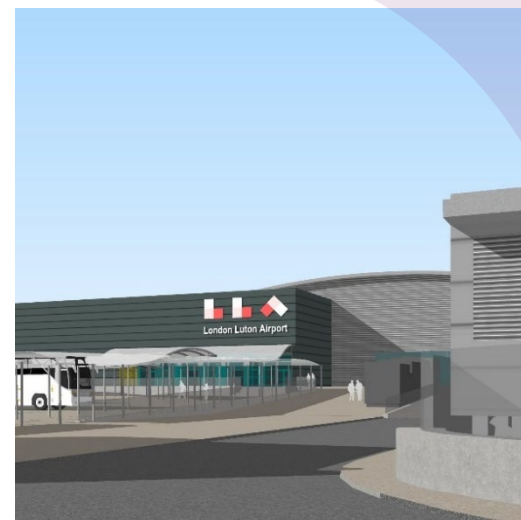
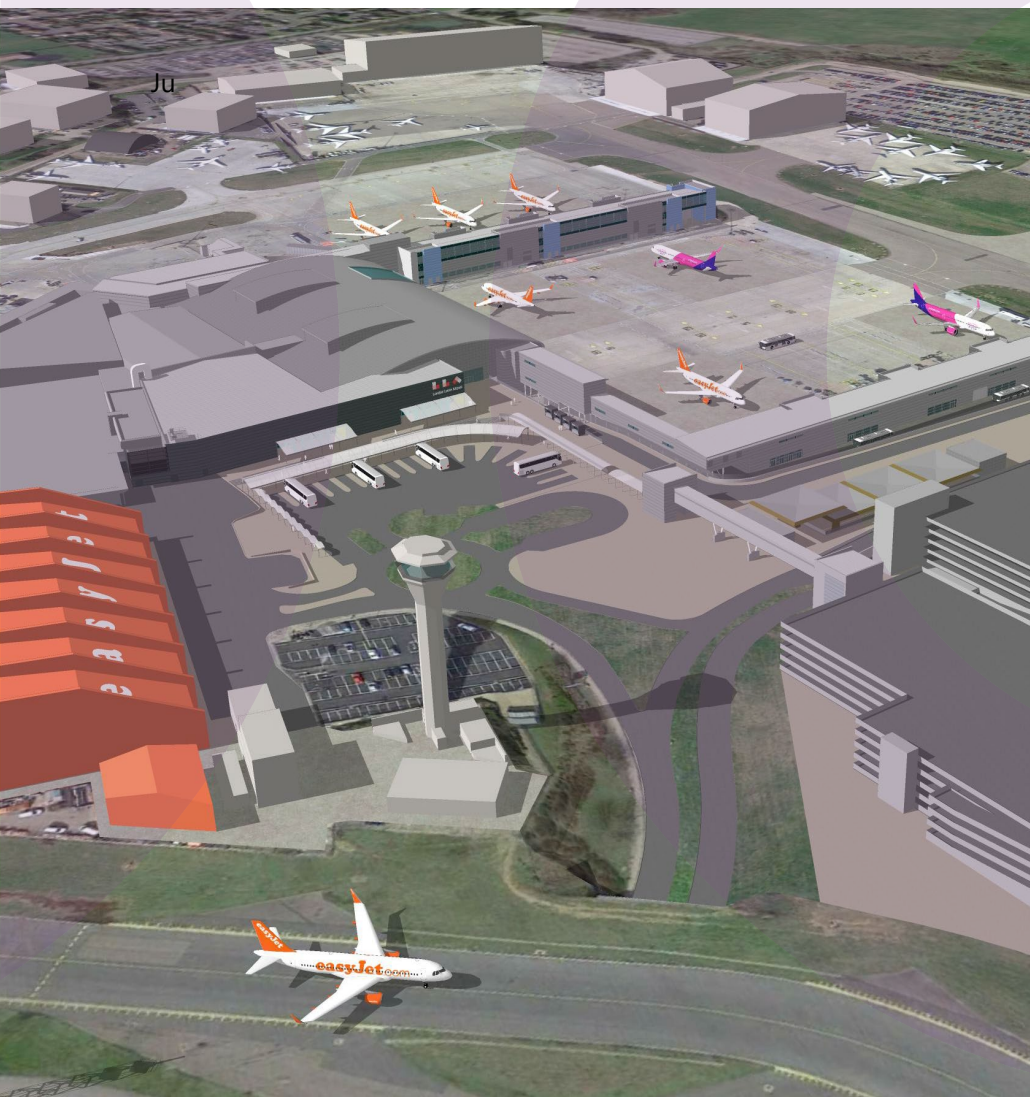


London Luton Airport Operations Limited

## Luton Airport Expansion – 19 mppa

Environmental Impact Assessment  
Volume 1: Non-Technical Summary  
of Environmental Statement Addendum

JULY 2022





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## Document revisions

No.	Details	Date
1	ES Addendum NTS	July 2022



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# 1. Introduction

## 1.1 Background to Environmental Statement Addendum

- 1.1.1 On 11 January 2021, London Luton Airport Operations Limited ('LLAOL') made an application pursuant to section 73 of the Town and Country Planning Act 1990 ('the 1990 Act') to Luton Borough Council ('LBC') for the following (the 'S73 Application').
- Variation of Conditions 8 (passenger throughput cap), 10 (noise contours), 22 (car parking management), 24 (travel plan) and 28 (approved plans and documents) to Planning Permission 15/00950/VARCON (dated 13th October 2017) to accommodate 19 million passengers per annum and to amend the day and night noise contours.*
- 1.1.2 The S73 Application seeks the variation of certain conditions attached to the existing planning permission for Luton Airport ('the Airport') dated 13 October 2017 with reference number 15/00950/VARCON ('the Variation Permission'). The Variation Planning permission dated 13 October 2017 is described as such as it was itself a variation of a planning permission granted in June 2014 for the expansion of the Airport involving, inter alia, the dualling of Airport Way, extensions to the terminal, a new pier and walkway, extensions to taxiways, enlargement of car parks and the construction of a multi-storey car park (ref: 12/01400/FUL) ('the 2014 Permission'). The 2014 Permission was the subject of its own Environmental Statement dated 2012 ('the 2012 ES').
- 1.1.3 The S73 Application does not propose any new or varied operational development.
- 1.1.4 After carefully scrutinising the S73 Application over the course of eleven months (including engaging independent expert consultants to conduct a detailed assessment of noise and climate change aspects of the S73 Application) officers at LBC recommended that planning permission should be granted for the Proposed Scheme. The scrutiny process generated a number of requests for clarification from LBC, including a formal request for further environmental information pursuant to regulation 25 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, resulting in an additional consultation on that further environmental information.
- 1.1.5 After considering the S73 Application over two evenings on 30 November 2021 and 1 December 2021, the Development Management Committee of LBC agreed with officers, and resolved to grant planning permission for the Development, subject to the Applicant and LBC entering into a section 106 agreement to secure certain aspects of mitigation, including noise mitigation.
- 1.1.6 On 6 April 2022, the Secretary of State for Levelling Up, Housing and Communities called-in the Application for his own determination. On 11 May 2022, the Secretary of State for Transport made a direction under section 266(1A) of the Town and Country Planning Act 1990 for a joint determination of the Application.

