>55	174.1	570,100	228,400
>60	71.1	223,600	87,100
>65	27.5	65,200	25,400
>70	9.8	4,900	1,900
>75	4.1	400	200

# H50-HH-O, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	102.4	297,300	116,600
>50	75.9	224,100	87,500
>100	57.9	166,800	64,600
>200	38.9	111,600	43,300
>500	2.9	<50	<50

# H50-HH-O, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	77.0	267,400	105,800
>50	11.1	46,000	17,800

# A67. H30-HH-O-NCT: Heathrow 2030 do-something, Hub -off-set approaches, Need Carbon Traded

H30-HH-O-NCT, Summer average 16-hour daytime LAeq,16h

Contour	Area (km²)	Population	Households	
>54	180.6	504,300	200,600	
>57	102.7	268,500	105,200	
>60	62.3	164,200	63,400	
>63	35.6	69,900	27,200	
>66	18.7	20,300	8,000	
>69	10.3	4,300	1,700	
>72	6.0	600	300	

#### H30-HH-O-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	109.2	319,400	125,700
>51	65.9	194,500	75,600
>54	39.1	112,900	43,900
>57	19.8	40,700	15,800
>60	10.6	8,300	3,200
>63	6.1	2,800	1,100
>66	3.7	400	200
>69	2.2	200	100
>72	1.3	<50	<50

# H30-HH-O-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	201.4	613,200	246,400
>60	80.1	225,000	87,600
>65	32.4	69,800	27,200
>70	11.3	5,500	2,200
>75	4.7	500	200

# H30-HH-O-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	125.3	314,200	123,600
>50	85.4	218,400	85,400
>100	61.6	154,100	59,700
>200	40.7	102,500	39,800
>500	3.0	<50	<50

# H30-HH-O-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	85.3	275,200	109,000
>50	13.9	50,300	19,400
>100	0.0	<50	<50

H40-HH-O-NCT, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households
>54	165.0	480,200	190,500
>57	94.8	262,700	102,900
>60	58.1	164,000	63,100
>63	32.1	66,600	25,900
>66	16.8	17,400	6,800
>69	9.4	4,000	1,600
>72	5.5	700	300

#### H40-HH-O-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	107.7	336,200	132,500
>51	64.0	203,800	79,300
>54	36.4	121,100	47,000
>57	18.3	45,900	17,900
>60	9.7	10,900	4,200
>63	5.5	3,100	1,200
>66	3.2	200	100
>69	1.9	100	<50
>72	1.1	<50	<50

# H40-HH-O-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	190.3	603,700	242,200
>60	76.6	227,200	88,500
>65	30.1	69,400	27,000
>70	10.6	5,700	2,200
>75	4.4	400	200

# H40-HH-O-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	118.3	310,800	122,000
>50	81.2	221,800	86,700
>100	59.0	156,200	60,400
>200	38.9	106,500	41,400
>500	2.7	<50	<50

# H40-HH-O-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	85.4	297,900	118,200
>50	12.6	54,000	20,900
>100	0.0	<50	<50

H50-HH-O-NCT, Summer average 16-hour daytime LAeq,16h

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Contour	Area (km²)	Population	Households	
>54	153.0	466,000	185,100	
>57	88.7	263,000	102,900	
>60	54.8	165,600	63,800	
>63	29.8	67,300	26,300	
>66	15.8	17,600	6,800	
>69	8.9	3,900	1,500	
>72	5.3	600	300	

#### H50-HH-O-NCT, Summer average 8-hour night-time LAeq,8h

Contour	Area (km²)	Population	Households
>48	103.2	357,700	141,300
>51	61.5	210,600	82,500
>54	35.6	133,400	51,900
>57	17.6	48,900	19,000
>60	9.2	11,500	4,400
>63	5.3	3,200	1,200
>66	3.1	300	100
>69	1.8	100	<50
>72	1.0	<50	<50

# H50-HH-O-NCT, Annual average Lden

Contour	Area (km²)	Population	Households
>55	180.6	596,300	239,700
>60	73.4	229,100	89,200
>65	28.4	70,800	27,500
>70	10.2	5,900	2,300
>75	4.3	500	200

# H50-HH-O-NCT, Summer average daytime N70

Contour	Area (km²)	Population	Households
>20	102.9	300,500	118,100
>50	76.5	225,600	88,000
>100	58.2	166,900	64,700
>200	39.0	111,900	43,500
>500	2.9	<50	<50

# H50-HH-O-NCT, Summer average night-time N60

Contour	Area (km²)	Population	Households
>25	86.6	316,100	125,400
>50	12.6	57,900	22,400
>100	0.0	<50	<50

H30-HH-X-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	89.5	289,400	116,200
>51	54.0	163,400	64,200
>54	28.3	68,000	26,300
>57	14.9	22,100	8,500
>60	8.1	3,900	1,500
>63	4.7	700	300
>66	2.8	200	100
>69	1.7	<50	<50
>72	1.0	<50	<50

#### A71. H40-HH-X-QC: Heathrow 2040 do-something, Hub - No core night operations

H40-HH-X-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	100.0	369,200	150,500
>51	60.2	197,700	78,300
>54	32.1	89,000	34,300
>57	16.7	29,100	11,200
>60	9.0	5,500	2,100
>63	5.2	1,700	700
>66	3.2	200	100
>69	1.9	100	<50
>72	1.1	<50	<50

#### A72. H50-HH-X-QC: Heathrow 2050 do-something, Hub - No core night operations

H50-HH-X-QC, Summer average 8-hour night-time LAeq,8h

Contour	Area (km2)	Population	Households
>48	95.9	386,900	158,500
>51	57.1	201,400	79,900
>54	29.2	89,400	34,400
>57	14.9	27,300	10,500
>60	8.1	5,100	2,000
>63	4.8	1,600	600
>66	2.9	200	100
>69	1.7	<50	<50
>72	1.0	<50	<50

# B. NOISE SENSITIVE BUILDINGS (NSB)

#### **GATWICK AIRPORT**

# B1. G13-1R: Gatwick 2013 current, standard modal split

- G13-1R, Summer average 16-hour daytime LAeq,16h
- G13-1R, Summer average 8-hour night-time LAeq,8h
- G11-1R, Annual average Lden
- G11-1R, Annual average Lnight
- G13-1R, Summer average daytime N70
- G13-1R, Summer average night-time N60

# B2. G30-1R: Gatwick 2030 do-minimum

- G30-1R, Summer average 16-hour daytime LAeq,16h
- G30-1R, Summer average 8-hour night-time LAeq,8h
- G30-1R, Annual average Lden
- G30-1R, Annual average Lnight
- G30-1R, Summer average daytime N70
- G30-1R, Summer average night-time N60

### B3. G40-1R: Gatwick 2040 do-minimum

- G40-1R, Summer average 16-hour daytime LAeq,16h
- G40-1R, Summer average 8-hour night-time LAeq,8h
- G40-1R, Annual average Lden
- G40-1R, Annual average Lnight
- G40-1R, Summer average daytime N70
- G40-1R, Summer average night-time N60

#### B4. G50-1R: Gatwick 2050 do-minimum

- G50-1R, Summer average 16-hour daytime LAeq,16h
- G50-1R, Summer average 8-hour night-time LAeq,8h
- G50-1R, Annual average Lden
- G50-1R, Annual average Lnight
- G50-1R, Summer average daytime N70
- G50-1R, Summer average night-time N60

# B5. G30-2R-X: Gatwick 2030 do-something, GAL - no sensitivity test

- G30-2R-X, Summer average 16-hour daytime LAeq,16h
- G30-2R-X, Summer average 8-hour night-time LAeq,8h
- G30-2R-X, Annual average Lden
- G30-2R-X, Annual average Lnight
- G30-2R-X, Summer average daytime N70
- G30-2R-X, Summer average night-time N60

# B6. G40-2R-X: Gatwick 2040 do-something, GAL - no sensitivity test

- G40-2R-X, Summer average 16-hour daytime LAeq,16h
- G40-2R-X, Summer average 8-hour night-time LAeq,8h
- G40-2R-X, Annual average Lden
- G40-2R-X, Annual average Lnight
- G40-2R-X, Summer average daytime N70
- G40-2R-X, Summer average night-time N60

# B7. G50-2R-X: Gatwick 2050 do-something, GAL - no sensitivity test

- G50-2R-X, Summer average 16-hour daytime LAeq,16h
- G50-2R-X, Summer average 8-hour night-time LAeq,8h
- G50-2R-X, Annual average Lden
- G50-2R-X, Annual average Lnight
- G50-2R-X, Summer average daytime N70
- G50-2R-X, Summer average night-time N60

#### **HEATHROW AIRPORT**

# B8. H13-2R: Heathrow 2013 current, standard modal split

- H13-2R, Summer average 16-hour daytime LAeq,16h
- H13-2R, Summer average 8-hour night-time LAeq,8h
- H11-2R, Annual average Lden
- H11-2R, Annual average Lnight
- H13-2R, Summer average daytime N70
- H13-2R, Summer average night-time N60

# B9. H30-2R: Heathrow 2030 do-minimum

- H30-2R, Summer average 16-hour daytime LAeq,16h
- H30-2R, Summer average 8-hour night-time LAeq,8h
- H30-2R, Annual average Lden
- H30-2R, Annual average Lnight
- H30-2R, Summer average daytime N70
- H30-2R, Summer average night-time N60

# B10. H40-2R: Heathrow 2040 do-minimum

- H40-2R, Summer average 16-hour daytime LAeq,16h
- H40-2R, Summer average 8-hour night-time LAeq,8h
- H40-2R, Annual average Lden
- H40-2R, Annual average Lnight
- H40-2R, Summer average daytime N70
- H40-2R, Summer average night-time N60

#### B11. H50-2R: Heathrow 2050 do-minimum

- H50-2R, Summer average 16-hour daytime LAeq,16h
- H50-2R, Summer average 8-hour night-time LAeq,8h
- H50-2R, Annual average Lden
- H50-2R, Annual average Lnight
- H50-2R, Summer average daytime N70
- H50-2R, Summer average night-time N60

# B12. H30-3R-N: Heathrow 2030 do-something, HAL - Minimise newly affected

- H30-3R-N, Summer average 16-hour daytime LAeq,16h
- H30-3R-N, Summer average 8-hour night-time LAeq,8h
- H30-3R-N, Annual average Lden
- H30-3R-N, Annual average Lnight
- H30-3R-N, Summer average daytime N70
- H30-3R-N, Summer average night-time N60

#### B13. H40-3R-N: Heathrow 2040 do-something, HAL - Minimise newly affected

- H40-3R-N, Summer average 16-hour daytime LAeq,16h
- H40-3R-N, Summer average 8-hour night-time LAeq,8h
- H40-3R-N, Annual average Lden
- H40-3R-N, Annual average Lnight
- H40-3R-N, Summer average daytime N70
- H40-3R-N, Summer average night-time N60

#### B14. H50-3R-N: Heathrow 2050 do-something, HAL - Minimise newly affected

- H50-3R-N, Summer average 16-hour daytime LAeq,16h
- H50-3R-N, Summer average 8-hour night-time LAeq,8h
- H50-3R-N, Annual average Lden
- H50-3R-N, Annual average Lnight
- H50-3R-N, Summer average daytime N70
- H50-3R-N, Summer average night-time N60

# B15. H30-3R-R: Heathrow 2030 do-something, HAL - Respite

- H30-3R-R, Summer average 16-hour daytime LAeq,16h
- H30-3R-R, Summer average 8-hour night-time LAeq,8h
- H30-3R-R, Annual average Lden
- H30-3R-R, Annual average Lnight
- H30-3R-R, Summer average daytime N70
- H30-3R-R, Summer average night-time N60

# B16. H40-3R-R: Heathrow 2040 do-something, HAL - Respite

- H40-3R-R, Summer average 16-hour daytime LAeq,16h
- H40-3R-R, Summer average 8-hour night-time LAeq,8h
- H40-3R-R, Annual average Lden
- H40-3R-R, Annual average Lnight
- H40-3R-R, Summer average daytime N70
- H40-3R-R, Summer average night-time N60

