Luton Rising
Our airport.
Our community.
Our planet.

February 2023

# London Luton Airport Expansion

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**7.03 Design and Access Statement**

**Appendix B - Part 2 of 4 (Chapter B3)**

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**The Planning Act 2008**

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

# London Luton Airport Expansion Development Consent Order 202x

## 7.03 DESIGN AND ACCESS STATEMENT APPENDIX B – PART 2 OF 4 (CHAPTER B3)

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# Contents

# B3 Sift Report 2

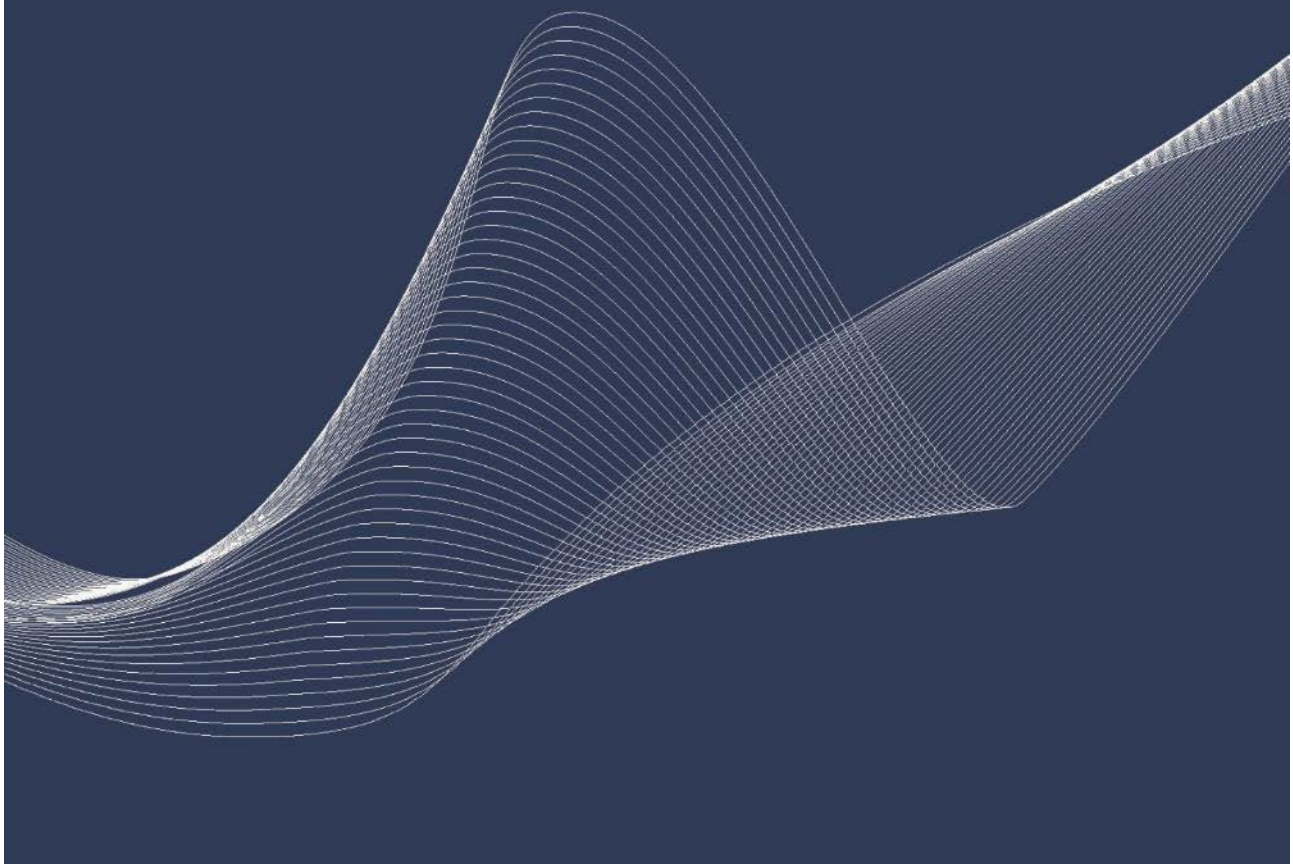
London Luton Airport Ltd
A Luton Council company

# Luton Airport Expansion Project

London Luton Airport Limited (LLAL)

**February 2019**

**Sift 2 Report, Final**



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Please note, this document (February 2019) is the final version of the Sift 2 Report, and is an update of the draft report published as part of the Non-statutory Consultation in June 2018. Paragraph 1.4.3 outlines the scope of the changes to the previous draft.

# 1 INTRODUCTION

## 1.1 Project overview

1.1.1 In 2014, planning permission was granted to London Luton Airport Operations Ltd (LLAOL) to increase the capacity of London Luton Airport (LTN) to 18mppa (million passengers per annum). It was forecast at the time that this would be achieved by 2026/27 at the earliest. Since then, passenger numbers have increased by around 1mppa in each of the last four years. Capacity is now expected to be reached by 2020/2021.

1.1.2 Set against this context for growth, and with recent Government reaffirmation of the importance of the aviation sector to the UK economy, LLAL believes that London Luton Airport (LTN) has the potential to become the airport of choice for north London and England's economic heartland, and has prepared a business case to support further growth. There is an opportunity for LTN to play a substantially bigger role in the UK aviation market, notwithstanding the potential opening of the Heathrow third runway. Our assessments for LTN showed that the full potential of LTN's existing runway, all other things being equal, is up to 36-38 mppa, or in the region of 240,000 aircraft movements per year (which is in line with the assessment in the Aviation White Paper from 2003).

1.1.3 There is therefore a clear need to plan for LTN's long-term future to ensure the regional economy can enjoy the benefits of this expected growth and it is LLAL's responsibility to deliver this to the best of its ability. LLAL has started to plan for this growth and publicly launched its vision statement in December 2017:

> *"To make the best use of the existing runway at LTN to provide the maximum benefit to the local and sub-regional economy; to deliver good levels of service; and to actively manage environmental impacts at the local and wider levels in line with our commitment to responsible and sustainable development." (Ref 1.1)*

1.1.4 LLAL has commissioned a consultant team to prepare a strategy for growth for LTN, including an application for a Development Consent Order (DCO). Under the Planning Act 2008 an increase of airport capacity by 10mppa or more is automatically considered to be a Nationally Significant Infrastructure Project (NSIP) and as such it is mandatory that this is authorised by a DCO.

1.1.5 Part of the preparation for the DCO application involves developing a proposal for the Project having regard to potential impacts on, for example, the environment, community and highways. This includes a process to develop alternative options for the Project taking account of Government Aviation

Policy, the vision for LTN and the full range of economic, social, environmental and physical factors relevant to the expansion of the airport.