## 1.2 Purpose of the Environmental Statement Addendum

- 1.2.1 Since the S73 Application was submitted in January 2021, the COVID-19 Pandemic has continued to have an effect on the Airport and the aviation sector generally. The original assessment years of 2021 and 2022 used in the 2021 ES Addendum, which was submitted in support of the S73 Application have now passed. Additionally, whilst 2024 was previously identified as the year when 19 mppa would be reached, this is now forecast to be 2025.
- 1.2.2 The 2021 ES Addendum submitted in support of the Application has therefore been reviewed in light of the use of updated key assessment years of 2023, and 2024, and with 19 mppa anticipated to be

reached in 2025. Following this review, the 2022 ES Addendum has been prepared. The 2022 ES Addendum provides an update on any changes to the likely significant environmental effects of what is proposed as compared with the 2021 ES Addendum.

- 1.2.3 The 2022 Environmental Statement Addendum has therefore been prepared to provide an update of the 2021 ES Addendum to the Secretaries of State in respect of their determination of the Application.
- 1.2.4 This Non-Technical Summary (NTS) sets out a brief summary of the findings reported in full in the 2022 ESA.

## 2. The Proposed Scheme

### 2.1 Summary of the Proposed Amendments

- 2.1.1 The proposed amendments under the S73 Application ('the Proposed Scheme') principally concern Condition 10 attached to the Variation Permission (15/00950/VARCON) and the Proposed Scheme seeks to vary the wording of Condition 10 in order to provide a less restrictive day and night noise contour. This adjustment is required for the Airport to reflect what has been a slower than anticipated introduction by airlines of the next generation of quieter aircraft. The modernisation of fleets by airlines has not kept pace with the unexpectedly steep rise in passenger demand over the same period.
- 2.1.2 Since the publication of the 2021 ES Addendum, the proposed variations to the wording of this condition (see **Section 2.2** below), with respect to the size of the day and night-time noise contour for the period to the end of 2027 have been further revised in consequence of observations of Luton Borough Council and in light of that assessment years 2020, 2021, and 2022 have now passed. The aircraft movement and passenger forecasts have therefore been updated to reflect the revised key assessment years of 2023, 2024, and 2025.

### 2.2 Scheme description

#### Proposed Variation to Condition 10

- 2.2.1 The proposed variations to the wording of Condition 10, sought through the S73 application in January 2021, were set out in the 2021 ES Addendum. During its careful consideration of the S73 application, LBC proposed some further variations to the wording of Condition 10, which they reported in the amendment sheet to the Development Management Committee's Report (30 November 2021). LBC considered the wording should be altered from that proposed by the Applicant in 2021. This is because the size of the noise contours was based on the identified worst-case year of 2021, and the passage of time meant that it was more appropriate to reflect the slightly smaller area associated with the projected movements and contours for 2022. In summary, the formatting in the condition is as follows:

- Black text – original wording of the condition retained.
- ~~Strikethrough~~ - original wording deleted by Applicant.
- **Red text** – additional text sought by the Applicant.
- ~~Strikethrough~~ – wording deleted by LBC.
- **Blue text** – additional text sought by LBC.

~~"The development shall be operated in accordance with the Noise report approved on 2 March 2015 (ref: 14/01519/DOC), including providing details of forecast aircraft movements and consequential noise contours as set out in that report."~~

The area enclosed by the 57dB(A) Leq16hr (0700-2300) contour shall not exceed ~~19.4 sq km~~ **21.6 sq km** **21.1 sq km** for daytime noise, and the area enclosed by the 48dB(A) Leq8hr (2300-0700) contour shall not exceed ~~37.2 sq km~~ ~~42.9 sq km~~ **42.1 sq km** for night-time noise, when calculated by the Federal Aviation Authority Integrated Noise Model version 7.0-d (or as may be updated and amended) **for the period up to the end of 2027. Post 2027 the area enclosed by the 57dB(A)**



**Leq16hr (0700-2300) contour shall not exceed 15.5 sq km for daytime noise, and the area enclosed by the 48dB(A) Leq8hr (2300-0700) contour shall not exceed 35.5 sq km for night time noise.**

Within ~~five years~~ **12 months** of the commencement of development ~~the date of this permission~~ a strategy shall be submitted to the Local Planning Authority for their approval which defines the methods to be used by LLAOL or any successor or airport operator to reduce the area of the noise contours by 2028 for daytime noise to ~~15.2 sq km~~ **15.5 sq km** for the area exposed to 57dB(A) Leq16hr (0700-2300) and above and for night-time noise to ~~31.6 sq km~~ **35.5 sq km** for the area exposed to 48dB(A) Leq8hr (2300-0700) and above.

**Post 31 December 2027 the area enclosed by the 57dB LAeq16hr (0700-2300hrs) contour shall not exceed 15.5 sq km for daytime noise, and the area enclosed by the 48dB LAeq(8hr) (2300-0700hrs) contour shall not exceed 35.5 sq km for night-time noise.**

**Post 31 December 2030 the area enclosed by the 57dB LAeq16hr (0700-2300) contour shall not exceed 15.1 sq km for daytime noise, and the area enclosed by the 48dB LAeq(8hr) (2300-0700hrs) contour shall not exceed 31.6 sq km for night-time noise.**

**A report on the actual and forecast aircraft movements and consequential noise contours (Day, Night and Quota Periods) for the preceding and forthcoming calendar year shall be reported on the 1st December each year to the LPA, which shall utilise the standard 92 day summer contour."**

**Reason: To safeguard residential amenity. To accord with the objectives of the Luton Local Plan and the National Planning Policy Framework."**