#### B17. H50-3R-R: Heathrow 2050 do-something, HAL - Respite

- H50-3R-R, Summer average 16-hour daytime LAeq,16h
- H50-3R-R, Summer average 8-hour night-time LAeq,8h
- H50-3R-R, Annual average Lden
- H50-3R-R, Annual average Lnight
- H50-3R-R, Summer average daytime N70
- H50-3R-R, Summer average night-time N60

#### B18. H30-3R-T: Heathrow 2030 do-something, HAL - Minimise total affected

- H30-3R-T, Summer average 16-hour daytime LAeq,16h
- H30-3R-T, Summer average 8-hour night-time LAeq,8h
- H30-3R-T, Annual average Lden
- H30-3R-T, Annual average Lnight
- H30-3R-T, Summer average daytime N70
- H30-3R-T, Summer average night-time N60

#### B19. H40-3R-T: Heathrow 2040 do-something, HAL - Minimise total affected

- H40-3R-T, Summer average 16-hour daytime LAeq,16h
- H40-3R-T, Summer average 8-hour night-time LAeq,8h
- H40-3R-T, Annual average Lden
- H40-3R-T, Annual average Lnight
- H40-3R-T, Summer average daytime N70
- H40-3R-T, Summer average night-time N60

# B20. H50-3R-T: Heathrow 2050 do-something, HAL - Minimise total affected

- H50-3R-T, Summer average 16-hour daytime LAeq,16h
- H50-3R-T, Summer average 8-hour night-time LAeq,8h
- H50-3R-T, Annual average Lden
- H50-3R-T, Annual average Lnight
- H50-3R-T, Summer average daytime N70
- H50-3R-T, Summer average night-time N60

# B21. H50-3R-T-35: Heathrow 2050 do-something, HAL - Minimise total affected, 3.5 degree approach

- H50-3R-T-35, Summer average 16-hour daytime LAeq,16h
- H50-3R-T-35, Summer average 8-hour night-time LAeq,8h
- H50-3R-T-35, Annual average Lden
- H50-3R-T-35, Annual average Lnight
- H50-3R-T-35, Summer average daytime N70
- H50-3R-T-35, Summer average night-time N60

# B22. H30-HH-X: Heathrow 2030 do-something, Hub - no sensitivity test

- H30-HH-X, Summer average 16-hour daytime LAeq,16h
- H30-HH-X, Summer average 8-hour night-time LAeq,8h
- H30-HH-X, Annual average Lden
- H30-HH-X, Annual average Lnight
- H30-HH-X, Summer average daytime N70
- H30-HH-X, Summer average night-time N60

#### B23. H40-HH-X: Heathrow 2040 do-something, Hub - no sensitivity test

- H40-HH-X, Summer average 16-hour daytime LAeq,16h
- H40-HH-X, Summer average 8-hour night-time LAeq,8h
- H40-HH-X, Annual average Lden
- H40-HH-X, Annual average Lnight
- H40-HH-X, Summer average daytime N70
- H40-HH-X, Summer average night-time N60

# B24. H50-HH-X: Heathrow 2050 do-something, Hub - no sensitivity test

- H50-HH-X, Summer average 16-hour daytime LAeq,16h
- H50-HH-X, Summer average 8-hour night-time LAeq,8h
- H50-HH-X, Annual average Lden
- H50-HH-X, Annual average Lnight
- H50-HH-X, Summer average daytime N70
- H50-HH-X, Summer average night-time N60

# B25. H30-HH-R: Heathrow 2030 do-something, Hub - Respite

- H30-HH-R, Summer average 16-hour daytime LAeq,16h
- H30-HH-R, Summer average 8-hour night-time LAeq,8h
- H30-HH-R, Annual average Lden
- H30-HH-R, Annual average Lnight
- H30-HH-R, Summer average daytime N70
- H30-HH-R, Summer average night-time N60

# B26. H30-HH-O: Heathrow 2030 do-something, Hub - off-set approaches

- H30-HH-O, Summer average 16-hour daytime LAeq,16h
- H30-HH-O, Summer average 8-hour night-time LAeq,8h
- H30-HH-O, Annual average Lden
- H30-HH-O, Annual average Lnight
- H30-HH-O, Summer average daytime N70
- H30-HH-O, Summer average night-time N60

# B27. H40-HH-O: Heathrow 2040 do-something, Hub - off-set approaches

- H40-HH-O, Summer average 16-hour daytime LAeq,16h
- H40-HH-O, Summer average 8-hour night-time LAeq,8h
- H40-HH-O, Annual average Lden
- H40-HH-O, Summer average daytime N70
- H40-HH-O, Summer average night-time N60

# B28. H50-HH-O: Heathrow 2050 do-something, Hub - off-set approaches

- H50-HH-O, Summer average 16-hour daytime LAeq,16h
- H50-HH-O, Summer average 8-hour night-time LAeq,8h
- H50-HH-O, Annual average Lden
- H50-HH-O, Summer average daytime N70
- H50-HH-O, Summer average night-time N60

G13-1R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	15	0	11
>54 >57	3	0	2
>60 >63 >66 >69 >72	2	0	2
>63	2	0	2
>66	1	0	2
>69	0	0	0
>72	0	0	0

# G13-1R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	15	1	11
>51	8	0	5
>54	2	0	2
>57	2	0	2
>60	2	0	1
>63	0	0	1
>66	0	0	0
>69	0	0	0
>72	0	0	0

# G11-1R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	13	0	10
>60	3	0	2
>65	2	0	2
>70	0	0	1
>75	0	0	0

# G11-1R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	7	0	5
>55	2	0	2
>60	1	0	1
>65	0	0	0
>70	0	0	0

# G13-1R, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	9	0	6
>50	3	0	2
>100	2	0	2
>200	2	0	2
>500	0	0	0

# G13-1R, Summer average night-time N60

GIS-IN, Summer average might-time 1400				
Contour	Schools	Hospitals	Places of Worship	
>25	15	1	13	
>50	8	0	5	
>100	0	0	0	

G30-1R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	9	0	8
>54 >57	3	0	2
>60	2	0	2
>63	2	0	2
>66	0	0	1
>60 >63 >66 >69 >72	0	0	0
>72	0	0	0

G30-1R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	12	0	10
>51	7	0	5
>54	2	0	2
>51 >54 >57	2	0	2
>60 >63	2	0	2
>63	0	0	1
>66	0	0	0
>66 >69	0	0	0
>72	0	0	0

G30-1R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	12	0	10
>60	3	0	2
>65	2	0	2
>70	0	0	0
>75	0	0	0

G30-1R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	3	0	2
>55	2	0	2
>60	0	0	1
>65	0	0	0
>70	0	0	0

G30-1R, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	3	0	2
>50	3	0	2
>100	2	0	2
>200	2	0	2
>500	0	0	0

G30-1R, Summer average night-time N60

GSO-IR, Summer average mant-time 1400				
Contour	Schools	Hospitals	Places of Worship	
>25	14	1	11	
>50	8	0	6	
>100	1	0	1	

G40-1R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	8	0	6
>54 >57	3	0	2
>60	2	0	2
>63	2	0	2
>66	0	0	1
>60 >63 >66 >69 >72	0	0	0
>72	0	0	0

G40-1R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	12	0	10
>51	7	0	5
>54	2	0	2
>51 >54 >57	2	0	2
>60 >63	1	0	2
>63	0	0	1
>66	0	0	0
>66 >69	0	0	0
>72	0	0	0

G40-1R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	10	0	9
>60	2	0	2
>65	2	0	2
>70	0	0	0
>75	0	0	0

G40-1R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	3	0	2
>55	2	0	2
>60	0	0	1
>65	0	0	0
>70	0	0	0

G40-1R, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	3	0	2
>50	3	0	2
>100	2	0	2
>200	2	0	2
>500	0	0	0

G40-1R, Summer average night-time N60

040-11, Juniner average ingite-time 1400				
Contour	Schools	Hospitals	Places of Worship	
>25	14	1	11	
>50	8	0	6	
>100	1	0	1	

G50-1R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	8	0	6
>57	3	0	2
>60 >63 >66	2	0	2
>63	2	0	2
>66	0	0	1
>69 >72	0	0	0
>72	0	0	0

G50-1R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	12	0	10
>48 >51	7	0	5
>54	2	0	2
>54 >57	2	0	2
>60	1	0	1
>63	0	0	1
>66	0	0	0
>63 >66 >69 >72	0	0	0
>72	0	0	0

G50-1R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	10	0	9
>60	2	0	2
>65	2	0	2
>70	0	0	0
>75	0	0	0

G50-1R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	3	0	2
>55	2	0	2
>60	0	0	1
>65	0	0	0
>70	0	0	0

G50-1R, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	3	0	2
>50	3	0	2
>100	2	0	2
>200	2	0	2
>500	0	0	0

G50-1R, Summer average night-time N60

350 1K, Sammer average might time 1400				
Contour	Schools	Hospitals	Places of Worship	
>25	13	1	11	
>50	8	0	5	
>100	1	0	1	

G30-2R-X, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	14	1	8
>57	2	0	1
>60 >63 >66	1	0	0
>63	0	0	0
>66	0	0	0
>69 >72	0	0	0
>72	0	0	0

G30-2R-X, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	20	1	11
>51	2	0	1
>51 >54 >57	1	0	0
>57	1	0	0
>60	0	0	0
>63	0	0	0
>66	0	0	0
>66 >69	0	0	0
>72	0	0	0

G30-2R-X, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	20	1	13
>60	1	0	0
>65	0	0	0
>70	0	0	0
>75	0	0	0

G30-2R-X, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	2	0	1
>55	0	0	0
>60	0	0	0
>65	0	0	0
>70	0	0	0

G30-2R-X, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship		
>20	10	0	6		
>50	2	0	1		
>100	1	0	0		
>200	1	0	0		
>500	0	0	0		

G30-2R-X, Summer average night-time N60

330 Zit X, Sammer average inght time 1400				
Contour	Schools	Hospitals	Places of Worship	
>25	17	1	7	
>50	1	0	0	
>100	0	0	0	

В6.

G40-2R-X, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	15	1	9
>57	2	0	1
>60 >63 >66	1	0	0
>63	0	0	0
>66	0	0	0
>69 >72	0	0	0
>72	0	0	0

G40-2R-X, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	13	1	9
>51	2	0	1
>54	1	0	0
>57	0	0	0
>60	0	0	0
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

G40-2R-X, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	18	1	10
>60	1	0	0
>65	0	0	0
>70	0	0	0
>75	0	0	0

G40-2R-X, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	1	0	0
>55	0	0	0
>60	0	0	0
>65	0	0	0
>70	0	0	0

G40-2R-X, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	9	0	6
>50	5	0	3
>100	1	0	1
>200	1	0	0
>500	0	0	0

G40-2R-X, Summer average night-time N60

G40-211-X, Sammer average night-time 1400				
Contour	Schools	Hospitals	Places of Worship	
>25	12	1	6	
>50	1	0	0	
>100	0	0	0	

G50-2R-X, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	22	1	14
>57	5	0	2
>60 >63 >66	1	0	0
>63	1	0	0
>66	0	0	0
>69 >72	0	0	0
>72	0	0	0

G50-2R-X, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	13	1	9
>51	2	0	1
>54 >57	1	0	0
>57	0	0	0
>60	0	0	0
>63	0	0	0
>66	0	0	0
>66 >69	0	0	0
>72	0	0	0

G50-2R-X, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	21	1	14
>60	1	0	0
>65	0	0	0
>70	0	0	0
>75	0	0	0

G50-2R-X, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	1	0	0
>55	0	0	0
>60	0	0	0
>65	0	0	0
>70	0	0	0

G50-2R-X, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship	
>20	11	0	5	
>50	5	0	4	
>100	2	0	1	
>200	1	0	0	
>500	0	0	0	

G50-2R-X, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	12	1	6
>50	1	0	0
>100	0	0	0

H13-2R, Summer average 16-hour daytime LAeq,16h

			17
Contour	Schools	Hospitals	Places of Worship
>54 >57	460	7	274
	167	5	117
>60 >63	64	0	46
>63	19	0	16
>66	7	0	4
>66 >69 >72	1	0	1
>72	0	0	0

# H13-2R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	304	6	192
>51	112	2	83
>54	55	0	35
>57	20	0	11
>60	3	0	4
>63	1	0	1
>66 >69	1	0	1
>69	0	0	0
>72	0	0	0