1.1.6 The option appraisal process draws on inputs from the full range of technical specialists to create plans and drawings showing alternative options for how the different elements of an expanded airport could be configured and developed at LTN. The different elements shown in the options will include the terminal building(s), aprons and taxiways, support facilities such as fuel farms, parking and servicing areas as well as highways, public transit systems and other new, retained or relocated facilities and uses such as commercial development, open space, recreational areas and agricultural land.

1.1.7 The alternative options are 'sifted' using a multi-stage appraisal methodology to identify options that are unlikely to deliver the project vision, those that are more preferred and which should be developed further and ultimately to arrive at a preferred proposal for the Project. This sifting process is described further in **Section 1.2** below.

## 1.2 Overview of the sift process

1.2.1 The DCO process will require robust evidence to demonstrate that a range of options and their potential impacts have been considered, assessed, and then either discontinued or refined and progressed. As such, the sift process adopted here is a type of appraisal process which is based on the following key principles:

- There must be a clear rationale for any option and it must be based on a presentation of opportunities and challenges that arise from the options which meet the case for growth at LTN;
- There must be consideration of genuine, discrete options with a range of proposals and configurations;
- There should be a well-documented process with a clear audit trail which identifies how the best performing options were scored and which ones should be taken forward for further assessment; and
- The sift process should feed in where appropriate to the consultation taking place as part of the DCO application process.

1.2.2 For this Project, a structured, multi-stage process of option sifting has been developed to help identify which options should be taken forward or no longer considered.

1.2.3 We currently see this as a three stage process as follows:

- **Sift 1** - the purpose of the first sift was to undertake an initial appraisal of the long list of options to produce a short list of preferred options to recommend to the LLAL Board. Options were considered against a set of high level, qualitative criteria chosen to meet key Project objectives - strategic, economic, social, environmental, surface access, deliverability, operational viability and cost - and either recommended for further consideration and design development, or discontinued to avoid abortive work. This stage has been completed and is covered within the Sift 1 report.
- **Sift 2** - the purpose of the second sift was to appraise the options which remained under consideration after Sift 1. These options have had the benefit of further research and understanding and there has been some initial design development in order to inform the optioneering process, with some additional informational available for each option. As such, the appraisal process has been designed to an improved level of detail than in Sift 1, but not as detailed as intended for the Sift 3 process. As with Sift 1, the options that perform most strongly against a range of criteria (based on the Sift 1 criteria with further refinement) after Sift 2 will be presented as the preferred options for non-statutory consultation during the summer of 2018. This stage has now been completed and is covered in this report.
- **Sift 3** – following non-statutory consultation and consideration of stakeholder and community feedback, it is proposed that a third round of the sift process will be undertaken to identify the preferred option to take forward in the DCO application.

## 1.3 Outcome of Sift 1

1.3.1 Sift 1 was undertaken in the autumn of 2017 and appraised seven options against a set of high level, qualitative criteria. One of these option families consisted of a two terminal option with either: a realigned (3a); extended (3b); or additional (3c) runway. The option 3 family was not considered to be consistent with the emerging Government policy to make the best use of existing runways. In addition, all option 3 sub-options also performed very poorly on deliverability in relation to financial and technical viability on account of delivering capacity ahead of demand (second runway) and the large amount of earthworks required. The latter also increases the estimated cost of the project, as does the fact that the second runway and realigned runway sub-options both require acquiring significant areas of land outside of LLAL ownership.

1.3.2 As a result of the factors listed above, the option 3 family was discontinued at that stage. The four remaining options – two single terminal building options and two double terminal building

options - were considered as being more aligned with the overall project vision and objectives, including complying with emerging Government policy, and were therefore developed further for Sift 2.

## 1.4 Purpose of this report

1.4.1 The purpose of Sift 2 was to undertake an integrated and multi-criteria appraisal of the shortlisted options from Sift 1 and to produce a proportionate level of evidence required to understand the potential benefits and impacts of each option, and to support the case for the identification of a preferred option or options.

1.4.2 This report covers the process and findings from Sift 2 (undertaken during winter 2018/spring 2019) and documents how the options remaining after Sift 1 have been appraised, and how and why options have been recommended to be progressed or discontinued.

1.4.3 This Sift 2 Report (February 2019) represents an updated version of the June 2018 version published as part of the Non-Statutory Consultation. As part of Sift 3, the Sift 1 and 2 appraisals were back-checked to confirm that those appraisals remain valid in the light of consultation feedback and additional information arising from further technical work. This has resulted in some minor changes to scoring and criteria used in Sift 2 as compared to those set out in the draft Sift report published in June 2018. This Report incorporates those changes and also clearly identifies where such changes have been made to the previous draft. Other minor amendments to the previous draft have been made including updating references (e.g. to policies which have changed since the draft report), typographical changes and minor textual clarifications.

## 1.5 Structure of this report

1.5.1 This report is structured as follows:

- **Chapter 1** sets out an overview of the context behind the project, an overview of the sift process and the purpose of this report;
- **Chapter 2** outlines the methodology adopted for Sift 2;
- **Chapter 3** covers the criteria, sub-criteria and scope of appraisal;
- **Chapter 4** summarises the key issues considered in the appraisal and describes the options appraised with a narrative on how they have developed since Sift 1;
- **Chapter 5** provides a synthesis of the appraisal rationale for each criterion; and

- **Chapter 6** outlines the outcomes of the Sift 2 process.

# 2 METHODOLOGY

## 2.1 The options under consideration at Sift 2

2.1.1 Following Sift 1, it was agreed that the four remaining options should be taken forward for further consideration. These would then be developed further and refined in design terms – this is set out in more detail in **Chapter 4**. As design work has continued on the options which remain under consideration, further technical information has become available to the technical team which has informed both the design and the appraisal processes.