### Aircraft fleet modernisation and movement forecasts

- 2.2.2 The forecasts produced up to 2023 and used for the assessments in the 2021 ES Addendum, are no longer valid due to the impacts of Covid 19, meaning that 2021, and 2022 are no longer relevant assessment years. This means that the 2022 and 2023 forecasts, presented in the 2021 ES Addendum, have been delayed by one year to 2023 and 2024 respectively, with the subsequent catch up of forecasts to pre-COVID conditions completed by 2028, where the previously produced forecast again becomes valid.
- 2.2.3 **Table 2.1** presents the updated peak day forecast to reflect the fact that assessment years 2020, 2021, and 2022 have all now passed. The table shows that to accommodate 19 mppa in 2025, the total peak day ATMs (483) would be consistent with the movements to accommodate both the 2019 18 mppa scenario and the 2024 18 mppa scenario. For the 2025 19 mppa scenario, no change in movements would occur because additional passengers would be accommodated through higher levels of patronage on each individual aircraft. However, by 2028 the ATMs would then reduce by 6 movements (-1.24%), as compared with what is forecast for the 18 mppa scenarios, and the 2025 19 mppa scenario, as additional larger planes are introduced.

Table 2.1 Peak Day Air Transport Movements for key assessment years\*

Peak day	18 mppa			19 mppa	
	2019 ATMs	2023 ATMs	2024 ATMs	2025 ATMs	2028 ATMs
Daytime	417	417	417	419	413

Peak day	18 mppa			19 mppa	
	2019 ATMs	2023 ATMs	2024 ATMs	2025 ATMs	2028 ATMs
Night-time	66	66	66	64	64
Daily total	483	483	483	483	477

\*'Peak day' ATMs: the busiest day in terms of the number of ATMs.

- 2.2.4 The forecast of the fleet modernisation for each of the scenarios assessed (this includes a 'without development' scenario) within the 2022 ESA is presented in **Table 2.2**. This is based on current replacement schemes of the airlines using LLA and has considered the financial incentive offered by the Proposed Scheme for airlines to utilise the increased passenger / flight quotas available and so invest further in their fleet. The assumptions regarding the fleet renewal have been based on published and already evidenced fleet renewal programmes by Wizz Air, EasyJet, and the other airlines using LLA.
- 2.2.5 **Table 2.2** has been updated to reflect that assessment years 2020, 2021, and 2022 have now passed. The table shows that during the 92-day peak period, accommodating 19 mppa in 2025 would result in an increase of 228 (0.65%) daytime ATMs over the 92-day period as compared with what is forecast for the 18mppa scenario in the year 2024, with an increase in the night-time ATMs of 10 (0.2%) and an increase in the daily total of 338 (0.8%). There would, however, be a corresponding reduction in ATMs outside of the 92-day peak period. It is these 92-day peak period forecasts that define the noise contour for each of the assessment years. These forecasts have therefore been used to underpin the assessments presented within the 2022 ES Addendum.

Table 2.2 92-Day Peak Period Air Transport Movements for key assessment years\*

92-day peak period	18 mppa			19 mppa	
	2019 ATMs	2023 ATMs	2024 ATMs	2025 ATMs	2028 ATMs
Daytime	34,124	34,708	35,003	35,331	34,849
Night-time	5,398	4,994	4,997	5,007	5,002
Daily total	39,522	39,708	40,000	40,338	39,851
% modernised fleet	6%	32%	41%	48%	88%

\*'92-day peak period' ATMs: the 92-day period within which the highest number of ATMs occurs.

- 2.2.6 As shown in **Table 2.1** and **Table 2.2** above, ATMs would increase to accommodate additional passengers, but this would not be at the same rate of increase as for the passenger numbers. This is a consequence of increasing seat occupancy on aircraft, and larger seat numbers arising from the use of larger aircraft.
- 2.2.7 As reported in the 2021 ES Addendum, there will be no major change in the direction of flights. This is due to the short haul point-to-point nature of LLA and as such, the majority of flights will remain in the "East-North-East" to "South-South-West" sectors. The nature and direction of flights is not expected to change as a result of the Proposed Scheme.



## Passenger numbers

- 2.2.8 Although passenger numbers have decreased during 2020 (5.5 mppa), and 2021 (4.7 mppa) as a result of COVID-19, LLA has forecasted that passenger levels could realistically return to 18 mppa in 2024. A combination of factors, including the more rapid growth in aircraft movements outpacing the deployment of next generation aircraft, aircraft noise reductions being less effective than anticipated for those aircraft that have been introduced, and air traffic delays across Europe, which have resulted in potential breaches of the summer night-time noise contour area limit for 2017, 2018, and summer daytime and night time in 2019. Such exceedances were despite the operator's best efforts through a series of steps, such as a ban on the noisiest types of aircraft. If measures were not taken and growth continued, then there could be potential breaches.
- 2.2.9 **Table 2.3** presents an update to the 2021 ES Addendum by including the actuals for 2021, and 2022. The table presents the existing noise contour limits, the actual contours for 2017 – 2022, and those sought through the S73 application for 2023 onwards.

Table 2.3 Noise contour limits

	Daytime (km <sup>2</sup> )	Actual & Forecast summer daytime movements	Night time (km <sup>2</sup> )	Actual & Forecast summer night- time movements
<b>CURRENT LIMIT (2021-2027)</b>	19.4	-	37.2	-
<b>FUTURE EXISTING LIMIT (2028+)</b>	15.2	-	31.6	-
<b>ACTUAL NOISE CONTOUR AREA (2017)</b>	19.0	-	38.7	-
<b>ACTUAL NOISE CONTOUR AREA (2018)</b>	19.4	-	40.2	-
<b>ACTUAL NOISE CONTOUR AREA (2019)</b>	20.8	34,124	44.0	5,398
<b>ACTUAL NOISE CONTOUR AREA (2020)</b>	12.2	17,369	28.8	2,658
<b>ACTUAL NOISE CONTOUR AREA (2021)</b>	10.9	17,522	23.9	2,100
<b>ACTUAL NOISE CONTOUR AREA (2022)</b>	15.7	32,035	31.9	4,776
<b>FORECAST NOISE CONTOUR AREA (2023)</b>	21.1	34,706	42.1	4,210
<b>FORECAST NOISE CONTOUR AREA (2024, 18 mppa)</b>	20.4	35,003	41.9	4,232
<b>FORECAST NOISE CONTOUR AREA (2025, 19 mppa)</b>	19.4	35,331	39.8	5,007
<b>FORECAST NOISE CONTOUR AREA (2028, 19 mppa)</b>	15.5	34,849	35.5	5,002
<b>FORECAST NOISE CONTOUR AREA (2031, 19 mppa)</b>	14.7	34,987	31.5	4,764