# H11-2R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	570	16	344
>60	119	3	82
>65	20	0	13
>70	1	0	2
>75	0	0	0

# H11-2R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	141	4	99
>55	37	0	18
>60	1	0	5
>65	1	0	1
>70	0	0	0

# H13-2R, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	243	6	154
>50	133	4	94
>100	61	0	43
>200	26	0	19
>500	0	0	0

# H13-2R, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship	
>25	260	3	151	
>50	1	0	1	
>100	0	0	0	

H30-2R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54 >57	312	5	191
>57	110	2	78
>60 >63	38	0	26
>63	12	0	9
>66	2	0	2
>66 >69 >72	0	0	0
>72	0	0	0

# H30-2R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	153	3	101
>51	75	2	46
>54 >57	18	0	14
>57	3	0	7
>60	1	0	1
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

# H30-2R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	382	6	228
>60	75	2	54
>65	10	0	9
>70	1	0	1
>75	0	0	0

# H30-2R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	96	2	65
>55	11	0	10
>60	1	0	1
>65	0	0	0
>70	0	0	0

# H30-2R. Summer average daytime N70

130-21, Sullinei average daytille 1470				
Contour	Schools	Hospitals	Places of Worship	
>20	149	3	104	
>50	92	2	69	
>100	58	0	39	
>200	20	0	15	
>500	0	0	0	

# H30-2R, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship	
>25	103	3	67	
>50	0	0	1	
>100	0	0	0	

H40-2R, Summer average 16-hour daytime LAeq,16h

			17
Contour	Schools	Hospitals	Places of Worship
>54	265	5	170
>54 >57	100	2	72
>60	33	0	25
>63	11	0	9
>66	2	0	1
>69 >72	0	0	0
>72	0	0	0

H40-2R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	194	3	119
>51	89	2	57
>54	30	0	22
>57	6	0	8
>60	1	0	2
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H40-2R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	367	6	221
>60	74	2	52
>65	10	0	9
>70	1	0	1
>75	0	0	0

H40-2R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	102	3	70
>55	13	0	11
>60	1	0	1
>65	0	0	0
>70	0	0	0

H40-2R. Summer average daytime N70

11-0-2K, Summer average daytime 1470			
Contour	Schools	Hospitals	Places of Worship
>20	134	3	97
>50	87	2	68
>100	54	0	33
>200	19	0	15
>500	0	0	0

H40-2R, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	155	3	90
>50	0	0	2
>100	0	0	0

H50-2R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54 >57	244	5	157
>57	99	2	68
>60	33	0	23
>60 >63	11	0	9
>66 >69	1	0	2
>69	0	0	0
>72	0	0	0

H50-2R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	216	3	130
>51	95	2	60
>51 >54 >57	34	0	24
>57	6	0	8
>60	1	0	2
>63	1	0	1
>66	0	0	0
>69	0	0	0
>72	0	0	0

H50-2R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	358	6	219
>60	75	2	54
>65	8	0	8
>70	1	0	1
>75	0	0	0

H50-2R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	109	3	76
>55	14	0	12
>60	1	0	1
>65	0	0	0
>70	0	0	0

H50-2R. Summer average daytime N70

130-21, Sulliller average daytille 1470			
Contour	Schools	Hospitals	Places of Worship
>20	130	3	93
>50	87	2	64
>100	56	1	35
>200	21	0	15
>500	0	0	0

H50-2R, Summer average night-time N60

iso zit, sammer average inghe time troo			
Contour	Schools	Hospitals	Places of Worship
>25	177	3	101
>50	2	0	2
>100	0	0	0

H30-3R-N, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	353	7	224
>54 >57	135	3	97
>60 >63 >66	57	1	37
>63	13	0	11
>66	4	0	5
>69 >72	1	0	3
>72	0	0	1

H30-3R-N, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	179	5	121
>51	87	2	54
>51 >54 >57	25	0	17
>57	3	0	7
>60	1	0	2
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H30-3R-N, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	406	8	244
>60	93	2	65
>65	11	0	10
>70	1	0	3
>75	0	0	0

H30-3R-N, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	97	3	67
>55	10	0	13
>60	0	0	1
>65	0	0	0
>70	0	0	0

H30-3R-N, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	153	3	104
>50	98	2	72
>100	64	0	44
>200	24	0	17
>500	0	0	1

H30-3R-N, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	143	4	90
>50	0	0	2
>100	0	0	0

H40-3R-N, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	362	7	230
>54 >57	131	3	100
>60	61	1	39
>63 >66	12	0	10
>66	5	0	6
>69 >72	1	0	3
>72	0	0	1

H40-3R-N, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	228	5	146
>51	98	3	63
>51 >54 >57	38	0	22
>57	3	0	8
>60	1	0	3
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H40-3R-N, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	438	10	263
>60	100	3	67
>65	12	0	11
>70	1	0	3
>75	0	0	0

H40-3R-N, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	105	3	73
>55	13	0	14
>60	0	0	1
>65	0	0	0
>70	0	0	0

H40-3R-N, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	146	3	104
>50	99	2	73
>100	69	0	41
>200	28	0	18
>500	2	0	2

H40-3R-N, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	192	5	126
>50	0	1	2
>100	0	0	0

H50-3R-N, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	352	7	223
>54 >57	125	3	97
>60	60	0	38
>63	12	0	11
>66	5	0	6
>60 >63 >66 >69 >72	1	0	2
>72	0	0	1

H50-3R-N, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	212	5	135
>51	92	2	60
>54	32	0	19
>57	2	0	7
>60	0	0	1
>63	0	0	0
>66	0	0	0
>66 >69	0	0	0
>72	0	0	0

H50-3R-N, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	446	11	270
>60	101	3	70
>65	12	0	11
>70	1	0	3
>75	0	0	0

H50-3R-N, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	107	3	78
>55	14	0	14
>60	0	0	1
>65	0	0	0
>70	0	0	0

H50-3R-N, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	142	3	103
>50	97	2	73
>100	69	0	42
>200	36	0	20
>500	2	0	2

H50-3R-N, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	174	4	113
>50	0	0	2
>100	0	0	0

H30-3R-R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	250	7	167
>54 >57	120	3	86
>60	55	1	37
>63	12	0	11
>66	4	0	5
>69 >72	1	0	3
>72	0	0	1

H30-3R-R, Summer average 8-hour night-time LAeq,8h

			•
Contour	Schools	Hospitals	Places of Worship
>48	147	4	109
>51	80	1	48
>54	26	0	17
>57	3	0	7
>60	1	0	2
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H30-3R-R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	279	7	186
>60	90	1	59
>65	11	0	10
>70	1	0	3
>75	0	0	0

H30-3R-R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	87	2	58
>55	10	0	13
>60	0	0	1
>65	0	0	0
>70	0	0	0

H30-3R-R, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	172	5	121
>50	91	1	66
>100	62	0	34
>200	24	0	18
>500	0	0	1

H30-3R-R, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	74	2	51
>50	0	0	2
>100	0	0	0

H40-3R-R, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	251	7	167
>57	120	2	84
>60 >63	58	1	36
>63	12	0	11
>66	5	0	6
>66 >69 >72	1	0	3
>72	0	0	1

H40-3R-R, Summer average 8-hour night-time LAeq,8h

			•
Contour	Schools	Hospitals	Places of Worship
>48	160	4	120
>51	84	2	52
>54	36	0	20
>57	3	0	8
>60	1	0	3
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H40-3R-R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	287	7	193
>60	94	2	65
>65	12	0	11
>70	1	0	3
>75	0	0	0

H40-3R-R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	89	2	60
>55	13	0	14
>60	0	0	1
>65	0	0	0
>70	0	0	0

H40-3R-R, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	157	4	115
>50	89	1	65
>100	65	0	38
>200	26	0	19
>500	2	0	2

H40-3R-R, Summer average night-time N60

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Contour	Schools	Hospitals	Places of Worship	
>25	96	4	71	
>50	0	0	2	
>100	0	0	0	

H50-3R-R, Summer average 16-hour daytime LAeq,16h

			•
Contour	Schools	Hospitals	Places of Worship
>54	241	7	159
>54 >57	115	2	84
>60	56	0	37
>63	12	0	11
>66	5	0	6
>69 >72	1	0	2
>72	0	0	1

H50-3R-R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	146	4	104
>51	83	1	51
>54 >57	30	0	18
>57	2	0	8
>60 >63	0	0	1
>63	0	0	0
>66	0	0	0
>66 >69	0	0	0
>72	0	0	0

H50-3R-R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	280	7	187
>60	93	2	62
>65	12	0	13
>70	1	0	3
>75	0	0	0

H50-3R-R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	90	2	61
>55	14	0	14
>60	0	0	1
>65	0	0	0
>70	0	0	0

H50-3R-R. Summer average daytime N70

1130-3K-K, Sulliller average daytille N70				
Contour	Schools	Hospitals	Places of Worship	
>20	141	4	105	
>50	88	2	62	
>100	66	0	38	
>200	39	0	20	
>500	2	0	2	

H50-3R-R, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	77	3	57
>50	0	0	2
>100	0	0	0

H30-3R-T, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	263	6	167
>57	125	2	86
>60 >63	55	1	37
>63	13	0	10
>66	4	0	5
>66 >69	1	0	3
>72	0	0	1

H30-3R-T, Summer average 8-hour night-time LAeq,8h

			12
Contour	Schools	Hospitals	Places of Worship
>48	135	2	94
>51	77	0	47
>54	24	0	17
>51 >54 >57	3	0	6
>60	1	0	2
>60 >63	0	0	0
>66	0	0	0
>69 >72	0	0	0
>72	0	0	0

H30-3R-T, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	342	7	207
>60	87	1	60
>65	11	0	10
>70	1	0	3
>75	0	0	0

H30-3R-T, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	86	2	56
>55	10	0	13
>60	0	0	1
>65	0	0	0
>70	0	0	0

H30-3R-T, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	147	2	101
>50	98	1	71
>100	66	0	39
>200	24	0	18
>500	0	0	1

H30-3R-T, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	64	1	43
>50	0	0	2
>100	0	0	0

H40-3R-T, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	277	6	175
>54 >57	122	2	84
>60	55	1	37
>63	12	0	11
>66	5	0	6
>63 >66 >66 >69 >72	1	0	3
>72	0	0	1

H40-3R-T, Summer average 8-hour night-time LAeq,8h

			ľ
Contour	Schools	Hospitals	Places of Worship
>48	157	4	109
>51	83	2	50
>54	36	0	20
>51 >54 >57	3	0	8
>60	1	0	3
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H40-3R-T, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	381	7	229
>60	91	1	62
>65	12	0	11
>70	1	0	3
>75	0	0	0

H40-3R-T, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	94	2	61
>55	13	0	14
>60	0	0	1
>65	0	0	0
>70	0	0	0

H40-3R-T, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	145	2	101
>50	98	1	71
>100	70	0	37
>200	29	0	18
>500	2	0	2

H40-3R-T, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship	
>25	99	3	67	
>50	0	0	2	
>100	0	0	0	

H50-3R-T, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	268	6	171
>57	114	2	78
>60 >63	56	0	35
>63	12	0	11
>66	5	0	6
>66 >69 >72	1	0	2
>72	0	0	1

H50-3R-T, Summer average 8-hour night-time LAeq,8h

			· · ·
Contour	Schools	Hospitals	Places of Worship
>48	144	3	93
>51	79	1	48
>54	30	0	18
>57	2	0	8
>60	0	0	1
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H50-3R-T, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	396	7	236
>60	90	2	61
>65	12	0	12
>70	1	0	3
>75	0	0	0

H50-3R-T, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	96	2	63
>55	14	0	14
>60	0	0	1
>65	0	0	0
>70	0	0	0

H50-3R-T, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	142	2	100
>50	96	2	66
>100	69	0	38
>200	35	0	19
>500	2	0	2

H50-3R-T, Summer average night-time N60

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Contour	Schools	Hospitals	Places of Worship	
>25	71	2	49	
>50	0	0	2	
>100	0	0	0	

H50-3R-T-35, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	244	6	155
>54 >57	107	2	74
>60	54	0	33
>63	12	0	10
>66	4	0	5
>63 >66 >69 >72	1	0	2
>72	0	0	1

H50-3R-T-35, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	135	2	88
>51	76	1	47
>51 >54 >57	26	0	18
>57	2	0	6
>60	0	0	1
>63 >66	0	0	0
>66	0	0	0
>69 >72	0	0	0
>72	0	0	0