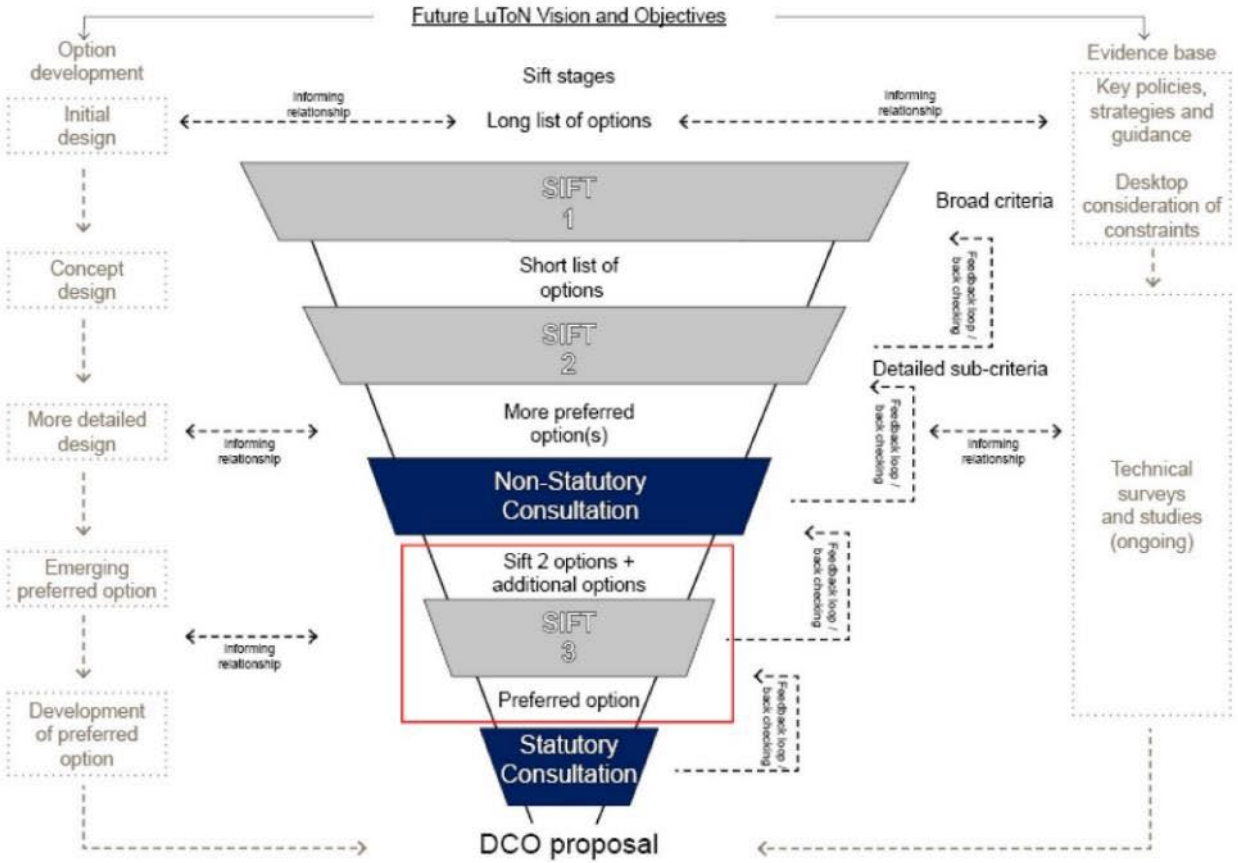
2.1.2 The following four options were appraised during Sift 2:

- **Option 1a** – two terminals to the north of the runway;
- **Option 1b** – a single terminal to the north of the runway, located to the west of the site;
- **Option 1c** – a single terminal to the north of the runway, located to the east of the site; and
- **Option 2** – second terminal to the south of the runway.

## 2.2 Our approach to Sift 2

2.2.1 Following on from Sift 1, the process for Sift 2 has sought to build upon and refine the criteria identified previously, based on a more detailed understanding of the baseline position and options, and additional technical evidence. This has enabled a robust appraisal of the options to be undertaken, to incorporate moderation and back-checking during the sift process. It has also informed the on-going development of the options, detailed design and technical work by ensuring an integrated approach to considering the potential impacts.

Figure 2.1: Sift components, and the relationship with the wider project (Please note this figure has been updated from the draft version)



2.2.2 **Figure 2.1** shows the components of the sift process. For Sift 2 this involved:

- development of the sift criteria and collating evidence;
- testing and agreeing the approach (including checking consistency of scoring and application of assumptions and back-checking); and
- appraisal of the options.

2.2.3 Each of these components is set out below in more detail.

## 2.3 Development of the Sift criteria and collating evidence

2.3.1 The first step was to refine the sift criteria from Sift 1 and develop more detailed sub-criteria, to reflect the greater level of detail in the information available for the options during Sift 2, primarily because of further technical baseline and continuing design work. A summary of baseline constraints considered within the option appraisals is contained in **Section 4.2**.

2.3.2 As part of this step, standard proforma templates were prepared and each technical lead asked to complete them, covering: suggested sub-criteria; interdependencies/impacts on other criteria/disciplines; key relevant policies and guidance; baseline conditions; and key constraints and opportunities. The sub-criteria were developed by the technical leads based on their professional judgement, experience and knowledge of the specific context and technical field.

2.3.3 These proformas were shared with the rest of the team with the aim of ensuring a common understanding of the baseline and criteria in the round, and to allow peer review and moderation. These were reviewed at a workshop, as discussed below.

## 2.4 Testing and agreeing the approach

2.4.1 The approach to the Sift 2 appraisal was refined prior to the appraisal of the four options, in a collaborative workshop environment involving the different technical disciplines.

2.4.2 At the review workshops, the technical team:

- Refined wording of the criteria and sub-criteria to more accurately reflect the level of technical information available at the time and as considered appropriate for this level of design, and to remove areas of overlap with other interdependent criteria to avoid the potential for 'double-counting'. The criteria were also revised to ensure they accurately reflected LLAL's strategic objectives for the Project. In Sift 2 for example, it was considered that additional deliverability and operational viability criteria should be included, compared with Sift 1.

- Agreed a set of common assumptions upon which the technical leads would appraise the options, supplemented by specific technical assumptions where applicable.
- Revised the assessment levels to include an eighth level of distinction of 'Currently Unworkable' (see below for further detail).
- Identified which other disciplines they would need to liaise with to ensure that their appraisals were based on the relevant information.

2.4.3 The development of the criteria and sub-criteria are set out in Chapter 3 in more detail.

2.4.4 Sift 2 was conducted on the basis of the following assumptions:

- All options to assume a capacity of up to 36-38mppa, based on information available at the time of the sift process, and required infrastructure to support this capacity.
- All options to focus on containing as much of the future development and impact within the area of LLAL land ownership.
- All options assumed to include reasonable embedded and good practice mitigation (e.g. a code of construction practice), but not additional mitigation (for example, new link roads on land outside of LLAL ownership) for the purposes of this sift.
- Land within LLAL ownership also includes the new business park development proposed at New Century Park which is assumed to be built out according to the current planning application (application ref. 17/02300/EIA).
- For the purposes of the Sift 2 appraisal, all options were assumed to receive the benefit of an extension to the recently consented Luton Direct Air-Rail Transit (DART) system from Luton Airport Parkway Station which is now under construction. Any extensions to the current DART route which would be needed to serve each option could be materially different for each option and will be considered further in Sift 3.
- However, renewable energy sources (photovoltaics, etc.) would not be shown on the drawings as it is assumed the effect would be the same for all options.