Source: London Luton Airport Operational Limited, 2022

## 3. The EIA process

### 3.1 Scope of the 2022 ES Addendum

- 3.1.1 The 2022 ES Addendum has been prepared in order to identify any changes to the assessment and conclusions in the 2021 ES Addendum and, in particular to identify whether there are any additional, different, or new likely significant environmental effects arising from the Proposed Scheme. The 2022 ES Addendum has been prepared in accordance with the *Town and Country Planning (Environmental Impact Assessment) Regulations 2017* (the '2017 Regulations')<sup>1</sup>.
- 3.1.2 The 2021 ES Addendum, and the 2022 ES Addendum, read together in light of the ESs that supported the 2014 permission and 2017 variation (dated 2012 and 2015 respectively), provide an up-to-date assessment of the likely significant environmental effects of the development originally consented by the 2014 Planning Permission and what is now proposed by way of variation to the 2017 Variation Permission under the Proposed Scheme.

### 3.2 Updates to Environmental Assessments

- 3.2.1 The following sections describe how each of the topic assessments, presented in the 2021 ES Addendum, has been updated, where relevant, to account for the delay of the 2022 and 2023 forecasts by one year to 2023 and 2024 respectively, with the subsequent catch up of forecasts to pre-COVID-19 conditions completed by 2028.

#### Air Quality

- 3.2.2 Air quality emission factors and background pollutant concentrations vary on an annual basis, therefore the change in the worst-case year, when 19 mppa is forecast to be reached, from 2024 to 2025 has implications for the air quality assessment. The air quality assessment presented in the 2021 ES Addendum has been reviewed to check that, despite of these changes, the conclusions remain valid. The air quality assessment addresses these changes in pollutant emissions and background concentrations and provides an update on baseline air quality monitoring data collected, since the 2021 ES Addendum was produced.
- 3.2.3 The air quality baseline for the 2022 ES Addendum has been derived from published monitoring data collected by the Airport and local authorities over the period 2014 to 2019. This is because 2019 is the latest available full year of data unaffected by the COVID-19 pandemic.
- 3.2.4 The background concentrations for future years (2023, 2024, 2025, and 2028) remain derived from the Defra issued projections of background (non-roadside) concentrations on a 1 km square basis, up to 2030.
- 3.2.5 Air quality is predicted to improve each year through the replacement of older road vehicles, pollutant concentrations in 2024 will be higher than in 2025. The air quality assessment presents information highlighting lower emissions in 2025 to demonstrate that the assessment already presented for 2024 is worst-case.

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<sup>1</sup> Town and Country Planning (Environmental Impact Assessment) Regulations 2017 [online]. Available at: [http://www.legislation.gov.uk/uksi/2017/571/pdfs/ukxi\\_20170571\\_en.pdf](http://www.legislation.gov.uk/uksi/2017/571/pdfs/ukxi_20170571_en.pdf) [Accessed 23 June 2022].

- 3.2.6 The air quality assessment has been based on the updated 92-day peak period air transport movements for key assessment years, which includes the revised fleet mixes, and aircraft renewal rates, as summarised in **Table 2.2**.

## Noise

- 3.2.7 The baselines that have been adopted for the noise assessment for the identified assessment scenarios, are presented in **Table 3.1**.
- 3.2.8 Key points to note regarding the choice of baseline, the assessment scenarios and the overall approach to the noise assessment are as follows:
- The Application is seeking to vary the current Condition 10 consented 18mppa conditions, therefore the baselines will be the current Condition 10 consented contour limits.
  - For the environmental assessments, the 2019 actual movements are an accurate reflection of the impacts of a 18mppa operation (other than the noise assessment as the actual fleet mix breached the noise conditions). Therefore, the baseline noise contours in the noise assessment have used the 2019 actual movements for the 92-day period with a percentage reduction factor applied until the contours met the condition limits. This allows the demonstration of what the impacts of a compliant condition would be with a representative fleet mix from 2019.
  - In 2019 the percentage of modernised fleet was 6%. Summer 2022 is expected to see a percentage modernisation of 20-25% therefore the fleet mix used for the noise assessment has been updated to account for this shift. The methodology used to complete this was to take the 2019 actual movements, modernise the relevant fleets accordingly and then apply the reduction factor to the point that the condition limit was met.

**Table 3.1** Baselines for Environmental Assessment and their rationale

Assessment Scenario	Baseline	Rationale
<b>2023 &amp; 2024 18 mppa, and 2025 19 mppa</b>	Condition 10 noise contour limit of the area enclosed by the 57dB(A) Leq16hr (0700-2300) contour shall not exceed 19.4 sq km for daytime noise, and the area enclosed by the 48dB(A) Leq8hr (2300-0700) contour shall not exceed 37.2 sq km for night-time noise.	The reason for not using the actual 2019 noise contour as a baseline was because the noise limits imposed by Condition 10 were already being exceeded during that year. This would mean that the assessment would have been carried out against a non-compliant, and inflated baseline, which would have reduced the identified effects of the 19 mppa proposals. It was therefore considered an inappropriate baseline.
<b>2028 &amp; 2031 19 mppa</b>	Condition 10 future noise contour limit of the area enclosed by the 57dB(A) Leq16hr (0700-2300) contour shall not exceed 15.2 sq km for daytime noise, and the area enclosed by the 48dB(A) Leq8hr (2300-0700) contour shall not exceed 31.6 sq km for night-time noise.	This is based on the airport fully utilising the current allowed Condition 10 noise contour limits.
<b>2028 19 mppa</b>	The 'without Proposed Scheme' 2028 scenario of 12.4 mppa as assessed in the 2014 Planning Permission 2012 ES but updated to take into account the latest knowledge of fleet mix and runway split	This is to show the comparison in noise levels with the baseline within the original ES associated with Condition 10.

- 3.2.9 The population and dwelling counts used in the updated noise and health assessments have been based on the latest available year of data from CACI, which is 2022.

- 3.2.10 The noise assessment has been based on the updated 92-day peak period air transport movements for key assessment years, which includes the revised fleet mixes, and aircraft renewal rates, as summarised in **Table 2.2**.