H50-3R-T-35, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	348	7	212
>60	88	1	58
>65	12	0	10
>70	1	0	3
>75	0	0	0

H50-3R-T-35, Annual average Lnight

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Contour	Schools	Hospitals	Places of Worship
>50	89	2	60
>55	12	0	13
>60	0	0	1
>65	0	0	0
>70	0	0	0

H50-3R-T-35, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	124	2	85
>50	90	1	64
>100	58	0	38
>200	32	0	19
>500	2	0	2

H50-3R-T-35, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	68	1	46
>50	0	0	2
>100	0	0	0

H30-HH-X, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54 >57	470	9	289
	163	4	120
>60	79	2	51
>63	23	0	16
>66	5	0	4
>69 >72	2	0	1
>72	0	0	0

H30-HH-X, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	249	4	164
>51	105	2	71
>54	44	0	27
>57	7	0	8
>60	1	0	1
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H30-HH-X, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	537	14	336
>60	129	3	94
>65	21	0	14
>70	2	0	1
>75	0	0	0

H30-HH-X, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	141	4	98
>55	24	0	17
>60	1	0	1
>65	0	0	0
>70	0	0	0

H30-HH-X, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	157	4	117
>50	122	3	92
>100	70	1	51
>200	43	0	29
>500	0	0	0

H30-HH-X, Summer average night-time N60

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Contour	Schools	Hospitals	Places of Worship
>25	220	3	126
>50	11	0	8
>100	0	0	0

H40-HH-X, Summer average 16-hour daytime LAeq,16h

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Contour	Schools	Hospitals	Places of Worship
>54	465	9	282
>54 >57	163	4	120
>60	80	2	52
>63	23	0	15
>66	4	0	4
>69 >72	2	0	1
>72	0	0	0

H40-HH-X, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	293	6	186
>51	116	3	78
>54	52	0	33
>57	8	0	9
>60	1	0	2
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H40-HH-X, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	544	14	340
>60	130	3	96
>65	21	0	13
>70	2	0	1
>75	0	0	0

H40-HH-X, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	147	4	103
>55	24	0	17
>60	1	0	2
>65	0	0	0
>70	0	0	0

H40-HH-X. Summer average daytime N70

H40-HH-A, Sulliller average daytille N70					
Contour	Schools	Hospitals	Places of Worship		
>20	156	4	114		
>50	123	3	92		
>100	71	1	50		
>200	46	0	29		
>500	0	0	0		

H40-HH-X, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship		
>25	315	4	184		
>50	40	1	32		
>100	0	0	0		

H50-HH-X, Summer average 16-hour daytime LAeq,16h

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Contour	Schools	Hospitals	Places of Worship
>54 >57	427	8	267
>57	161	4	116
>60	78	2	50
>63	23	0	15
>66	4	0	4
>69 >72	2	0	1
>72	0	0	0

H50-HH-X, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	325	6	200
>51	114	3	77
>51 >54 >57	55	0	33
>57	7	0	9
>60	1	0	2
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H50-HH-X, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	539	13	330
>60	130	4	95
>65	22	0	15
>70	2	0	1
>75	0	0	0

H50-HH-X, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	151	5	104
>55	26	0	19
>60	1	0	2
>65	0	0	0
>70	0	0	0

H50-HH-X, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	144	4	102
>50	116	3	87
>100	79	1	58
>200	48	0	30
>500	0	0	0

H50-HH-X, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	317	4	185
>50	36	1	32
>100	0	0	0

H30-HH-R, Summer average 16-hour daytime LAeq,16h

			17
Contour	Schools	Hospitals	Places of Worship
>54 >57	454	9	281
	168	5	119
>60 >63	78	1	50
>63	21	0	14
>66	5	0	5
>66 >69 >72	2	0	1
>72	0	0	0

H30-HH-R, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	230	4	151
>51	103	2	68
>54	38	0	26
>57	7	0	8
>60	1	0	1
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H30-HH-R, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	519	12	318
>60	122	2	88
>65	22	0	14
>70	2	0	1
>75	0	0	0

H30-HH-R, Annual average Lnight

Contour	Schools	Hospitals	Places of Worship
>50	134	4	95
>55	22	0	16
>60	1	0	1
>65	0	0	0
>70	0	0	0

H30-HH-R. Summer average daytime N70

1130-1111-it, Summer average daytime 1470				
Contour	Schools	Hospitals	Places of Worship	
>20	137	4	98	
>50	98	2	66	
>100	55	0	38	
>200	14	0	7	
>500	0	0	0	

H30-HH-R, Summer average night-time N60

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Contour	Schools	Hospitals	Places of Worship	
>25	209	3	115	
>50	11	0	8	
>100	0	0	0	

H30-HH-O, Summer average 16-hour daytime LAeq,16h

			ľ
Contour	Schools	Hospitals	Places of Worship
>54	290	6	197
>54 >57	132	3	98
>60 >63	74	0	48
>63	23	0	16
>66	5	0	4
>66 >69 >72	2	0	1
>72	0	0	0

H30-HH-O, Summer average 8-hour night-time LAeq,8h

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Contour	Schools	Hospitals	Places of Worship
>48	146	2	102
>51	82	1	53
>54 >57	35	0	22
	6	0	8
>60	1	0	1
>63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H30-HH-O, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	353	7	224
>60	108	1	81
>65	21	0	14
>70	2	0	1
>75	0	0	0

H30-HH-O, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	165	4	120
>50	111	2	86
>100	70	0	55
>200	43	0	25
>500	0	0	0

H30-HH-O, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	92	1	53
>50	7	0	7
>100	0	0	0

H40-HH-O, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	290	5	186
>54 >57	134	3	99
>60	73	0	46
>63	23	0	15
>66	4	0	4
>63 >66 >66 >69 >72	2	0	1
>72	0	0	0

H40-HH-O, Summer average 8-hour night-time LAeq,8h

Contour	Schools	Hospitals	Places of Worship
>48	158	3	116
>51	86	1	56
>54	42	0	25
>51 >54 >57	9	0	9
>60	1	0	1
>63	0	0	0
>66	0	0	0
>66 >69	0	0	0
>72	0	0	0

H40-HH-O, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	364	7	228
>60	108	1	82
>65	21	0	13
>70	2	0	1
>75	0	0	0

H40-HH-O, Summer average daytime N70

Contour	Schools	Hospitals	Places of Worship
>20	163	4	116
>50	112	3	89
>100	71	0	52
>200	46	0	25
>500	0	0	0

H40-HH-O, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	142	4	89
>50	29	0	18
>100	0	0	0

H50-HH-O, Summer average 16-hour daytime LAeq,16h

Contour	Schools	Hospitals	Places of Worship
>54	257	5	176
>57	131	3	95
>60 >63	72	0	44
>63	23	0	15
>66	4	0	4
>66 >69 >72	2	0	1
>72	0	0	0

H50-HH-O, Summer average 8-hour night-time LAeq,8h

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Contour	Schools	Hospitals	Places of Worship
>48	161	4	116
>51	83	1	56
>54 >57	43	0	28
>57	7	0	9
>60	1	0	1
>60 >63	0	0	0
>66	0	0	0
>69	0	0	0
>72	0	0	0

H50-HH-O, Annual average Lden

Contour	Schools	Hospitals	Places of Worship
>55	345	7	218
>60	106	1	81
>65	21	0	14
>70	2	0	1
>75	0	0	0

H50-HH-O, Summer average daytime N70

		,	
Contour	Schools	Hospitals	Places of Worship
>20	149	4	103
>50	111	3	84
>100	75	0	54
>200	48	0	25
>500	0	0	0

H50-HH-O, Summer average night-time N60

Contour	Schools	Hospitals	Places of Worship
>25	138	3	84
>50	24	0	18
>100	0	0	0

# C. NEWLY AFFECTED PEOPLE

## **Gatwick Airport**

- C1. Gatwick Airport, criterion Leq16h>57dB
- C2. Gatwick Airport, criterion Lden>55dB

# **Heathrow Airport**

- C3. Heathrow Airport, criterion Leq16h>57dB
- C4. Heathrow Airport, criterion Lden>55dB

# C1. Gatwick Airport, criterion Leq16h>57dB

Baseline scenario	Proposal scenario	Criterion	Newly affected people	removed	Net newly affected
G13-1R	G30-2R	Leq16h>57dB	3,600	2,400	+1,300
G13-1R	G40-2R	Leq16h>57dB	3,800	2,300	+1,500
G13-1R	G50-2R	Leq16h>57dB	5,600	2,000	+3,500
G30-1R	G30-2R	Leq16h>57dB	3,800	1,000	+2,700
G40-1R	G40-2R	Leq16h>57dB	4,000	900	+3,100
G50-1R	G50-2R	Leq16h>57dB	5,800	1,200	+4,600

# C2. Gatwick Airport, criterion Lden>55dB

Baseline scenario	Proposal scenario	Criterion	Newly affected people	removed	Net newly affected
G11-1R	G30-2R	Lden>55dB	15,900	5,300	+10,600
G11-1R	G40-2R	Lden>55dB	15,100	5,500	+9,600
G11-1R	G50-2R	Lden>55dB	17,400	4,800	+12,600
G30-1R	G30-2R	Lden>55dB	16,400	3,700	+12,700
G40-1R	G40-2R	Lden>55dB	15,800	3,400	+12,400
G50-1R	G50-2R	Lden>55dB	18,200	2,700	+15,500

# C3. Heathrow Airport, criterion Leq16h>57dB

Baseline	Duamasal		Newly	Newly	Not socialis
scenario	Proposal scenario	Criterion	affected	removed	Net newly affected
scenario	scenario		people	people	arrected
H13-2R	H30-3R-N	Leq16h>57dB	26,800	76,500	-49,700
H13-2R	H30-3R-R	Leq16h>57dB	29,500	91,400	-61,900
H13-2R	H30-3R-T	Leq16h>57dB	40,500	98,500	-58,000
H13-2R	H30-HH-O	Leq16h>57dB	43,997	82,736	-38,739
H13-2R	H30-HH-R	Leq16h>57dB	29,500	42,100	-12,600
H13-2R	Н30-НН-Х	Leq16h>57dB	37,200	42,000	-4,800
H13-2R	H40-3R-N	Leq16h>57dB	25,500	73,400	-47,900
H13-2R	H40-3R-R	Leq16h>57dB	30,000	92,600	-62,600
H13-2R	H40-3R-T	Leq16h>57dB	44,900	99,600	-54,700
H13-2R	H40-HH-O	Leq16h>57dB	44,838	86,819	-41,981
H13-2R	H40-HH-X	Leq16h>57dB	38,100	46,200	-8,100
H13-2R	H50-3R-N	Leq16h>57dB	23,700	75,300	-51,500
H13-2R	H50-3R-R	Leq16h>57dB	28,400	97,400	-69,000
H13-2R	H50-3R-T	Leq16h>57dB	43,500	103,700	-60,200
H13-2R	H50-HH-O	Leq16h>57dB	41,379	92,429	-51,050
H13-2R	H50-HH-X	Leq16h>57dB	35,300	52,000	-16,700
H30-2R	H30-3R-N	Leq16h>57dB	45,400	18,000	+27,400
H30-2R	H30-3R-R	Leq16h>57dB	52,400	39,400	+13,000
H30-2R	H30-3R-T	Leq16h>57dB	57,700	41,600	+16,000
H30-2R	H30-HH-O	Leq16h>57dB	72,771	35,483	+37,288
H30-2R	H30-HH-R	Leq16h>57dB	73,400	4,500	+68,900
H30-2R	Н30-НН-Х	Leq16h>57dB	81,400	4,300	+77,100
H40-2R	H40-3R-N	Leq16h>57dB	51,600	9,600	+42,000
H40-2R	H40-3R-R	Leq16h>57dB	56,600	33,100	+23,500
H40-2R	H40-3R-T	Leq16h>57dB	65,800	35,300	+30,500
H40-2R	H40-HH-O	Leq16h>57dB	75,989	30,799	+45,190
H40-2R	H40-HH-X	Leq16h>57dB	89,400	2,900	+86,500
H50-2R	H50-3R-N	Leq16h>57dB	52,200	6,400	+45,800
H50-2R	H50-3R-R	Leq16h>57dB	55,400	32,400	+23,100
H50-2R	H50-3R-T	Leq16h>57dB	66,100	35,300	+30,800
H50-2R	H50-HH-O	Leq16h>57dB	72,974	31,127	+41,847
H50-2R	H50-HH-X	Leq16h>57dB	87,200	2,100	+85,100