2.4.5 As with Sift 1, an evaluation system with seven levels of distinction of 'red amber green' (RAG) was applied, adapted from the Department for Transport's (DfT) Analysis Guidance (WebTAG) (Ref 2.1). This has been modified for Sift 2 to include an eighth level of distinction reflecting a score of 'Currently Unworkable' where the potential impact of an option on a criterion is deemed to be greater than a 'Large Adverse'

scoring, and where the impact cannot be mitigated or be worked around given current constraints. Any option which is appraised with one or more 'Currently Unworkable' scores would be discontinued and no longer pursued for further consideration. Any option which is discontinued could still be revisited at a later date if current constraints are removed (e.g. change in planning policy) or if the shortlisted options remaining after Sift 2 or Sift 3 are deemed to be unworkable once further work on them has been undertaken.

2.4.6 In addition, numerical values were assigned to each appraisal level, as shown in **Table 2.1**. These numerical values were used to support the qualitative assessment of options by enabling the aggregation of the criteria being assessed and facilitating comparison between options. Whilst the cumulative scores are not definitive, they are considered more appropriate for Sift 2 compared to Sift 1 given the greater level of detail being considered, the greater granularity of assessment being undertaken and the need to be able to assess finer distinctions between the performance of the different options.

Table 2.1 Appraisal levels

| Appraisal Level | Scoring |
|---|---|
| Large Beneficial | 20 |
| Moderate Beneficial | 10 |
| Slight Beneficial | 5 |
| Neutral | 0 |
| Slight Adverse | -5 |
| Moderate Adverse | -10 |
| Large Adverse | -20 |
| Currently Unworkable | -20 |

## 2.5 Appraisal of the options

2.5.1 The technical leads responsible for each of the sift criteria undertook a qualitative appraisal, utilising their professional judgement, of the four options based on information available at the time of Sift 2. This included conceptual layouts and a characteristics grid setting out the physical attributes of each option (see **Chapter 3**).

2.5.2 Each technical lead appraised each of the options, assessing them as one of the eight appraisal levels identified in **Table 2.1** based on their professional judgement of how the option performed against the defined sub-criteria, and in comparison to the other options. Each family of options would be compared against the base case scenario and where appropriate, against each other to establish relative performance and ensure consistency in the appraisal process.

2.5.3 The appraisal rationale for each criteria and option are set out in **Chapter 4**, culminating in overall outcomes in **Chapter 5** with recommendations on which options should be progressed or discontinued.

## 2.6 Consideration of alternative approaches to scoring

2.6.1 It was agreed by the team that weighting of criteria would not be adopted as part of the sift process. The agreed set of criteria and sub-criteria were carefully selected and worded to ensure that they fully represented the breadth of LLAL's strategic objectives (i.e. in relation to economic, social, sustainability and environment, surface access, deliverability, operational viability and cost factors) without the need to include weighting in the process, which could be deemed to be subjective during the appraisal process.

2.6.2 In terms of the appraisal itself, the team considered giving each individual sub-criterion an appraisal level, rather than an overall judgement on the overarching criteria as a whole, but this was considered too detailed an approach for this stage of the sift process and inappropriate for the level of information available at the time in terms of detailed design.

2.6.3 It was also agreed by the team that professional judgement would be the most appropriate method for deciding which level of RAG should be attributed to each criterion, as this differs for each technical discipline, and sub-criterion, rather than predetermining what should constitute a 'Large Beneficial' or 'Large Adverse' for example. The basis for the professional judgement applied to each criterion is included in the summary of the rationale for the appraisal of each option against the relevant criteria in **Chapter 5.**

# 3 CRITERIA DEVELOPMENT

## 3.1 Overview

3.1.1 This section sets out the agreed criteria and sub-criteria and the scope of each appraisal.

## 3.2 Criteria and sub-criteria

3.2.1 As stated in the Sift 1 report, a number of key aviation documents and LLAL's Vision Statement have informed the development of the sift process. These included documents setting out the Government's current and emerging policies for aviation and additional guidance on the appraisal of aviation proposals as follows:

- Aviation Policy Framework 2013 (Ref 3.1) – including guidance to make better use of existing runway capacity at all airports;
- Aviation Strategy, Call for Evidence July 2017 (Ref 3.2) – including a requirement for more intensive use of existing airport capacity and minded to be supportive of all airports who wish to make best of use of their existing runways; and
- Draft Airports National Policy Statement (NPS) October 2017 (Ref 3.3) – including reference to best use of existing airport infrastructure and supportive of all airports who wish to make best use of their existing runways, a policy confirmed in the subsequent Airports NPS June 2018 (Ref 3.4).

3.2.2 The Airports Commission Appraisal Framework (Ref 3.5) and guidance document on sift criteria sets out the importance of taking an integrated approach to the development of growth options for airports which considers the full range of relevant factors. This includes economic, social, environmental and operational issues and the potential effects of aviation connectivity and infrastructure at a range of spatial levels. Further detail is set out in the Sift 1 Report.

3.2.3 **Table 3.1** overleaf sets out the agreed sift criteria for Sift 2 and how they relate to the strategic objectives as agreed at Sift 1, before going on to explain the rationale of selection and the scope of appraisal for each criteria. **Appendix A** outlines the refinement made to the criteria following Sift 1, responding to the additional information available at the time of Sift 2.

Table 3.1 Strategic objectives and criteria and sub-criteria for Sift 2

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| **Strategic fit** | O1: Compliance with Government Aviation Policy | S1 | Consistent with making best use of the existing runway | • Does the option use the existing runway or propose a new runway?<br>• Does the option require modifications to the existing runway – alignment or length?<br>• Would the option have implications for the deliverability of the proposed Northwest runway at Heathrow as supported by Government policy (NPS)?<br>• Would the option support the Government's consumer objectives?<br>• Would the options support the delivery of a competitive aviation sector? |
| | O2: To identify a scheme that is likely to be capable of being consented and secured through a DCO | S2 | In broad conformity with national and local town planning policies and capable of attracting the consents required | • Does the proposal meet National Planning Policy and Local Planning Policy sufficiently to support the grant a DCO, having regard to s104 of the Planning Act 2008, and the need to have regard to the Local Impact Report(s) and all relevant matters, including National and Local planning policies. |
| | O3: To provide additional capacity and connectivity in line with the assessment of need | S3 | Increase capacity both airside and landside to achieve target increase up to 36-38mppa | • Capacity to be provided in each subsystem:<br>– Runway<br>– Apron<br>– Terminal<br>• Ability to phase in line with demand will be a key consideration. |
| **Economic** | O4: To maximise the potential economic benefits to the regional, sub-regional and local economies | S4 | Deliver economic benefits nationally and regionally | • Benefits to Users (journey time and air fare savings due to availability of choice and more routes) known as Transport Economic Efficiency<br>• Producer Benefits (increased income to airlines, airport operators)<br>• Wider Connectivity Benefits (trade, tourism, inward investment) via improved road and rail infrastructure |