## Greenhouse Gases and Climate

- 3.2.11 The GHG baseline from the UK as a whole for the 2022 ES Addendum has been derived from data published by BEIS over the period 1990 to 2019, and from the data for 2019 published by London Luton Airport in its Annual Monitoring Report. This is because 2019 is the latest available full year of data unaffected by the COVID-19 pandemic.
- 3.2.12 To represent projected market and policy trends, improvement factors for carbon emission reductions in the future have been embedded into the GHG assessment. The future baseline (and the future with development scenario) have been calculated under three future emission scenarios (upper, central, and lower emission scenarios) using the latest statistics published by BEIS.
- 3.2.13 The ES Addendum presents new policy arising since the 2021 ES Addendum, and slightly altered emission numbers and conclusions based on contextualisation around emerging projections of aviation emissions.
- 3.2.14 The greenhouse gases and climate assessment has been based on the updated 92-day peak period air transport movements for key assessment years, which includes the revised fleet mixes, and aircraft renewal rates, as summarised in **Table 2.2**.

## Health

- 3.2.15 The health assessment, presented in the 2021 ES Addendum, focused on the predicted health effects related to the change in noise exposure linked to the proposed Condition 10 variation. **Chapter 7: Health** of the 2022 ES Addendum therefore provides an update to the likely significant effects of the Proposed Scheme with respect to human health effects resulting from the changes to the in-air aircraft noise assessment presented in **Chapter 6: Noise** of the 2022 ES Addendum.

## Transport

- 3.2.16 **Chapter 8: Transport** of the 2022 ES Addendum addresses potential changes in traffic flows generated by the Proposed Scheme that result from the change in the year when 19 mppa is forecast to be reached, from 2024 to 2025. Updates have also been made to the assessment against the Travel Plan targets for 2025.

## 4. Environmental effects

### 4.1 Introduction

- 4.1.1 This section provides an overview of the key findings from each of the topics in the 2022 ES Addendum.

### 4.2 Air quality

#### Overview

- 4.2.1 In **Chapter 6: Air Quality** of the 2021 ES Addendum it was concluded that all impacts on human health receptors are classified as **negligible** in terms of the IAQM/EPUK guidance,<sup>2</sup> and all impacts on ecological receptors are classified as **not significant** under Environment Agency guidance. Overall, the potential impacts of the proposed variation to Condition 10 of the Proposed Scheme were considered to be **not significant**.
- 4.2.2 In air quality assessments, emission factors and background pollutant concentrations vary on an annual basis, therefore, the change in the year when 19 mppa is forecast to be reached from 2024 to 2025, needs to be considered to ascertain whether there is any change to the conclusions of the previous air quality assessment. The 2022 assessment addresses these changes and provides an update on baseline air quality monitoring data collected since the 2021 ESA was produced.
- 4.2.3 The main pollutants of concern for the Proposed Scheme include gases, oxides of nitrogen (NO<sub>x</sub>) and nitrogen dioxide (NO<sub>2</sub>), and fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) in relation to concentrations in air, and nutrient nitrogen and acidity in relation to deposition.

**NO<sub>x</sub>**: A family of gases which can be emitted from cars, trucks, and non-road vehicles as well as industrial sources.

**NO<sub>2</sub>**: A gas which is part of the NO<sub>x</sub> family.

**Particulate Matter**: A mixture of small particles and liquid particles. The particle pollution is made up of a number of components, including acids, organic chemicals, metals and soil or dust particles. Sources include car and lorry engines, wear from brake pads and tyres, and industrial processes. Particles are grouped into two size categories:

- **PM<sub>10</sub>**: smaller than 10 micrometres (µm) in diameter.
- **PM<sub>2.5</sub>**: smaller than 2.5 µm in diameter.

#### Assessment of effects

- 4.2.4 As a result of changes such as the replacement of older vehicles with newer ones that meet tighter emission standards, both emission rates and background pollutant concentrations are expected to be lower in 2025 than in 2024. Pollutant concentrations are therefore expected to be slightly lower in 2025 than in 2024, the assessment year used in the 2021 ES Addendum. This will apply to both

<sup>2</sup> IAQM/EPUK (2017) *Land-Use Planning & Development Control: Planning For Air Quality*. [online] Accessed at: <https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf> [Accessed 27/06/2022]

the 'without development' and 'with development' case; therefore, the magnitude of impact would be expected to be of a similar magnitude.

- 4.2.5 For a 2025 assessment of 19mppa for human health receptors, impacts at all modelled receptors would remain **negligible**, in terms of the significance criteria used. There would be no new exceedances of the AQOs or any made worse. Annual mean concentrations would be less than 70% of the AQOs at all modelled receptors.
- 4.2.6 The conclusions of the 2021 ESA are therefore considered to remain valid. In 2025 effects on both human health and ecological receptors would be considered **not significant**.
- 4.2.7 With regard to the future baseline, the Condition 10 compliant future baseline in 2025 in the air quality assessment would have around 5% fewer flights than the 18 mppa future baseline. The variation to Condition 10 means that the magnitude of the impact of the Proposed Scheme would increase. However, a 5% reduction in flights in the 'without development' scenario would not lead to impacts of a magnitude that would materially change the overall conclusions. Therefore, the conclusions that all modelled receptors would be **negligible** and overall effects would be **not significant** are considered to remain valid.

## 4.3 Climate

### Overview

- 4.3.1 The climate assessment identifies the impact of the increase in Greenhouse Gas (GHG) emissions from the Proposed Scheme on the global climate. In **Chapter 7: Climate** of the 2021 ES Addendum, it was concluded to be unlikely that the Proposed Scheme will materially affect the ability of the UK to meet its carbon target for net zero by 2050, as legislated in the Climate Change Act 2008 (as amended)<sup>3</sup>. The Proposed Scheme was considered to have a **low greenhouse gas (GHG) emissions magnitude**. The overall effect of GHGs associated with the Proposed Scheme on the global climate was considered **minor adverse** and therefore **not significant**.
- 4.3.2 The year in which 19 mppa is forecast to be reached has changed from 2024 to 2025. The 2022 assessment provides results for the assessment year of 2025. There have also been some minor methodological changes, updates to assumptions around Sustainable Aviation Fuel (SAF), and updates in the context of relevant policy that have been published since the drafting of the 2021 ESA.
- 4.3.3 The Climate Change Act 2008 (as amended)<sup>3</sup> sets a UK national target of net zero emissions by 2050. In line with advice from the independent advisors to the UK Government, the Climate Change Committee (CCC), the Government sets five-year Carbon Budgets with a view to achieving the UK national target. Carbon Budgets<sup>4</sup> have traditionally been set having regard to a 'headroom' allowance, known as the 'planning assumption', for international aviation. In other words, the size of each successive carbon budget has been set at a lower level than would otherwise be required to allow for the planning assumption. The 'planning assumption' allowed for in all carbon budgets up to and including the fifth budget is 37.5 MtCO<sub>2</sub> which reflects the advice of the CCC in '*Meeting the UK aviation target – options for reducing emissions to 2050*'<sup>5</sup>.