# C4. Heathrow Airport, criterion Lden>55dB

Baseline	Proposal		Newly	Newly	Net newly
scenario	scenario	Criterion	affected	removed	affected
1144 25	1120 2B N	1.155.10	people	people	400,000
H11-2R	H30-3R-N	Lden>55dB	94,400	280,400	-186,000
H11-2R	H30-3R-R	Lden>55dB	115,700	453,600	-337,900
H11-2R	H30-3R-T	Lden>55dB	211,200	467,400	-256,200
H11-2R	H30-HH-O	Lden>55dB	181,679	441,521	-259,842
H11-2R	Н30-НН-Х	Lden>55dB	86,700	126,400	-39,700
H11-2R	H40-3R-N	Lden>55dB	103,800	257,200	-153,400
H11-2R	H40-3R-R	Lden>55dB	127,200	449,400	-322,200
H11-2R	H40-3R-T	Lden>55dB	256,800	467,200	-210,400
H11-2R	H40-HH-O	Lden>55dB	208,491	443,045	-234,554
H11-2R	H40-HH-X	Lden>55dB	106,200	127,400	-21,200
H11-2R	H50-3R-N	Lden>55dB	98,900	247,100	-148,200
H11-2R	H50-3R-R	Lden>55dB	121,400	452,500	-331,100
H11-2R	H50-3R-T	Lden>55dB	277,100	475,900	-198,800
H11-2R	H50-HH-O	Lden>55dB	195,145	465,337	-270,192
H11-2R	Н50-НН-Х	Lden>55dB	106,600	149,000	-42,400
H30-2R	H30-3R-N	Lden>55dB	123,300	61,200	+62,100
H30-2R	H30-3R-R	Lden>55dB	133,400	235,500	-102,100
H30-2R	H30-3R-T	Lden>55dB	239,500	262,800	-23,300
H30-2R	H30-HH-O	Lden>55dB	216,652	238,511	-21,859
H30-2R	H30-HH-R	Lden>55dB	218,900	18,300	+200,600
H30-2R	Н30-НН-Х	Lden>55dB	245,400	18,000	+227,400
H40-2R	H40-3R-N	Lden>55dB	146,700	31,900	+114,800
H40-2R	H40-3R-R	Lden>55dB	154,000	229,600	-75,600
H40-2R	H40-3R-T	Lden>55dB	292,400	260,800	+31,600
H40-2R	H40-HH-O	Lden>55dB	256,394	243,070	+13,324
H40-2R	Н40-НН-Х	Lden>55dB	281,200	11,300	+269,900
H50-2R	H50-3R-N	Lden>55dB	157,900	14,100	+143,800
H50-2R	H50-3R-R	Lden>55dB	160,400	229,600	-69,200
H50-2R	H50-3R-T	Lden>55dB	320,700	264,200	+56,500
H50-2R	H50-HH-O	Lden>55dB	243,009	254,461	-11,452
H50-2R	Н50-НН-Х	Lden>55dB	278,300	8,000	+270,300

## D. Monetisarion

## **Gatwick Airport**

- **D1.** G-2R-X: Gatwick do-something, GAL compared to G-1R: Gatwick do-minimum
- **D2.** G-2R-X-NCT: Gatwick do-something, GAL, Need Carbon Traded compared to G-1R-NCT: Gatwick dominimum, Need Carbon Traded
- D3. G-2R-X-QC: Gatwick do-something, GAL No core night operations compared to G-1R: Gatwick dominimum
- **D4.** G-2R-X-QC: Gatwick do-something, GAL No core night operations compared to G-2R-X: Gatwick do-something, GAL

## **Heathrow Airport**

- **D5.** H-3R-N: Heathrow do-something, HAL Minimise newly affected compared to H-2R: Heathrow dominimum
- D6. H-3R-R: Heathrow do-something, HAL Respite compared to H-2R: Heathrow do-minimum
- D7. H-3R-T: Heathrow do-something, HAL Minimise total affected compared to H-2R: Heathrow dominimum
- D8. H-3R-T-NCT: Heathrow do-something, HAL Need Carbon Traded compared to H-2R-NCT: Heathrow do-minimum, Need Carbon Traded
- **D9.** H-3R-T-QC: Heathrow do-something, HAL Minimise total affected No core night operations compared to H-2R: Heathrow do-minimum
- D10. H-3R-T-QC: Heathrow do-something, HAL Minimise total affected No core night operations compared to H-3R-T: Heathrow do-something, HAL Minimise total affected
- **D11.** H-HH-X: Heathrow do-something, Hub compared to H-2R: Heathrow do-minimum
- D12. H-HH-O: Heathrow Hub offset arrivals compared to H-2R: Heathrow do-minimum
- D13. H-HH-X-NCT: Heathrow do-something, Hub Need Carbon Traded compared to H-2R-NCT: Heathrow do-minimum, Need Carbon Traded
- D14. H-HH-O-NCT: Heathrow Hub offset arrivals Need Carbon Traded compared to H-2R-NCT: Heathrow do-minimum, Need Carbon Traded
- D15. H-HH-R: Heathrow do-something, Hub Respite compared to H-2R: Heathrow do-minimum
- D16. H-HH-X-QC: Heathrow do-something, Hub No core night operations compared to H-2R: Heathrow do-minimum
- **D17.** H-HH-X-QC: Heathrow do-something, Hub No core night operations compared to H-HH-X: Heathrow do-something, Hub
- **D18.** Night Flights Monetisation Analysis

## D1. G-2R-X: Gatwick do-something, GAL compared to G-1R: Gatwick do-minimum

Scheme details

Monetisation description: 60-year aggregation for Gatwick (opening year 2025)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 G30-2R-X
 G40-2R-X
 G50-2R-X

 Comparison
 G30-1R
 G40-1R
 G50-1R

Constants:

Proposal opening year: 2025
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

50

Hypertension, baseline level, Leq

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	High	
Annoyance		£2.2	£4.5	£26.8 Annoyance		£2.9	£5.8	£34.8 Annoyance		£4.0	£8.1	£48.6
Sleep disturbance		£2.7	£4.8	£6.9 Sleep disturbance		£1.9	£3.3	£4.8 Sleep disturbance		£2.4	£4.3	£6.1
AMI		£1.0	£1.0	£1.0 AMI		£1.0	£1.0	£1.0 AMI		£2.0	£2.0	£2.0
HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1
HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.2	£0.2	£0.2
Total		£6.1	£10.4	£34.8 Total		£6.0	£10.3	£40.8 Total		£8.8	£14.7	£57.0

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	
Annoyance		£1.9	£3.8	£22.7 Annoyance		£2.3	£4.6	£27.9 Annoyance		£3.3	£6.6	£39.6
Sleep disturbance		£2.1	£3.8	£5.4 Sleep disturbance		£1.2	£2.0	£2.9 Sleep disturbance		£1.4	£2.4	£3.5
AMI		£1.0	£1.0	£1.0 AMI		£1.0	£1.0	£1.0 AMI		£2.0	£2.0	£2.0
HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1
HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.2	£0.2	£0.2
Total		£5.1	£8.6	£29.2 Total		£4.7	£7.8	£32.0 Total		£7.0	£11.3	£45.4

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.24	£0.40	£1.5
Sensitivity		£0.19	£0.31	£1.2

#### D2. G-2R-X-NCT: Gatwick do-something, GAL, Need Carbon Traded compared to G-1R-NCT: Gatwick do-minimum, Need Carbon Traded

Scheme details

Monetisation description: 60-year aggregation for Gatwick (opening year 2025)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 G30\_2R\_NCT
 G40\_2R\_NCT
 G50\_2R\_NCT

 Comparison
 G30\_1R\_NCT
 G40\_1R\_NCT
 G50\_1R\_NCT

Constants:

Proposal opening year: 2025
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	High	
Annoyance		£2.8	£5.7	£34.0 Annoyance		£3.7	£7.5	£44.8 Annoyance		£4.1	£8.2	£49.1
Sleep disturbance		£2.0	£3.5	£5.0 Sleep disturbance		£1.8	£3.1	£4.4 Sleep disturbance		£2.2	£3.8	£5.4
AMI		£1.2	£1.2	£1.2 AMI		£1.5	£1.5	£1.5 AMI		£2.0	£2.0	£2.0
HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1
HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.2	£0.2	£0.2
Total		£6.2	£10.6	£40.4 Total		£7.2	£12.3	£50.9 Total		£8.6	£14.3	£56.8

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	
Annoyance		£2.3	£4.6	£27.6 Annoyance		£2.9	£5.8	£34.9 Annoyance		£3.1	£6.3	£37.8
Sleep disturbance		£1.7	£3.0	£4.3 Sleep disturbance		£1.4	£2.5	£3.5 Sleep disturbance		£1.6	£2.8	£4.0
AMI		£1.2	£1.2	£1.2 AMI		£1.5	£1.5	£1.5 AMI		£2.0	£2.0	£2.0
HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1 HT Strokes		£0.1	£0.1	£0.1
HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.1	£0.1	£0.1 HT Dementia		£0.2	£0.2	£0.2
Total		£5.4	£9.0	£33.3 Total		£6.0	£10.0	£40.1 Total		£7.1	£11.4	£44.1

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.24	£0.40	£1.6
Sensitivity		£0.20	£0.33	£1.3

## D3. G-2R-X-QC: Gatwick do-something, GAL - No core night operations compared to G-1R: Gatwick do-minimum

Scheme details

Monetisation description: 60-year aggregation for Gatwick (opening year 2025)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 G30-2R-X-QC
 G40-2R-X-QC
 G50-2R-X-QC

 Comparison
 G30-1R
 G40-1R
 G50-1R

Costs (£millions/assessment year)

Cons	tar	ıts
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Proposal opening year: 2025
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	High	
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		£0.9	£1.6	£2.3 Sleep disturbance		£0.3	£0.4	£0.6 Sleep disturbance		£0.8	£1.4	£2.0
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		£0.9	£1.6	£2.3 Total		£0.3	£0.4	£0.6 Total		£0.8	£1.4	£2.0

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		£0.4	£0.7	£1.0 Sleep disturbance		-£0.5	-£0.9	-£1.3 Sleep disturbance		-£0.3	-£0.5	-£0.7
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		£0.4	£0.7	£1.0 Total		-£0.5	-£0.9	-£1.3 Total		-£0.3	-£0.5	-£0.7

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.02	£0.04	£0.1
Sensitivity		-£0.01	-£0.01	-£0.02

## D4. G-2R-X-QC: Gatwick do-something, GAL - No core night operations compared to G-2R-X: Gatwick do-something, GAL

Scheme details

Monetisation description: 60-year aggregation for Gatwick (opening year 2025)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 G30-2R-X-QC
 G40-2R-X-QC
 G50-2R-X-QC

 Comparison
 G30-2R-X
 G40-2R-X
 G50-2R-X

Constants:

Proposal opening year: 2025
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	High	
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		-£1.8	-£3.2	-£4.5 Sleep disturbance		-£1.7	-£2.9	-£4.1 Sleep disturbance		-£1.7	-£2.9	-£4.2
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		-£1.8	-£3.2	-£4.5 Total		-£1.7	-£2.9	-£4.1 Total		-£1.7	-£2.9	-£4.2

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		-£1.7	-£3.0	-£4.3 Sleep disturbance		-£1.7	-£2.9	-£4.2 Sleep disturbance		-£1.7	-£2.9	-£4.2
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		-£1.7	-£3.0	-£4.3 Total		-£1.7	-£2.9	-£4.2 Total		-£1.7	-£2.9	-£4.2

Costs (£billion/60-years)	Low	Mid	High	
Base		-£0.05	-£0.09	-£0.1
Sensitivity		-£0.05	-£0.09	-£0.13