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | | S5 | Increase job opportunities for the people of Luton and the surrounding areas | • How many jobs could be created regionally, sub-regionally (three counties) and locally (Luton)?<br>• What type of jobs could be created and retained – skilled jobs (higher paid) in Luton (permanent jobs)? |
| **Social** | O5: To maintain and where possible improve the quality of life for Luton's residents and the wider population | S6 | To promote quality of life and minimise adverse impacts on communities | • Does this option improve quality and choice of employment and training opportunities?<br>• Does this option reduce adverse effects of unemployment, low income and job insecurity?<br>• Does this option avoid direct impacts on, and maintain access to, existing community facilities?<br>• Does this option preserve the amenity of residential areas and enjoyment of community facilities and outside spaces?<br>• Does this option protect and promote public services that support quality of life and wellbeing?<br>• Does this option promote positive equality impacts and minimize the potential for adverse equality impacts for groups with protected characteristics or communities that experience high levels of socio-economic deprivation? |
| **Sustainability and Environment** | O6: To minimise environmental impacts and, where practicable, to actively mitigate and manage any potential environmental effects | S7 | Noise impact | • Does this option minimise the number of people exposed to the adverse impacts of noise? Including consideration of:<br>– Site preparation noise and vibration<br>– Construction noise and vibration<br>– Noise from HGV traffic associated with site preparation and construction phases<br>– Aviation noise (aircraft approaches and departures)<br>– On-site ground noise (i.e. aircraft taxiing, on-site road infrastructure, parking facilities etc.) |
| | | S8 | Air quality | • Is this option likely to cause an exceedance of any air |

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | | | | quality objective?<br>• Is this option likely to delay compliance with EU limit values as calculated by the government using the PCM model?<br>• Will this option have adverse or beneficial impacts on human receptors?<br>• Does this option minimise the number of people exposed to poor air quality?<br>• Will this option have adverse or beneficial impacts on ecological receptors? |
| | | S9 | Natural habitats and biodiversity | • Are there any internationally, nationally or locally protected/designated nature conservation sites affected?<br>• Will priority habitats identified in national legislation and local policy/guidance be impacted?<br>• To what extent are populations of protected/notable species likely to be affected?<br>• To what extent can effects be managed and mitigated?<br>• What opportunities are likely to improve ecological connectivity and provide enhancements? |
| | | S10 | Carbon emissions | • Does this option minimise the GHG emissions from the proposed project (against the current status) during its construction, in its operation and its surface access with a focus on:<br>– The loss of a carbon sink due to land use change;<br>– Construction activities and embedded carbon in materials;<br>– Airport buildings and infrastructure operations i.e. energy consumption, water supply, waste water, waste disposal;<br>– Airport operated vehicles including those owned by third party operators (airside/landside);<br>– Surface access journeys (passengers, freight, employees); and |

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | | | | – Aircraft (during landing take-off cycle, cruise emissions). |
| | | S11 | Water Resources | • Does the option have any direct/indirect impacts on water quality in surrounding watercourses, particularly where Water Framework Directive status may be compromised?<br>• Does the proposed option have the potential to affect any groundwater receptors, such as through dewatering or impacts on groundwater quality?<br>• Will the option have any direct/indirect effects on water abstractions (Groundwater and surface water) and Source Protection Zones? |
| | | S12 | Flood risk | • Does the option encroach on any areas at risk of flooding from surface water, rivers, artificial water bodies or groundwater?<br>• Does the option have the potential to pose any increase in flood risk to receptors located in the vicinity of the site?<br>• To what extent can any potential impacts on flood risk be appropriately managed? |
| | | S13 | Cultural Heritage | • Does the option seek to minimise adverse effects on the significance of internationally and nationally designated heritage assets and their settings?<br>• Does the option affect other heritage assets?<br>• To what extent can effects potentially be managed and mitigated? |
| | | S14 | Landscape and visual impact and environmental land use | • Does this option impact, protect or enhance designated landscapes or townscapes?<br>• Does this option affect the visual amenity of potentially sensitive visual receptors (e.g. those recreating in the surrounding landscape; those visiting historic buildings; etc.)?<br>• Does this option affect locally sensitive landscape features (e.g. ancient |

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | | | | woodlands, historic hedgerows, etc.) or contributors to landscape value (e.g. public access, etc.)?<br>• Does this option affect the character of the landscape/townscape or the perceptual characteristics of surrounding landscape/townscape character areas?<br>• To what extent can effects on landscape or visual amenity be managed and mitigated?<br>• Is this option likely to result in the loss or damage to best and most versatile agricultural land (i.e. ALC Grades 1, 2 or 3a)?<br>• Does this option affect local farm businesses (effects on sustaining a rural economy and on individual farmers and their farming operations)?<br>• Does this option affect soil (inc. topsoil and subsoil) as a finite resource?<br>• Does this option affect rural land designations (e.g. Agri-Environment Schemes or Nitrate Vulnerable Zones)?<br>• To what extent can effects on land use be managed and mitigated? |
| | | S15 | Climate change | Climate Change Resilience: Does this option reduce the following climate change risks related to the proposed project during its construction, its operation and its surface access?<br>• Impact of extreme high temperature leading to damage of buildings/infrastructure and interruption of activities during construction and operation<br>• Impact of increased number of heavy precipitation events leading to flash flooding events/surface water issued during construction and operation<br>• Impact of increased flood risk associated with land use changes and number of heavy precipitation events |

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | | | | • Impact of increase in intensity and occurrence of storms/extreme weather events (including extreme wind) leading to damage of buildings/infrastructure and interruption of activities during construction and operation<br>• Impact of increased seasonality (e.g. wetter winters, drier summers)<br>• Impact of increase in mean temperatures<br>For the purpose of Sift 2, In-combination Climate Change Assessment (ICCA) has not been evaluated due to insufficient information available from the interdependent criteria |
| **Surface Access** | O7: To maximise the number of passengers and workforce arriving at the airport on public transport | S16 | Public transport modal share | • Can the Luton DART be extended to increase modal share?<br>• Can bus services be increased to accommodate a larger PT modal share?<br>• Can more coach services be accommodated to increase PT modal share?<br>• Can walking and cycling be accommodated to increase modal share?<br>• Can landside forecourt layout provision accommodate all traffic increase – PT and others?<br>• What is an appropriate PT modal share target/ aspiration? |
| | O8: To minimise new build highway requirements | S17 | Requirement for additional highway infrastructure | • Are new highways needed to accommodate the proposals generated traffic?<br>• What is the magnitude of these highway proposals?<br>• Can forecourt highway links be accommodated in an efficient manner?<br>• How well can it link with proposed new highway solutions in the vicinity? |
| | O9: To minimise impact on the wider highway network | S18 | Impact on wider highway network | • Will highway capacity show problems in accommodating additional traffic levels before mitigation?<br>• Can mitigation be provided within highway or airport owned land, or do areas of mitigation require third party land?<br>• How many links and |