<sup>3</sup> Climate Change Act 2008. [online]. Available at: <http://www.legislation.gov.uk/ukpga/2008/27/contents> [Accessed 21 June 2022].

<sup>4</sup> The first three carbon budgets were introduced in The Carbon Budgets Order 2009, 20 May 2009 ([https://www.legislation.gov.uk/uksi/2009/1259/pdfs/ukxi\\_20091259\\_en.pdf](https://www.legislation.gov.uk/uksi/2009/1259/pdfs/ukxi_20091259_en.pdf)). The Fourth Carbon Budget was introduced in The Carbon Budget Order 2011, 29 June 2011 (<https://www.legislation.gov.uk/uksi/2011/1603/made>). The Fifth Carbon Budget was introduced in The Carbon Budget Order 2016, 20 July 2016 (<https://www.legislation.gov.uk/uksi/2016/785/made/data.pdf>).

<sup>5</sup> CCC (2009). Meeting the UK aviation target – options for reducing emissions to 2050. [online]. Available at: <https://www.theccc.org.uk/wp-content/uploads/2009/12/CCC-Meeting-the-UK-Aviation-target-2009.pdf> [Accessed 21 June 2022].



- 4.3.4 On the advice of the CCC, the UK has set what is considered the world's most ambitious climate change target, aiming to reduce emissions by 78% by 2035 compared to 1990 levels. This has been included in the Sixth Carbon Budget<sup>6</sup>, legislated in June 2021. The Carbon Budget includes the UK's share of international aviation and shipping emissions, rather than allowing for them by the use of a 'planning assumption'.
- 4.3.5 A summary of the reductions predicted in 2050 relative to the 2019 baseline are presented in **Table 4.1**. In all cases and for all emission categories, emissions are expected to reduce by 2050. In total, emissions are expected to reduce by 44-46% for the two central scenarios and by up to 83-84% in the lower emission scenario.

Table 4.1 Summary of emission reductions by 2050

Emission category	% reduction by 2050 (without development)		% reduction by 2050 (with development)	
	Central scenario	Range	Central scenario	Range
Aviation	31%	12%-80%	29%	10%-80%
Surface access	82%	54%-92%	79%	43%-92%
Airport buildings and ground operations	54%	49%-74%	51%	46%-73%
Total	46%	24%-84%	44%	19%-83%

## Assessment of effects

### International aviation GHG emissions from the Proposed Scheme

- 4.3.6 In 2025 under all scenarios, the international aviation GHG emissions associated with the Proposed Scheme itself (i.e. the increase from 18 to 19 mppa) are projected to equate to 17ktCO<sub>2</sub>, which represents 0.05% of the 37.5 MtCO<sub>2</sub>/yr planning assumption. By 2032 international aviation GHG emissions associated with the Proposed Scheme are predicted to be 0.07 – 0.08% of the planning assumption. It is very unlikely that the Proposed Scheme will materially affect the ability of the UK to meet the 37.5 MtCO<sub>2</sub>/yr 'planning assumption', noting that 81% of these international emissions are included within the UK ETS cap in 2025.
- 4.3.7 The projected incremental increase in 2050 emissions at Luton airport can be compared with and considered alongside recent planning applications at London Stansted, Southampton International, Leeds-Bradford, and Bristol. The incremental increase in emissions as a percentage of the planning assumption that is identified in 'Making Best Use of existing runways' of 37.5 MtCO<sub>2</sub>/yr is in the range 0.048% – 0.320% (0.018 to 0.12 MtCO<sub>2</sub>/yr) for individual airports, with the Proposed Scheme being at the lower end of this range. If approval is granted for all five of these airports, the incremental increase in 2050 would be in the range 0.58% - 0.83%.
- 4.3.8 The incremental increase in emissions from the Proposed Scheme is within the range of incremental increases at other airports. The cumulative incremental increase in emissions from the Proposed Scheme and from these other airports would be less than 1% of the planning assumption, if it was applied in 2050, and less than 2% of the planning application if applied in 2032 (assuming a reduction in aviation emissions between 2032 and 2050 of around a third). It is considered highly

<sup>6</sup> The Carbon Budget Order 2021. [online]. Available at: <https://www.legislation.gov.uk/uksi/2021/750/contents/made> [Accessed 21 June 2022].

unlikely that the Proposed Scheme will materially affect the ability of the UK to meet the 37.5 MtCO<sub>2</sub>/yr planning assumption.

#### UK carbon net zero target for 2050 and UK carbon budgets

- 4.3.9 The difference in GHG emissions between the 'with development' case and the 'without development' case in each assessment year describes the impact of the activities associated with the Proposed Scheme only. Emissions from Luton Airport would represent 0.02% of the fourth carbon budget, increasing to 0.02-0.03% of the fifth carbon budget and 0.04% of the sixth carbon budget. Although these percentages increase, reflecting the signification reductions in successive carbon budgets, they remain extremely small. It is considered very unlikely that the Proposed Scheme will materially affect the ability of the UK to meet the Carbon Budgets.

#### Local objectives

- 4.3.10 The Luton Borough Council Climate Change Action Plan<sup>35</sup> aims for a carbon neutral borough by 2040. To date, this is an aim rather than a policy and the scope of this aim has not yet been defined. In 2040, relevant GHG emissions associated with the Proposed Scheme in the Central emission scenario are 55.5 ktCO<sub>2</sub>e/yr. The scale of GHG emissions from the Proposed Scheme are such that they are considered unlikely to affect the ability of Luton Borough Council to meet its carbon neutral borough aim.
- 4.3.11 The mitigations required to achieve LLAOL's net zero aim will be detailed in a Carbon Reduction Plan, which will include emissions reduction targets. The Carbon Reduction Plan will set out the roadmap for achieving a net zero airport for Scope 1 and 2 emissions, as well as indicating the approaches by which LLAOL can influence Scope 3 emissions. An Outline Carbon Reduction Plan was submitted in 2021 and final version is currently in preparation. Further details are described in **Section 7.13** of the 2021 ESA.
- 4.3.12 On the basis of the commitment to produce a Carbon Reduction Plan, adverse GHG impacts will be mitigated with good practice design standards and meet the requirements of national, regional, and local policy.
- 4.3.13 The updated assessment shows that the conclusions of the 2021 ES Addendum remain valid. The Proposed Scheme is considered to have **a low GHG emissions magnitude** and the overall effect of GHGs associated with the Proposed Scheme on the global climate is considered **minor adverse**, and therefore **not significant** in accordance with the IEMA guidance for defining significance.