## D5. H-3R-N: Heathrow do-something, HAL - Minimise newly affected compared to H-2R: Heathrow do-minimum

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-3R-N
 H40-3R-N
 H50-3R-N

 Comparison
 H30-2R
 H40-2R
 H50-2R

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1 Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	,h
Annoyance		£25.2	£50.5	£302.8 Annoyance		£35.8	£71.7	£430.2 Annoyance		£40.9	£81.9	£491.1
Sleep disturbance		£23.0	£40.2	£57.4 Sleep disturbance		£26.5	£46.4	£66.3 Sleep disturbance		£10.0	£17.6	£25.1
AMI		£9.8	£9.8	£9.8 AMI		£18.2	£18.2	£18.2 AMI		£18.5	£18.5	£18.5
HT Strokes		£0.7	£0.7	£0.7 HT Strokes		£1.3	£1.3	£1.3 HT Strokes		£1.3	£1.3	£1.3
HT Dementia		£1.1	£1.1	£1.1 HT Dementia		£1.9	£1.9	£1.9 HT Dementia		£2.0	£2.0	£2.0
Total		£59.8	£102.3	£371.9 Total		£83.7	£139.4	£517.8 Total		£72.8	£121.2	£538.0

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£24.5	£48.9	£293.5 Annoyance		£33.5	£67.1	£402.5 Annoyance		£38.2	£76.4	£458.5
Sleep disturbance		£9.1	£15.9	£22.7 Sleep disturbance		£10.0	£17.5	£24.9 Sleep disturbance		-£1.7	-£3.0	-£4.3
AMI		£9.8	£9.8	£9.8 AMI		£18.2	£18.2	£18.2 AMI		£18.5	£18.5	£18.5
HT Strokes		£0.7	£0.7	£0.7 HT Strokes		£1.3	£1.3	£1.3 HT Strokes		£1.3	£1.3	£1.3
HT Dementia		£1.1	£1.1	£1.1 HT Dementia		£1.9	£1.9	£1.9 HT Dementia		£2.0	£2.0	£2.0
Total		£45.1	£76.4	£327.8 Total		£64.8	£105.9	£448.8 Total		£58.3	£95.2	£476.0

Costs (£billion/60-years)	Low	Mid	High	
Base		£2.23	£3.73	£15.5
Sensitivity		£1.76	£2.89	£13.64

## D6. H-3R-R: Heathrow do-something, HAL - Respite compared to H-2R: Heathrow do-minimum

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-3R-R
 H40-3R-R
 H50-3R-R

 Comparison
 H30-2R
 H40-2R
 H50-2R

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	,h
Annoyance		£14.3	£28.6	£171.4 Annoyance		£24.2	£48.4	£290.3 Annoyance		£26.5	£53.0	£318.1
Sleep disturbance		-£16.8	-£29.4	-£42.1 Sleep disturbance		-£28.4	-£49.8	-£71.1 Sleep disturbance		-£45.4	-£79.4	-£113.5
AMI		£3.6	£3.6	£3.6 AMI		£9.5	£9.5	£9.5 AMI		£7.7	£7.7	£7.7
HT Strokes		£0.4	£0.4	£0.4 HT Strokes		£0.9	£0.9	£0.9 HT Strokes		£0.8	£0.8	£0.8
HT Dementia		£0.7	£0.7	£0.7 HT Dementia		£1.3	£1.3	£1.3 HT Dementia		£1.2	£1.2	£1.2
Total		£2.1	£3.8	£134.0 Total		£7.4	£10.3	£230.9 Total		-£9.3	-£16.8	£214.2

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Higl	n
Annoyance		-£4.1	-£8.2	-£49.4 Annoyance		£3.2	£6.4	£38.2 Annoyance		£5.1	£10.1	£60.7
Sleep disturbance		£0.7	£1.1	£1.6 Sleep disturbance		-£5.4	-£9.5	-£13.6 Sleep disturbance		-£16.9	-£29.5	-£42.2
AMI		£3.6	£3.6	£3.6 AMI		£9.5	£9.5	£9.5 AMI		£7.7	£7.7	£7.7
HT Strokes		£0.4	£0.4	£0.4 HT Strokes		£0.9	£0.9	£0.9 HT Strokes		£0.8	£0.8	£0.8
HT Dementia		£0.7	£0.7	£0.7 HT Dementia		£1.3	£1.3	£1.3 HT Dementia		£1.2	£1.2	£1.2
Total		£1.2	-£2.4	-£43.1 Total		£9.4	£8.5	£36.2 Total		-£2.2	-£9.8	£28.1

Costs (£billion/60-years)	Low	Mid	High	
Base		-£0.12	-£0.24	£6.3
Sensitivity		£0.02	-£0.15	£0.55

## D7. H-3R-T: Heathrow do-something, HAL - Minimise total affected compared to H-2R: Heathrow do-minimum

#### Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Linear interpolation between assessment years. Zero cost in opening year Assumptions:

Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance Any sensitivity testing:

Scenarios: 2030 2040 2050 Proposal H30-3R-T H40-3R-T H50-3R-T H30-2R H40-2R H50-2R Comparison

#### Costs (£millions/assessment year)

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Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	h
	£15.6	£31.2	£187.4 Annoyance		£25.7	£51.4	£308.6 Annoyance		£29.9	£59.9	£359.3
	£5.5	£9.6	£13.8 Sleep disturbance		£2.0	£3.4	£4.9 Sleep disturbance		-£14.6	-£25.6	-£36.6
	£5.5	£5.5	£5.5 AMI		£10.5	£10.5	£10.5 AMI		£9.4	£9.4	£9.4
	£0.5	£0.5	£0.5 HT Strokes		£0.9	£0.9	£0.9 HT Strokes		£0.8	£0.8	£0.8
	£0.7	£0.7	£0.7 HT Dementia		£1.3	£1.3	£1.3 HT Dementia		£1.2	£1.2	£1.2
	£27.7	£47.5	£207.8 Total		£40.4	£67.6	£326.2 Total		£26.8	£45.8	£334.3
		Low Mid £15.6 £5.5 £5.5 £0.5 £0.7	Low Mid High  £15.6 £31.2  £5.5 £9.6  £5.5 £5.5  £0.5 £0.5  £0.7 £0.7	Low Mid High Base_2040  £15.6 £31.2 £187.4 Annoyance £5.5 £9.6 £13.8 Sleep disturbance £5.5 £5.5 £5.5 AMI £0.5 £0.5 £0.5 HT Strokes £0.7 £0.7 £0.7 HT Dementia	Low         Mid         High         Base_2040         Low           £15.6         £31.2         £187.4 Annoyance           £5.5         £9.6         £13.8 Sleep disturbance           £5.5         £5.5         £5.5 AMI           £0.5         £0.5         £0.5 HT Strokes           £0.7         £0.7         £0.7 HT Dementia	Low         Mid         High         Base_2040         Low         Mid           £15.6         £31.2         £187.4 Annoyance         £25.7           £5.5         £9.6         £13.8 Sleep disturbance         £2.0           £5.5         £5.5         £5.5 AMI         £10.5           £0.5         £0.5         £0.5 HT Strokes         £0.9           £0.7         £0.7 HT Dementia         £1.3	Low         Mid         High         Base_2040         Low         Mid         High           £15.6         £31.2         £187.4 Annoyance         £25.7         £51.4           £5.5         £9.6         £13.8 Sleep disturbance         £2.0         £3.4           £5.5         £5.5         £5.5 AMI         £10.5         £10.5           £0.5         £0.5         £0.5 HT Strokes         £0.9         £0.9           £0.7         £0.7         £0.7 HT Dementia         £1.3         £1.3	Low         Mid         High         Base_2040         Low         Mid         High         Base_2050           £15.6         £31.2         £187.4 Annoyance         £25.7         £51.4         £308.6 Annoyance           £5.5         £9.6         £13.8 Sleep disturbance         £2.0         £3.4         £4.9 Sleep disturbance           £5.5         £5.5         £5.5 AMI         £10.5         £10.5         £10.5 AMI           £0.5         £0.5         £0.5 HT Strokes         £0.9         £0.9         £0.9 HT Strokes           £0.7         £0.7         £0.7 HT Dementia         £1.3         £1.3 HT Dementia	Low         Mid         High         Base_2040         Low         Mid         High         Base_2050         Low           £15.6         £31.2         £187.4 Annoyance         £25.7         £51.4         £308.6 Annoyance           £5.5         £9.6         £13.8 Sleep disturbance         £2.0         £3.4         £4.9 Sleep disturbance           £5.5         £5.5         AMI         £10.5         £10.5         £10.5 AMI           £0.5         £0.5         HT Strokes         £0.9         £0.9         £0.9 HT Strokes           £0.7         £0.7         HT Dementia         £1.3         £1.3         £1.3 HT Dementia	Low         Mid         High         Base_2040         Low         Mid         High         Base_2050         Low         Mid           £15.6         £31.2         £187.4 Annoyance         £25.7         £51.4         £308.6 Annoyance         £29.9           £5.5         £9.6         £13.8 Sleep disturbance         £2.0         £3.4         £4.9 Sleep disturbance         -£14.6           £5.5         £5.5         £5.5 AMI         £10.5         £10.5 AMI         £9.4           £0.5         £0.5         £0.5 HT Strokes         £0.9         £0.9 HT Strokes         £0.8           £0.7         £0.7         £0.7 HT Dementia         £1.3         £1.3 HT Dementia         £1.2	Low         Mid         High         Base_2040         Low         Mid         High         Base_2050         Low         Mid         High           £15.6         £31.2         £187.4         Annoyance         £25.7         £51.4         £308.6         Annoyance         £29.9         £59.9           £5.5         £9.6         £13.8         Sleep disturbance         £2.0         £3.4         £4.9         Sleep disturbance         -£14.6         -£25.6           £5.5         £5.5         £5.5         AMI         £10.5         £10.5         AMI         £9.4         £9.4           £0.5         £0.5         £0.5         HT Strokes         £0.9         £0.9         £0.9         HT Strokes         £0.8         £0.8           £0.7         £0.7         £0.7         HT Dementia         £1.3         £1.3         £1.3         £1.3         HT Dementia         £1.2         £1.2

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	ı
Annoyance		£5.3	£10.6	£63.8 Annoyance		£13.9	£27.9	£167.3 Annoyance		£17.7	£35.3	£212.0
Sleep disturbance		-£0.4	-£0.7	-£1.0 Sleep disturbance		-£5.5	-£9.5	-£13.6 Sleep disturbance		-£17.1	-£30.0	-£42.9
AMI		£5.5	£5.5	£5.5 AMI		£10.5	£10.5	£10.5 AMI		£9.4	£9.4	£9.4
HT Strokes		£0.5	£0.5	£0.5 HT Strokes		£0.9	£0.9	£0.9 HT Strokes		£0.8	£0.8	£0.8
HT Dementia		£0.7	£0.7	£0.7 HT Dementia		£1.3	£1.3	£1.3 HT Dementia		£1.2	£1.2	£1.2
Total		£11.5	£16.5	£69.4 Total		£21.2	£31.0	£166.4 Total		£12.0	£16.8	£180.6

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.91	£1.55	£9.5
Sensitivity		£0.42	£0.60	£4.88

#### Constants:

Proposal opening year:	2026		
Current appraisal year:	2014		
DALY value	68851		
Annoyance, LAeq16h to Lden correction	1.6		
Annoyance, Disability Weighting (L,M,H)	0.01	0.02	0.12
Sleep Disturbance, Disability Weighting (L,M,	H) 0.04	0.07	0.1

Hypertension, baseline level, Leg	50
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pertension,	baseline	level, Le	eq				50	

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#### D8. H-3R-T-NCT: Heathrow do-something, HAL - Need Carbon Traded compared to H-2R-NCT: Heathrow do-minimum, Need Carbon Traded

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Linear interpolation between assessment years. Zero cost in opening year Assumptions:

Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance Any sensitivity testing:

Scenarios: 2030 2040 2050

Proposal H30-3R-T-NCT H40-3R-T-NCT H50-3R-T-NCT H30-2R-NCT H40-2R-NCT H50-2R-NCT Comparison