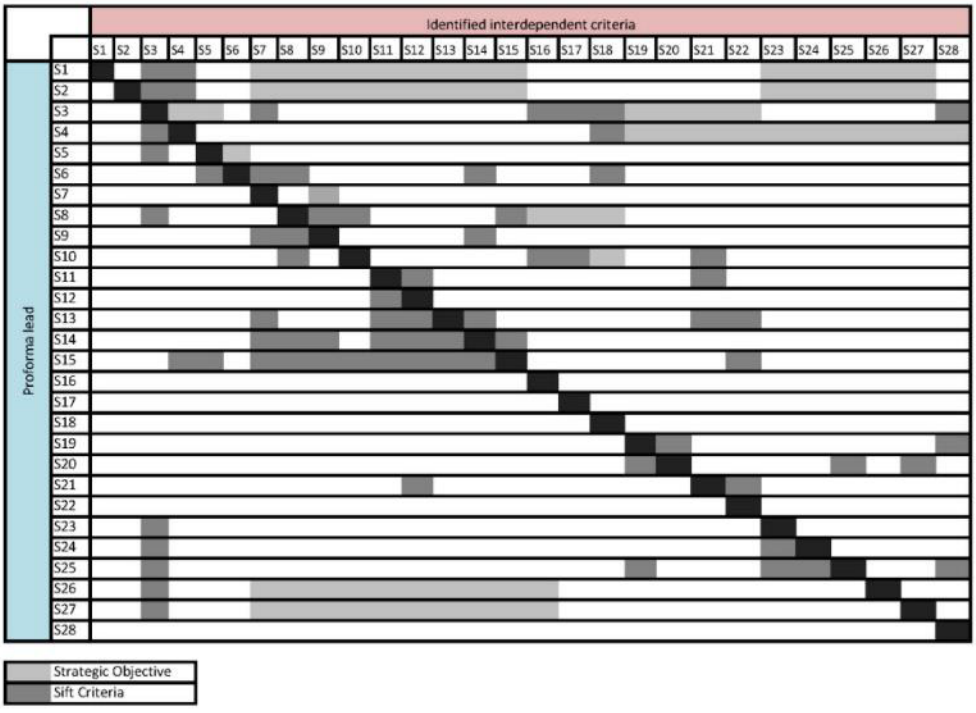
| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | | | | junctions might require mitigation<br>• Can car parking be accommodated on airport land? |
| | O10: To be technically viable, taking account of the needs of airport users, operators and phasing | S19 | Deliverable within the context of the current concession to 2031 | • Deliverable without impacting substantially on current concession boundary<br>• Impact on additional land leased by LLAOL<br>• Can the option be phased so as to meet demand until a new concession is in place |
| | | S20 | Attractive to future concessionaires | • Cost of works and timing relative to income<br>• Can the option be phased to align with income<br>• Opportunities for additional revenue generation, e.g. from Maintenance, Repair and Overhaul (MRO), Business Aviation, ancillary facilities<br>• Does the scheme provide sufficient flexibility from a design and operational perspective, for future concessionaires and airlines |
| | | S21 | Feasibility of landfill, earthworks and ground conditions | • What extent does this option use geological resource i.e. aggregate?<br>• To what extent does this option present a potential pollution risk to water or soil quality? Can this be mitigated?<br>• To what extent does this option require landfill waste to be excavated<br>• To what extent does this option reuse excavated materials?<br>• Does this option improve the contamination conditions of soil/groundwater?<br>• Extent of construction risks to environment and health of local residents?<br>• Does this option generate large volumes of waste or problematic waste (e.g. hazardous or landfill waste) in construction, operation and decommissioning that cannot be effectively managed locally?<br>• To what extent does it rely on large volumes of non- |

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | | | | renewable materials for its construction?<br>• How do each of the options relate to waste operations? |
| | | S22 | Additional land required beyond current LLAL holdings | • Does the proposed layout and the earthworks needed to support it directly occupy land not owned by LLAL<br>• Will the earthworks required to win material involve land not owned by LLAL<br>• Do the proposed access routes and the earthworks needed to support them directly occupy land not owned by LLAL |
| **Operational Viability** | O11: To enhance LTN's system efficiency and resilience | S23 | Operational effectiveness | • How efficient is the layout<br>• Delays to airlines<br>• Passenger experience |
| | | S24 | System resilience | • Resilience to operational disruption<br>• Resilience in the broader infrastructure (road and rail)<br>• Extent of resilience improvement |
| | | S25 | Attractiveness to airline operators | • Impact on airline delays<br>• Impact on airport charges and cost of operation<br>• Resilience to operational disruption<br>• Attractiveness to passengers<br>• Flexibility to adapt to airlines changing requirements<br>• Flexibility to adapt to airline operational requirements (ie parking/offices)<br>• Ability to accommodate based carriers |
| | | S26 | Safeguarding for expansion | • Flexibility in expansion<br>• Safeguarding for requirements past 2040 |
| | | S27 | Safeguarding existing levels of MRO, Business, Aviation and Cargo activity | • Maintain slots and land for MRO, business aviation and cargo to minimise disruption and maintain existing operations |
| **Cost** | O12:To be affordable including any public expenditure that may be required and taking account of the needs of airport | S28 | Estimated cost benefit | • Capex expenditure<br>• Affordability of scheme |

| | Strategic Objective | Sift Criteria number | Sift Criteria | Sub-Criteria |
|---|---|---|---|---|
| | users and operators (Value for Money) | | | |

3.2.4 The interdependencies between the criteria set out in **Table 3.1** are highlighted in **Figure 3.1** overleaf which was intended to enable cross-cutting criteria to take into consideration other criteria during the appraisal process. This Interdependency Matrix was also used to help prevent overlap between the criteria, such as groundwater pollution risks associated with the landfill, to minimise double counting.

Figure 3.1 Interdependencies between criteria



3.2.5 As stated in **3.2.3,** the section below will explain the rationale of selection, the general scope of appraisal for each criterion and the sub-criteria identified by the technical leads. For clarity, this is set out under each strategic objective, with the key policies, strategies and guidance referenced in **Appendix B.** More specific detail or assumptions is included with each appraisal table where necessary in **Chapter 5**.

## Strategic Objective O1: Compliance with Government Aviation Policy

3.2.6 The Airport NPS (June 2018) stated in Paragraph 1.37 that the Government "was minded to be supportive of all airports who wish to make best use of their existing runways". This policy built on the 2003 Future of Aviation White Paper which first outlined, *"the first priority is to make the best use of the existing runways, including remaining capacity at Stansted and Luton"*, the 2013 Aviation Policy Framework, and more recently DfT's paper 'The future of UK aviation: Making best use of existing runways' published in June 2018.

3.2.7 As a consequence, sift criterion *S1: Consistent with making best use of the existing runway* sought to identify whether the option family required modification, whether to alignment or length, of the existing runway. Based on the strategic objective to be compliant with Government aviation policy, criterion S1 also considered the implications of the deliverability of the project against the proposed northwest runway at Heathrow, the Government's consumer objectives and the overall support the option provided to the delivery of a competitive aviation sector.