## 4.4 Noise

### Overview

- 4.4.1 The assessment of noise considers the effects on occupiers of residential properties within the vicinity of the airport and changes in the noise environment of local communities.
- 4.4.2 **Chapter 8: Noise** of the 2021 ES Addendum in the standalone **Update to Volume 2 Noise Chapter (41431RR20V3NA)** concluded that the Proposed Scheme would result in a significant effect at 1,877 residences, being those experiencing noise above the Significant Observable Adverse Effect Level with at least a 1 dB increase in noise. In addition, significant effects were identified at non-residential receptors at Addington, Park Town in Luton, Breachwood Green, St Pauls Walden, Slip End and Stevenage.
- 4.4.3 The 2022 assessment provides an update to the results for the operational noise assessment of changes to Condition 10. The year in which 19 mppa is forecast to be reached has changed from

2024 to 2025. The years of assessment for the 2022 ES Addendum are 2023 and 2024, covering flows above 18mppa, 2025, the first year of 19mppam the future year 2028 and 2031, when it is determined that the existing Condition 10 limits would be again met.

- 4.4.4 The assessment is for airborne aircraft 'in-air' noise only, which is principally from aircraft arriving and landing and from aircraft taking-off and departing. 'In-air' aircraft noise that is considered in the assessment includes noise that occurs when, aircraft are on the runway:
- for start of take-off roll (SoR);
  - after landing;
  - when aircraft are rolling down the runway; and
  - when aircraft are using reverse thrust for braking.
- 4.4.5 Road traffic noise effects (noise from increased traffic from the rise in passengers) and aviation ground noise (noise from aircraft taxiing) are not considered within the assessment as they have already been considered within the screening report and have been shown not to have a likely significant effect. There are no construction works or operational building services plant to assess as there are no infrastructure requirements associated with the Proposed Scheme.

## Assessment of effects

- 4.4.6 To undertake the assessment of the key years, the predicted noise contours for the Proposed Scheme are compared to the baseline condition. For the purposes of the assessment, the following scenarios are considered:
- A comparison between 'with Proposed Scheme' in 2023 (forecast to be at 18+mppa) and 'without Proposed Scheme' in 2023;
  - A comparison between 'with Proposed Scheme' in 2024 (forecast to be at 18+mppa) and 'without Proposed Scheme' in 2024;
  - A comparison between 'with Proposed Scheme' in 2025 (forecast to be at 19mpppa) and 'without Proposed Scheme' in 2025;
  - A comparison between 'with Proposed Scheme' in 2028 and 'without Proposed Scheme' in 2028;
  - A comparison between the 'with Proposed Scheme' in 2028 and 'without Proposed Scheme' as had been expected under the 2014 Planning Permission's ES (as assessed in the 2012 ES); and
  - A comparison of the 'with Proposed Scheme' in 2031 as compared with the 'without Proposed Scheme' in 2031.

The '**Effect Levels**' relevant to the assessment of noise within the assessment are:

- **LOAEL: Lowest Observed Adverse Effect Level** – this is the level above which adverse effects on health and quality of life can be detected;
- **SOAEL: Significant Observed Adverse Effect Level** – this is the level above which significant adverse effects on health and quality of life occur; and
- **UAEL – Unacceptable Adverse Effect Level** – this is the level above which extensive and regular changes in behaviour and/or an inability to mitigate the effect of noise leading to psychological stress or physical effects occurs.

- 4.4.7 For all **daytime** scenarios when comparing the assessment year noise levels with the existing noise limits and/or with Condition 10, the results show that there are no increases or decreases of more than 3 dB between the LOAEL (51 dB) and SOAEL (63 dB). Further, there are no increases or decreases of 1 dB or more for any residents experiencing noise above SOAEL. On this basis, **the effect of the Proposed Scheme during the daytime on residents would not be significant.**
- 4.4.8 For all **night-time** scenarios when comparing the assessment year noise levels with the existing noise limits and/or with Condition 10, the results show that there are no increases or decreases of more than 3 dB between the LOAEL (45 dB) and SOAEL (55 dB). Further, there are no increases or decreases of 1 dB or more for any residents experiencing noise above SOAEL. On this basis, **the effect of the Proposed Scheme during the night-time on residents would not be significant.**
- 4.4.9 Notwithstanding, for the daytime situation, a total of 744 dwellings are forecast to be exposed to noise levels above 63 dB  $L_{Aeq16hr}$  (SOAEL) under the 2023 Proposed Scheme scenario. Based on the current permission operating in 2023, 639 of these properties would already be exposed to these noise levels. Therefore, 105 new properties would be exposed to an increased level of noise due to the forecasted increase in air traffic in the 2023 Proposed Scheme scenario.
- 4.4.10 Additionally, for the night-time, a total of 1,993 dwellings were predicted to be exposed to noise levels above 55 dB  $L_{Aeq8hr}$  (SOAEL) with the 2023 Proposed Scheme scenario and therefore eligible for insulation. There are currently 1,671 properties within the SOAEL based on the current permission for 2023. Therefore, in the 2023 Proposed Scheme scenario an increase of 322 new properties would be exposed to a level of noise due to the forecasted increase in air traffic.
- 4.4.11 The 105 additional properties above the daytime SOAEL would already be included within the night-time SOAEL contours and therefore the mitigation requirements would be based on the night-time results. Additional measures will be needed to mitigate the 322 additional dwellings that would be predicted to experience noise levels above SOAEL as a result of the Proposed Scheme.
- 4.4.12 In the 2021 ESA there were significant effects on residential and non-residential receptors as a result of the Proposed Scheme with noise level changes of 1 dB and above. Differences in the shape of baseline noise contours, as a result of maintaining consistent modelling methodology and fleet mix between the Proposed Scheme and baseline scenarios, has meant that exceedances of 1 dB are no longer identified. **On this basis, the effect of the Proposed Scheme would not be significant at these locations.**
- 4.4.13 As 2023 is forecast to be the worst-case year in terms of noise insulation provision, the 2023 noise insulation eligibility contour would be fixed for 5 years. Therefore, the scheme would not change each year, but would always be based on 2023 data, allowing everyone affected by the worst-case year to be eligible for insulation in future years.
- 4.4.14 In accordance with the Noise Action Plan for the Airport, noise insulation will be provided to residential receptors exposed to noise above SOAEL as required by the first aim of the Noise Policy Statement for England. LLAOL would continue spending up to approximately £3,000 per property to enhance noise insulation.
- 4.4.15 Eligible properties are assessed in accordance with the Noise Insulation Scheme Policy v4. The order in which properties are contacted for insulation is determined by the independent London Luton Airport Consultative committee. The scheme would continue to give insulation to those dwellings with the highest noise levels as a priority.
- 4.4.16 It is considered that existing mitigation and enhanced mitigation are sufficient to meet the Government's policy aim to mitigate and minimise adverse impacts on health and quality of life as stated in the NPSE.
- 4.4.17 No significant noise effects from the Proposed Scheme have been identified.