#### Constants:

2026 Proposal opening year: Current appraisal year: 2014 DALY value 68851 Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	h
Annoyance		£30.4	£60.7	£364.5 Annoyance		£34.7	£69.4	£416.7 Annoyance		£17.8	£35.6	£213.7
Sleep disturbance		-£19.8	-£34.7	-£49.5 Sleep disturbance		-£1.3	-£2.2	-£3.2 Sleep disturbance		-£15.1	-£26.3	-£37.6
AMI		£9.3	£9.3	£9.3 AMI		£12.7	£12.7	£12.7 AMI		£6.2	£6.2	£6.2
HT Strokes		£0.8	£0.8	£0.8 HT Strokes		£1.0	£1.0	£1.0 HT Strokes		£0.6	£0.6	£0.6
HT Dementia		£1.2	£1.2	£1.2 HT Dementia		£1.5	£1.5	£1.5 HT Dementia		£0.9	£0.9	£0.9
Total		£21.7	£37.2	£326.1 Total		£48.6	£82.4	£428.7 Total		£10.4	£16.9	£183.8

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	1
Annoyance		£15.0	£29.9	£179.6 Annoyance		£18.8	£37.6	£225.3 Annoyance		£6.4	£12.8	£76.8
Sleep disturbance		-£20.6	-£36.0	-£51.5 Sleep disturbance		-£6.9	-£12.1	-£17.3 Sleep disturbance		-£13.1	-£22.9	-£32.7
AMI		£9.3	£9.3	£9.3 AMI		£12.7	£12.7	£12.7 AMI		£6.2	£6.2	£6.2
HT Strokes		£0.8	£0.8	£0.8 HT Strokes		£1.0	£1.0	£1.0 HT Strokes		£0.6	£0.6	£0.6
HT Dementia		£1.2	£1.2	£1.2 HT Dementia		£1.5	£1.5	£1.5 HT Dementia		£0.9	£0.9	£0.9
Total		£5.6	£5.1	£139.3 Total		£27.0	£40.6	£223.2 Total		£1.0	-£2.4	£51.8

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.62	£1.04	£7.9
Sensitivity		£0.22	£0.24	£3.12

#### D9. H-3R-T-QC: Heathrow do-something, HAL - Minimise total affected - No core night operations compared to H-2R: Heathrow do-minimum

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-3R-T-QC
 H40-3R-T-QC
 H50-3R-T-QC

 Comparison
 H30-2R
 H40-2R
 H50-2R

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	ţh
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		-£21.2	-£37.1	-£53.0 Sleep disturbance		-£20.5	-£35.9	-£51.3 Sleep disturbance		-£42.4	-£74.1	-£105.9
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		-£21.2	-£37.1	-£53.0 Total		-£20.5	-£35.9	-£51.3 Total		-£42.4	-£74.1	-£105.9

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		-£10.0	-£17.4	-£24.9 Sleep disturbance		-£16.8	-£29.3	-£41.9 Sleep disturbance		-£28.7	-£50.2	-£71.7
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		-£10.0	-£17.4	-£24.9 Total		-£16.8	-£29.3	-£41.9 Total		-£28.7	-£50.2	-£71.7

Costs (£billion/60-years)	Low	Mid	d High		
Base		-£1.05	-£1.84	-£2.6	
Sensitivity		-£0.71	-£1.24	-£1.77	

#### D10. H-3R-T-QC: Heathrow do-something, HAL - Minimise total affected - No core night operations compared to H-3R-T: Heathrow do-something, HAL - Minimise total affected

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-3R-T-QC
 H40-3R-T-QC
 H50-3R-T-QC

 Comparison
 H30-3R-T
 H40-3R-T
 H50-3R-T

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6
Annoyance, Disability Weighting (L,M,H) 0.01
Sleep Disturbance, Disability Weighting (L,M,H) 0.04

0.02

0.07

0.12

0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	l High	Base_2040	Low	Mi	id H	igh Base_2050	Low	Mid	Hig	h
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance	-	£26.7	-£46.8	-£66.8 Sleep disturbance		-£22.5	-£39.3	-£56.2 Sleep disturbance		-£27.7	-£48.5	-£69.3
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total	-	£26.7	-£46.8	-£66.8 Total		-£22.5	-£39.3	-£56.2 Total		-£27.7	-£48.5	-£69.3

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	1
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		-£9.6	-£16.7	-£23.9 Sleep disturbance		-£11.3	-£19.8	-£28.3 Sleep disturbance		-£11.5	-£20.2	-£28.8
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		-£9.6	-£16.7	-£23.9 Total		-£11.3	-£19.8	-£28.3 Total		-£11.5	-£20.2	-£28.8

Costs (£billion/60-years)	Low	Mid	High	
Base		-£0.81	-£1.42	-£2.0
Sensitivity		-£0.34	-£0.60	-£0.85

#### D11. H-HH-X: Heathrow do-something, Hub compared to H-2R: Heathrow do-minimum

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-HH-X
 H40-HH-X
 H50-HH-X

 Comparison
 H30-2R
 H40-2R
 H50-2R

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

50

Hypertension, baseline level, Leq

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	h
Annoyance		£48.8	£97.6	£585.7 Annoyance		£55.3	£110.7	£664.1 Annoyance		£52.8	£105.7	£634.0
Sleep disturbance		£49.9	£87.4	£124.8 Sleep disturbance		£56.9	£99.6	£142.3 Sleep disturbance		£57.4	£100.4	£143.5
AMI		£30.4	£30.4	£30.4 AMI		£37.5	£37.5	£37.5 AMI		£35.7	£35.7	£35.7
HT Strokes		£2.2	£2.2	£2.2 HT Strokes		£2.7	£2.7	£2.7 HT Strokes		£2.6	£2.6	£2.6
HT Dementia		£3.3	£3.3	£3.3 HT Dementia		£4.0	£4.0	£4.0 HT Dementia		£3.9	£3.9	£3.9
Total		£134.6	£220.9	£746.4 Total		£156.4	£254.4	£850.6 Total		£152.3	£248.2	£819.6

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£44.5	£89.1	£534.4 Annoyance		£50.2	£100.4	£602.6 Annoyance		£48.7	£97.3	£584.0
Sleep disturbance		£28.5	£49.9	£71.2 Sleep disturbance		£31.9	£55.9	£79.8 Sleep disturbance		£31.8	£55.7	£79.6
AMI		£30.4	£30.4	£30.4 AMI		£37.5	£37.5	£37.5 AMI		£35.7	£35.7	£35.7
HT Strokes		£2.2	£2.2	£2.2 HT Strokes		£2.7	£2.7	£2.7 HT Strokes		£2.6	£2.6	£2.6
HT Dementia		£3.3	£3.3	£3.3 HT Dementia		£4.0	£4.0	£4.0 HT Dementia		£3.9	£3.9	£3.9
Total		£108.9	£174.8	£641.5 Total		£126.3	£200.5	£726.6 Total		£122.6	£195.2	£705.7

Costs (£billion/60-years)	Low	Mid	High	
Base		£4.60	£7.49	£24.9
Sensitivity		£3.70	£5.90	£21.39

#### D12. H-HH-O: Heathrow Hub offset arrivals compared to H-2R: Heathrow do-minimum

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-HH-O
 H40-HH-O
 H50-HH-O

 Comparison
 H30-2R
 H40-2R
 H50-2R

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

50

Hypertension, baseline level, Leq

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	h
Annoyance		£22.0	£43.9	£263.6 Annoyance		£27.6	£55.1	£330.6 Annoyance		£23.7	£47.3	£283.9
Sleep disturbance		-£6.9	-£12.0	-£17.2 Sleep disturbance		-£12.5	-£21.8	-£31.2 Sleep disturbance		-£21.1	-£37.0	-£52.8
AMI		£10.5	£10.5	£10.5 AMI		£15.5	£15.5	£15.5 AMI		£12.5	£12.5	£12.5
HT Strokes		£1.2	£1.2	£1.2 HT Strokes		£1.6	£1.6	£1.6 HT Strokes		£1.4	£1.4	£1.4
HT Dementia		£1.8	£1.8	£1.8 HT Dementia		£2.4	£2.4	£2.4 HT Dementia		£2.1	£2.1	£2.1
Total		£28.6	£45.4	£259.9 Total		£34.5	£52.7	£318.9 Total		£18.6	£26.4	£247.1

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£11.7	£23.3	£140.0 Annoyance		£16.0	£32.0	£191.7 Annoyance		£13.1	£26.1	£156.7
Sleep disturbance		£1.9	£3.3	£4.7 Sleep disturbance		-£4.6	-£8.0	-£11.5 Sleep disturbance		-£11.1	-£19.4	-£27.7
AMI		£10.5	£10.5	£10.5 AMI		£15.5	£15.5	£15.5 AMI		£12.5	£12.5	£12.5
HT Strokes		£1.2	£1.2	£1.2 HT Strokes		£1.6	£1.6	£1.6 HT Strokes		£1.4	£1.4	£1.4
HT Dementia		£1.8	£1.8	£1.8 HT Dementia		£2.4	£2.4	£2.4 HT Dementia		£2.1	£2.1	£2.1
Total		£27.1	£40.2	£158.3 Total		£30.8	£43.4	£199.7 Total		£18.0	£22.8	£145.0

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.72	£1.07	£8.1
Sensitivity		£0.68	£0.92	£4.85

#### D13. H-HH-X-NCT: Heathrow do-something, Hub - Need Carbon Traded compared to H-2R-NCT: Heathrow do-minimum, Need Carbon Traded

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-HH-NCT
 H40-HH-NCT
 H50-HH-NCT

 Comparison
 H30-2R-NCT
 H40-2R-NCT
 H50-2R-NCT

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	gh
Annoyance		£58.9	£117.8	£707.0 Annoyance		£53.4	£106.8	£640.6 Annoyance		£51.8	£103.6	£621.6
Sleep disturbance		£51.3	£89.9	£128.4 Sleep disturbance		£71.6	£125.4	£179.1 Sleep disturbance		£71.0	£124.2	£177.5
AMI		£38.9	£38.9	£38.9 AMI		£36.8	£36.8	£36.8 AMI		£36.1	£36.1	£36.1
HT Strokes		£2.7	£2.7	£2.7 HT Strokes		£2.6	£2.6	£2.6 HT Strokes		£2.6	£2.6	£2.6
HT Dementia		£4.1	£4.1	£4.1 HT Dementia		£3.9	£3.9	£3.9 HT Dementia		£3.9	£3.9	£3.9
Total		£156.0	£253.4	£881.1 Total		£168.4	£275.5	£863.1 Total		£165.4	£270.4	£841.7

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£52.1	£104.2	£625.1 Annoyance		£49.1	£98.1	£588.7 Annoyance		£48.2	£96.4	£578.4
Sleep disturbance		£26.6	£46.5	£66.4 Sleep disturbance		£41.2	£72.1	£103.1 Sleep disturbance		£45.9	£80.4	£114.8
AMI		£38.9	£38.9	£38.9 AMI		£36.8	£36.8	£36.8 AMI		£36.1	£36.1	£36.1
HT Strokes		£2.7	£2.7	£2.7 HT Strokes		£2.6	£2.6	£2.6 HT Strokes		£2.6	£2.6	£2.6
HT Dementia		£4.1	£4.1	£4.1 HT Dementia		£3.9	£3.9	£3.9 HT Dementia		£3.9	£3.9	£3.9
Total		£124.4	£196.4	£737.2 Total		£133.7	£213.6	£735.1 Total		£136.7	£219.4	£735.8

Costs (£billion/60-years)	Low	Mid	High	
Base		£5.03	£8.22	£26.1
Sensitivity		£4.10	£6.56	£22.51

#### D14. H-HH-O-NCT: Heathrow Hub offset arrivals - Need Carbon Traded compared to H-2R-NCT: Heathrow do-minimum, Need Carbon Traded

2050

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

Scenarios: 2030 2040

 Proposal
 H30-HH-O-NCT
 H40-HH-O-NCT
 H50-HH-O-NCT

 Comparison
 H30-2R-NCT
 H40-2R-NCT
 H50-2R-NCT

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	h
Annoyance		£30.3	£60.7	£363.9 Annoyance		£25.0	£50.0	£300.2 Annoyance		£22.8	£45.6	£273.4
Sleep disturbance		-£16.9	-£29.5	-£42.2 Sleep disturbance		£0.3	£0.5	£0.7 Sleep disturbance		-£13.7	-£24.0	-£34.3
AMI		£15.8	£15.8	£15.8 AMI		£15.0	£15.0	£15.0 AMI		£13.4	£13.4	£13.4
HT Strokes		£1.6	£1.6	£1.6 HT Strokes		£1.5	£1.5	£1.5 HT Strokes		£1.4	£1.4	£1.4
HT Dementia		£2.4	£2.4	£2.4 HT Dementia		£2.3	£2.3	£2.3 HT Dementia		£2.2	£2.2	£2.2
Total		£33.2	£50.9	£341.5 Total		£44.1	£69.4	£319.8 Total		£26.0	£38.5	£256.1