## Strategic Objective O2: To identify a scheme that is likely to be capable of being consented and secured through a DCO

3.2.8 Sift criterion *S2: In broad conformity with national and local town planning policies and capable of attracting the consents required* appraised each option family's conformity with National and Local Planning polices to the extent that they could sufficiently support the grant of a Development Consent Order. Criterion S2 therefore considered the Luton Local Plan (2017); The North Hertfordshire and Central Bedfordshire Local Plans; Green Belt Policy in the National Planning Policy Framework (NPPF) and the "very special circumstances" Green Belt test.

## Strategic Objective O3: To provide additional capacity and connectivity in line with the assessment of need

3.2.9 The Business Case for the Future LuToN project focuses on increasing the capacity of LTN to 36-38mppa. Sift criterion *S3: Increase capacity both airside and landside to achieve target increase up to 36-38mppa* focused on the ability of the option

families to be phased to provide this additional capacity in line with demand. The overall capacity assessment was based on the IATA Airport Development Reference Manual and using Simulation modelling with standard 10 minute delay criterion adopted for scheduling purpose, and looked into identified capacity in each of the Runway, Apron and Terminal subsystems.

**Strategic Objective O4: To maximise the potential economic benefits to the regional, sub-regional and local economies**

3.2.10 Sift criterion *S4: Deliver economic benefits nationally and regionally* derived its sub-criteria on the metrics used to assess wider economic impacts developed by the Airports Commission and based on Aviation WebTAG. As a result, the criterion focuses on: benefits to users, producer benefits (increased income to airlines, airport operators) and wider connectivity benefits via improved road/ rail infrastructure. This criterion is separate from S5 as it considers the wider economic benefits of the airport expansion rather than the local economic impact considered in the latter. The sub-criteria for sift criterion *S5: Increase job opportunities for the people of Luton and the surrounding areas* were therefore based on the principles of Economic Impact Assessments, such as the forecast impact of a project compared to a counterfactual 'base case', the Luton Skills and Employability Policy/Luton Investment Framework and the SEMLEP Economic Strategy. As a result, the sub-criteria include consideration of how many jobs and of what type are likely to be created and retained during the expansion.

**Strategic Objective O5: To maintain and where possible improve the quality of life for Luton's residents and the wider population**

3.2.11 Sift criterion *S6: To promote quality of life and minimise adverse impacts on communities* responded to the strategic objective to maintain, and where possible improve, the quality of life for Luton's residents and the wider population. The criterion appraised the extent to which the option families: improve the quality and choice of employment and training opportunities; reduce adverse effects of unemployment, low income and job insecurity; preserve the amenity of residential areas; and promote the access and enjoyment of community facilities. The sub-criteria also included specific consideration of the potential equality impacts for groups with protected characteristics and communities that experience high levels of socio-economic deprivation. The sub-criteria responded to the Infrastructure Planning (Environmental Impact Assessment) Regulations (2017) and the requirement to consider the direct and indirect significant effects of projects on 'population and human health', alongside Luton Borough Council strategies such as the Health

Inequalities Strategic Plan (2015-2020) and the Skills and Employability Strategy (2016-2020) amongst others.

**Strategic Objective O6: To minimise environmental impacts and, where practicable, to actively mitigate and manage any potential environmental effects**

3.2.12 Strategic objective O6 focused on the environmental impacts of the four option families and is comprised of nine sift criteria. These include consideration of potential impacts on: noise; air quality; natural habitats and biodiversity; carbon emissions; water resources; flood risk; cultural heritage; landscape and visual impact and environmental land use; and resilience to climate change. As a strategic objective therefore, the set of criteria are largely informed by the likely scope of the Environmental Impact Assessment (EIA) to be undertaken as part of the DCO process, with each criterion defined by the respective technical discipline.

3.2.13 With reference to the LTN Noise Action Plan 2013 – 2018 and the DfT's TAG Unit 3, Environmental Impact Assessment guidance, sift criterion *S7: Noise impact* sought to minimise the number of people exposed to the adverse impacts of noise. This process included consideration of noise and vibration stemming from: site preparation, construction, heavy good vehicle (HGV) traffic, aviation and other on-site ground activities.

3.2.14 Sift criterion *S8: Air quality* appraised each option for its likelihood of causing: an exceedance of any air quality objective; delayed compliance with EU limit values (Pollution Climate Mapping – PCM - model calculated); or an adverse or beneficial impact on human and ecological air quality receptors. The appraisal therefore makes reference to Defra's policy and technical guidance, Institute of Air Quality Management (IAQM) guidance on assessment and the Airport Commission Appraisal Framework.

3.2.15 Sift criterion *S9: Natural habitats and biodiversity* looked at the extent to which protected and notable species, as well as internationally, nationally and locally protected/ designated nature conservation sites, are likely to be impacted in the four option families. The criterion makes reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland, national policies and local biodiversity action plans and the ODPM Circular 06/2005 – Biodiversity and Geological Conservation.

3.2.16 Sift criterion *S10: Carbon emissions* appraised the estimated Greenhouse Gas emissions during the construction and operational phases of the four option families. The sub-criteria

are based on the IEMA "Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emission and Assessing their Significance"; the 2017 revised EIA requirements for climate change assessment; and the WebTAG: Tag unit A5-2 aviation appraisal.

3.2.17 Sift criterion *S11: Water resources* sought to appraise the four option families' direct and indirect impacts on: surrounding watercourses; groundwater receptors and quality; water abstraction and dewatering. It also covered Source Protection Zones and the impact of abstraction of groundwater in the area, making reference to the Luton Local Plan Policy LP36, preliminary Flood Risk Assessments and the Luton Surface Water Management Plan and Water Cycle Strategy.

3.2.18 Sift criterion *S12: Flood risk* aimed to consider the options' encroachment on any areas at risk of flooding from surface water, rivers, artificial water bodies or groundwater, and the extent to which they pose a risk to receptors located in the vicinity of the site. As a result, the criterion built on a similar body of policies, strategies and Guidance to S11.

3.2.19 Sift criterion *S13: Cultural heritage* looked at the potential effect of options on internationally and nationally designated heritage assets and their settings. The appraisal also considered the extent to which their impact can be mitigated or managed using benchmarks derived from the Planning Practice Guidance, NPPF and the Ancient Monuments and Archaeological Areas Act, alongside Historic England's preservation principles and Good Practice Advice.