## 4.5 Human health

### Overview

- 4.5.1 The topic chapter on health has assessed the people surrounding LLA to understand how different areas could be affected by the Proposed Scheme. It also notes where certain populations may experience effects more strongly due to the Proposed Scheme than other populations.
- 4.5.2 In **Chapter 9: Health** of the 2021 ES Addendum, focused solely on the health effects of the change in noise exposure arising from the Proposed Scheme. The 2021 ES Addendum concluded, while at the individual-level the change in noise exposure was estimated to be small, and not result in individual-level measurable health effects, at the population level, the health effects would be measurable because of the larger size of the exposed population subject to small changes in noise exposure. The predicted health effects related to the change in noise exposure linked to the proposed Condition 10 variation were, therefore, judged overall, to continue to have an adverse health effect at the population level that is of **moderate significance** in the assessment years 2021, 2022, and 2028.
- 4.5.3 The 2022 ES Addendum assessment therefore provides an update to the likely significant effects of the Proposed Scheme with respect to human health effects resulting from the changes to the in-air aircraft noise assessment presented in **Chapter 6: Noise** of the 2022 ES Addendum. The assessment should be read in conjunction with **Chapter 2: Description of the Proposed Scheme** and with **Chapter 6: Noise**, the findings of which have informed the assessment of human health effects. The assessment supplements the health assessments in the 2014 Planning Permission 2012 ES, the 2017 Variation 2015 ES, and the 2021 ESA.

### Assessment of effects

- 4.5.4 The health effects related to the change in noise exposure linked to the proposed Condition 10 variation is judged overall, to continue to have an adverse health effect at the population level that is of **moderate significance** in the assessment years 2023, 2024, and 2028.
- 4.5.5 Measures to mitigate some or most of these effects for residents who are exposed to noise at or above the daytime and night-time SOAEL levels (63 and 55 dB LAeq) will be provided. This is expected to minimise the increase in noise when windows and patio doors are closed and therefore the potential adverse health effects. They will not be able to mitigate the increase in noise indoors when windows and patio doors are open. This takes account of the temporary period of the effect to the end of 2025, after which time the noise contour decreases to below current Condition 10 limits by 2031. There is therefore expected to continue to be a **potentially significant (minor to moderate)** residual health effect on some residents experiencing noise above the daytime and night-time SOAEL levels, e.g. highly sensitive residents with pre-existing cardiovascular conditions and some children and older people with learning or other disabilities or chronic health conditions that may be exacerbated by increases in noise.

## 4.6 Transport

### Overview

- 4.6.1 The transport chapter of the 2022 ES Addendum considers the effects of the Proposed Scheme in terms of the effects in relation to traffic together with other transport means and access such as pedestrians and cyclists.

- 4.6.2 In **Chapter 10: Transport** of the 2021 ES Addendum it was concluded that based on the assessment of the potential traffic impacts on the local highway network, and discussions held with Highways England and Luton Borough Council, the level of traffic flow increase resulting from the Proposed Scheme is unlikely to have a significant impact on the operation of the network. **No likely significant inter-project effects** are therefore predicted to occur from the Proposed Scheme together with 'other developments'. Similarly, **no likely significant intra-project effects** are predicted to arise from cumulative transport interactions with the environmental aspects assessed within the ES. Therefore, **no likely significant cumulative transport effects** are predicted to occur.

### Assessment of effects

- 4.6.3 The 2022 ES Addendum addresses potential changes in traffic flows generated by the Proposed Scheme resulting from the change in the year when 19 mppa is forecast to be reached, from 2024 to 2025. The forecast traffic volumes resulting from the increase in passenger numbers were estimated based on actual (2019) and forecast (2024) aircraft schedules. No change in the forecast aircraft schedules is expected between 2024 and 2025, and as such the forecast 2025 airport related flows are expected to remain the same as were predicted for 2024.
- 4.6.4 The updated assessment shows that the conclusions of the 2021 ES Addendum remain valid. The Proposed Scheme is considered to have a very minimal impact in traffic volumes and **negligible significance**, with less than 4% increase in both the AM and PM peaks.
- 4.6.5 It is anticipated that there will be a continued increase in public transport modal share, and, as such, the volumes of car borne traffic are likely to be significantly less going forward. This is further made likely by the introduction of the DART, which is expected to come into operation during 2022. This is likely to result in a higher volume of rail patronage than that adopted in this analysis.
- 4.6.6 Car parking facilities available to LLAOL, in combination with controlled capacity and pricing, to be monitored through the new targets and action plan established in the latest Travel Plan, are expected to be sufficient for 19 mppa in line with 2025 forecasts.



## 5. Further information

### 5.1 What will happen next?

- 5.1.1 Environmental Statement Addendum has been submitted to the Planning Inspectorate (PINS) for consideration on behalf of the Secretaries of State who will then make a decision on the S73 application in consultation with various stakeholders. These will include government bodies, agencies, and the general public.
- 5.1.2 Feedback from the consultees will be taken into consideration by PINS and the Secretaries of State as they make their decision on the S73 application.

### 5.2 What if I would like further information?

- 5.2.1 The 2022 ES Addendum and application documents are available to view and download for free via the LBC's online Planning Portal and Luton Airport's Consultation website (<http://www.luton19mppa.info/>).