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£19.2	£38.3	£229.9 Annoyance		£14.6	£29.2	£175.0 Annoyance		£12.9	£25.7	£154.4
Sleep disturbance		-£7.8	-£13.6	-£19.5 Sleep disturbance		£4.9	£8.6	£12.2 Sleep disturbance		-£1.6	-£2.8	-£4.0
AMI		£15.8	£15.8	£15.8 AMI		£15.0	£15.0	£15.0 AMI		£13.4	£13.4	£13.4
HT Strokes		£1.6	£1.6	£1.6 HT Strokes		£1.5	£1.5	£1.5 HT Strokes		£1.4	£1.4	£1.4
HT Dementia		£2.4	£2.4	£2.4 HT Dementia		£2.3	£2.3	£2.3 HT Dementia		£2.2	£2.2	£2.2
Total		£31.1	£44.4	£230.1 Total		£38.3	£56.6	£206.0 Total		£28.2	£39.9	£167.4

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.95	£1.4	£8.7
Sensitivity		£0.94	£1.4	£5.7

#### D15. H-HH-R: Heathrow do-something, Hub - Respite compared to H-2R: Heathrow do-minimum

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-HH-R
 H40-HH-X
 H50-HH-X

 Comparison
 H30-2R
 H40-2R
 H50-2R

Constants:

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

50

Hypertension, baseline level, Leq

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	h
Annoyance		£50.9	£101.8	£610.8 Annoyance		£55.3	£110.7	£664.1 Annoyance		£52.8	£105.7	£634.0
Sleep disturbance		£43.5	£76.1	£108.8 Sleep disturbance		£56.9	£99.6	£142.3 Sleep disturbance		£57.4	£100.4	£143.5
AMI		£26.5	£26.5	£26.5 AMI		£37.5	£37.5	£37.5 AMI		£35.7	£35.7	£35.7
HT Strokes		£2.0	£2.0	£2.0 HT Strokes		£2.7	£2.7	£2.7 HT Strokes		£2.6	£2.6	£2.6
HT Dementia		£2.9	£2.9	£2.9 HT Dementia		£4.0	£4.0	£4.0 HT Dementia		£3.9	£3.9	£3.9
Total		£125.8	£209.3	£750.9 Total		£156.4	£254.4	£850.6 Total		£152.3	£248.2	£819.6

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£44.5	£89.0	£534.2 Annoyance		£50.2	£100.4	£602.6 Annoyance		£48.7	£97.3	£584.0
Sleep disturbance		£23.4	£40.9	£58.4 Sleep disturbance		£31.9	£55.9	£79.8 Sleep disturbance		£31.8	£55.7	£79.6
AMI		£26.5	£26.5	£26.5 AMI		£37.5	£37.5	£37.5 AMI		£35.7	£35.7	£35.7
HT Strokes		£2.0	£2.0	£2.0 HT Strokes		£2.7	£2.7	£2.7 HT Strokes		£2.6	£2.6	£2.6
HT Dementia		£2.9	£2.9	£2.9 HT Dementia		£4.0	£4.0	£4.0 HT Dementia		£3.9	£3.9	£3.9
Total		£99.3	£161.3	£624.0 Total		£126.3	£200.5	£726.6 Total		£122.6	£195.2	£705.7

Costs (£billion/60-years)	Low	Mid	High	
Base		£4.55	£7.43	£24.9
Sensitivity		£3.66	£5.83	£21.30

## D16. H-HH-X-QC: Heathrow do-something, Hub - No core night operations compared to H-2R: Heathrow do-minimum

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Assumptions: Linear interpolation between assessment years. Zero cost in opening year

Any sensitivity testing: Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance

 Scenarios:
 2030
 2040
 2050

 Proposal
 H30-HH-X-QC
 H40-HH-X-QC
 H50-HH-X-QC

Comparison H30-2R H40-2R H50-2R

Proposal opening year: 2026
Current appraisal year: 2014
DALY value 68851
Annoyance, LAeq16h to Lden correction 1.6

Constants:

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	l High	Base_2050	Low	Mid	High	1
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		£14.3	£25.1	£35.8 Sleep disturbance		£21.6	£37.8	£54.0 Sleep disturbance		£17.2	£30.1	£43.0
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		£14.3	£25.1	£35.8 Total		£21.6	£37.8	£54.0 Total		£17.2	£30.1	£43.0

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	High	
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		£4.6	£8.0	£11.4 Sleep disturbance		£7.2	£12.5	£17.9 Sleep disturbance		£2.4	£4.2	£5.9
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		£4.6	£8.0	£11.4 Total		£7.2	£12.5	£17.9 Total		£2.4	£4.2	£5.9

Costs (£billion/60-years)	Low	Mid	High	
Base		£0.54	£0.94	£1.3
Sensitivity		£0.11	£0.20	£0.29

#### D17. H-HH-X-QC: Heathrow do-something, Hub - No core night operations compared to H-HH-X: Heathrow do-something, Hub

Scheme details

Monetisation description: 60-year aggregation for Heathrow (opening year 2026)

Linear interpolation between assessment years. Zero cost in opening year Assumptions:

Analysis low cut-offs raised from 45dB to 48dB for Annoyance and Sleep Disturbance Any sensitivity testing:

Scenarios: 2030 2040 2050 Proposal H30-HH-X-QC H40-HH-X-QC H50-HH-X-QC Comparison

Н30-НН-Х H40-HH-X H50-HH-X

#### Constants:

2026 Proposal opening year: Current appraisal year: 2014 DALY value 68851 Annoyance, LAeq16h to Lden correction 1.6

Annoyance, Disability Weighting (L,M,H) 0.01 0.02 0.12 Sleep Disturbance, Disability Weighting (L,M,H) 0.04 0.07 0.1

Hypertension, baseline level, Leq 50

Base_2030	Low	Mid	High	Base_2040	Low	Mid	High	Base_2050	Low	Mid	Hig	gh
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		-£35.6	-£62.3	-£89.0 Sleep disturbance		-£35.3	-£61.8	-£88.3 Sleep disturbance		-£40.2	-£70.3	-£100.5
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		-£35.6	-£62.3	-£89.0 Total		-£35.3	-£61.8	-£88.3 Total		-£40.2	-£70.3	-£100.5

Sensitivity_2030	Low	Mid	High	Sensitivity_2040	Low	Mid	High	Sensitivity_2050	Low	Mid	Hig	h
Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0 Annoyance		£0.0	£0.0	£0.0
Sleep disturbance		-£23.9	-£41.9	-£59.8 Sleep disturbance		-£24.8	-£43.3	-£61.9 Sleep disturbance		-£29.5	-£51.6	-£73.7
AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0 AMI		£0.0	£0.0	£0.0
HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0 HT Strokes		£0.0	£0.0	£0.0
HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0 HT Dementia		£0.0	£0.0	£0.0
Total		-£23.9	-£41.9	-£59.8 Total		-£24.8	-£43.3	-£61.9 Total		-£29.5	-£51.6	-£73.7

Costs (£billion/60-years)	Low	Mid	High		
Base		-£1.17	-£2.06	-£2.9	
Sensitivity		-£0.84	-£1.48	-£2.11	

## D18. Night Flights Monetisation Analysis

Scheme: LHR NWR (H-3R-T)		203	0	2040		2050			
Scenario	Metric: 8hr Lnight	45dBA	48dBA	45dBA	48dBA	45dBA	48dBA		
	Population	617,100	475,800	712,700	577,300	698,700	558,500		
LHR-NWR-T	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£5.5 / £9.6 / £13.8	£-0.4 / £-0.7 / £-1.0	£2.0 / £3.4 / £4.9	£-5.5 / £-9.5 / £-13.6	£-14.6 / £-25.6 / £-36.6	£-17.1 / £-30.0 / £-42.9		
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)* £-0.42 / £-0.64								
	Population	477,200	341,500	604,400	454,500	561,100	395,900		
LHR-NWR-T no core-night flights	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£-21.2 / £-37.1 / £-53.0	£-10.0 / £-17.4 / £-24.9	£-20.5 / £-35.9 / £-51.3	£-16.8 / £-29.3 / £-41.9	£-42.4 / £-74.1 / £-105.9	£-28.7 / £-50.2 / £-71.7		
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)*	inimum) (£b NPV 60 year)* £-1.84 / £-1.24							
	Population	0	0	0	0	0	0		
LHR-NWR-T no night flights	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£-113.3 / £-198.2 / £-283.2	£-64.6 / £-113.0 / £-161.5	£-136.7 / £-293.3 / £-341.9	£80.4 / £140.7 / £-201.0	£-149.5 / £261.6 / £-373.8	£-88.7 / £-155.2 / £-221.7		
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)*			£-7.5 / £-4	.4				

Scheme: LHR ENR (H-HH-X)		203	30	2040		2050		
Scenario	Metric: 8hr Lnight	45dBA	48dBA	45dBA	48dBA	45dBA	48dBA	
LHR-ENR	Population	837,900	678,100	993,300	795,300	1,064,600	858,200	
	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£49.9 / £87.4 / £124.8	£28.5 / £49.9 / £71.2	£56.9 / £99.6 / £142.3	£31.9 / £55.9 / £79.8	£57.4 / £100.4 / £143.5	£31.8 / £55.7 / £79.6	
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)*	£+3.0 / £+1.7						
	Population	662,900	511,800	819,200	654,500	867,500	696,200	
LHR-ENR no core-night flights	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£14.3 / £ 25.1 / £35.8	£4.6 / £8.0 / £11.4	£21.6 / £37.8 / £54.0	£7.2 / £12.5 / £17.9	£17.2 / £30.1 / £43.0	£2.4 / £4.2 / £5.9	
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)*			£+0.94 / £+0	0.20	45dBA 1,064,600 £57.4 / £100.4 / £143.5 867,500 £17.2 / £30.1 / £43.0		
	Population	0	0	0	0	0	0	
	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£-113.3 / £-198.2 / £-283.2	£-64.6 / £-113.0 / £-161.5	£-136.7 / £-293.3 / £-341.9	£80.4 / £140.7 / £-201.0	£-149.5 / £261.6 / £-373.8	£-88.7 / £-155.2 / £-221.7	
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)*		•	£-7.5 / £-4	.4			

Scheme: LGW 2R (G-2R-X)	_	2030	)	2040		2050				
Scenario	Metric: 8hr Lnight	45dBA	48dBA	45dBA	48dBA	45dBA	48dBA			
	Population	41,900	34,000	35,300	29,200	37,100	30,300			
LGW-2R	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£2.7 / £4.8 / £6.9	£2.1 / £3.8 / £5.4	£1.9 / £3.3 / £4.8	£1.2 / £2.0 / £2.9	£2.4 / £4.3 / £6.1	£1.4 / £2.4 / £3.5			
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)* £+0.13 / £+0.08									
	Population	33,300	26,600	27,600	20,300	29,300	22,800			
LGW-2R no core-night flights	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£0.9 / £1.6 / £2.3	£0.4 / £0.7 / £1.0	£0.3 / £0.4 / £0.6	£-0.5 / -£0.9 / £-1.3	£0.8 / £1.4 / £2.0	£-0.3 / £-0.5 / £-0.7			
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)*			£0.04 / £-0.	01	45dBA   29,200   37,100   0/£2.9   £2.4/£4.3/£6.1				
	Population	0	0	0	0	0	0			
LGW-2R no night flights	Monetised HSD (relative to Do-minimum) (£m per year) (low/med/high)	£-5.2 / £-9.0 / £-12.9	£-2.7 / £-4.7 / £-6.7	£-4.7 / £-8.1 / £-11.6	£2.6 / £-4.5 / £-6.4	£-4.5 / £-7.8 / £-11.2	£-2.6 / £-4.6 / £-6.6			
	Monetised HSD (relative to Do-minimum) (£b NPV 60 year)*			£-0.25 / £-0.	14					

<sup>\*</sup> Monetised HSD costs quoted for medium disability weightings down to 45dBA and 48dBA respectively, discounted over 60 years