3.2.20 Sift criterion *S14: Landscape and visual impact and environmental land use* appraised the four options for their impact on designated landscapes or townscapes, sensitive visual receptors and landscape value features. The criterion also appraised the options relative impact on agricultural land, including soil and rural land designations, and the extent to which both environmental land use and landscape impacts can be mitigated. It is therefore influenced by guidelines for Landscape & Visual Impact Assessment (GLVIA3), the Ministry of Agriculture, Fisheries and Food Agricultural Land Classifications, Natural England's Technical Information Note 049 (2012) Best and Most Versatile Agricultural Land and the Soil Action Plan for England. There is a link between Criteria S21 and 22, which considered land in the environmental and planning sense respectively.

3.2.21 Sift criterion *S15: Climate change* considered the extent to which the options reduce climate change risks during construction, operation and surface access phases. These risks included the impact of extreme high temperatures; increased heavy precipitation events and flash flooding; land use associated flood risk; increased intensity and occurrence of

extreme weather events; increase in mean temperatures and seasonality. The appraisal was influenced by the IEMA guide to climate change resilience and adaptation, Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, the Climate Change Act and the fifth carbon budget for the UK and the LTN Climate Change Adaptation Report.

**Strategic Objectives O7-O9: To maximise the number of passengers and workforce arriving at the airport on public transport; To minimise new build highway requirements; and To minimise impact on the wider highway network**

3.2.22 An increase in capacity at LTN impacts the existing surface access arrangements of the airport and is a significant consideration in the selection of a preferred option. Strategic objectives 7, 8 and 9 therefore considered the potential public transport access opportunities in each option, the impact on the wider highway network and the magnitude and scale of new build highway requirements.

3.2.23 Sift criterion *S16: Public transport modal share* appraised the options on their public transport accessibility and their anticipated walking/ cycling modal share. The criterion therefore responds to local planning policies and aspirations, the DfT Transport Assessment Guidance (TAG) and the Manual for Streets.

3.2.24 Sift criterion *S17: Requirement for additional highway infrastructure* and *S18: Impact on wider highway network* also made reference to key policies, strategies and guidance but were also informed by the technical lead's knowledge and previous experience of working in the area, including knowledge of the airport and its adjoining highway network. This included knowledge on peak hour constraints and potential increases in airport volumes to help generate the view on additional highway infrastructure which was taken as part of this appraisal. In addition, some limited Junction 10 modelling was undertaken to assist, with Criterion S18 seeking to minimise the impact that proposal-generated traffic would have on the wider highway network, including consideration of overall capacity, parking and the level of mitigation required on third party land.

**Strategic Objective O10: To be technically viable, taking account of the needs of airport users, operators and phasing**

3.2.25 Sift criterion *S19: Deliverable within the context of the current concession to 2031* and *S20: Attractive to future concessionaires* aimed to ensure the options were deliverable without impacting substantially on the current concession boundary and prevent potential undue complexity for the new

concessionaire by being phased to meet demand until a new concession is in place. As a result, the two criteria are focused on delivery and split to appraise the suitability of the options to the two groups of current and future concessionaires.

3.2.26 These criteria therefore considered the boundaries, rights and liabilities in the current concession agreement and other areas leased by LLAOL.

3.2.27 When the current concession comes to an end in 2031, a new agreement will be formed and sift criterion S20 appraised the attractiveness of the four option families to any future concessionaires. The sub-criteria of this criterion focused on the appropriate phasing and cost of construction relative to income, alongside any opportunities for additional revenue generation through maintenance, repair and overhaul (MRO), business aviation and other ancillary airport facilities.

3.2.28 As highlighted in the consideration of Criterion S15 above, the four option families require differing levels of earthworks, with considerations including the feasibility of building on landfill and the implications on ground conditions. The sub-criteria for *Criterion S21: Feasibility of landfill, earthworks and ground conditions* therefore include, amongst others, the quantum of landfill waste to be excavated, the re-use of aggregates and the extent of construction risk to the environment. The criterion builds on standards and guidance, with respect to earth works design, from EU landfill directives; Environment Agency Principles; Defra and CI:AIRE guidance; and the British Standard Code of practice for the investigation of potentially contaminated land. Sift criterion *S22: Additional land required beyond current LLAL holdings* also considers land and complements the land-based sub-criteria in S17 by identifying the elements of the proposed layouts, including the earthworks needed to support it and access routes, which occupy land not owned or optioned by LLAL.

## Strategic Objective O11: To enhance LTN's system efficiency and resilience

3.2.29 One of the strategic objectives supported in Luton's vision statement is to improve the system efficiency and operational effectiveness of LTN. Criteria S23, 24 and 25 targeted an International Air Transport Association (IATA) level of service C (or equivalent, denoting a good Level of Service, conditions of stable flow, acceptable delays and good levels of comfort) to reduce delays to airlines, improve passenger experience and ensure efficient operations in the future through the spatial distribution of the airport.

3.2.30 Each Criterion took a different aspect of this, with Criteria S23 and 24 focusing on operation effectiveness and system resilience respectively, both in absolute terms and compared to

the existing scenario. *Criterion S25: Attractiveness to airline operators* considered the attractiveness of options to passengers, airport charges and the cost of operation.

3.2.31 The final criteria under strategic objective 11 focused on safeguarding for the future. The Aviation Strategy Call for Evidence (2017) envisages longer term growth to 2050 and beyond, with paragraph 2.10 stating that "the Aviation Strategy will consider how the need for further growth should be treated beyond the additional runway that is required by 2030." Sift criterion *S26: Safeguarding for expansion* therefore recognises the need to safeguard for airport requirements beyond 2040, with S27 focused on retaining existing levels of MRO; Business Aviation and Cargo activity in the future airport layout. These activities both facilitate the airport and provide additional sources of revenue for future airline operators and local employees and are important considerations in the Future LuToN project.

**Strategic Objective O12: To be affordable including any public expenditure that may be required and taking account of the needs of airport users and operators (Value for Money)**

3.2.32 The final strategic objective considered during Sift 2 process was an initial and indicative appraisal of the relative cost benefit relationship of the proposed options, given information available at this stage, incorporating: the likely relative level of investment required; impact of each option family on operational costs; and the likely comparative derived qualitative and quantitative benefit.

# 4 OPTION DEVELOPMENT

## 4.1 Overview

4.1.1 Following Sift 1, the options remaining under consideration were developed further by the design team. The appraisals in Sift 2 therefore respond to a greater level of design information available. This chapter starts with a recap of the common policy and spatial issues as set out previously in the Sift 1 report, before describing the four refined options as appraised in Sift 2.

## 4.2 Summary of policy and spatial issues

4.2.1 There are a range of spatial and policy issues which have informed the appraisal of options for LTN, aside from the complex design requirements of new airside and landside facilities. Whilst the specific requirements of designing an airport have not been covered in this report, they have underpinned the development of the option families as described later in this chapter.

4.2.2 We have summarised below the most relevant spatial issues in relation to the appraisal for the sift process, to provide an overview of the context for the appraisal rationales as set out in the following chapter. It is important to note that all of the spatial issues are interlinked and interdependent, so the role of the sift process is to synthesise these issues for the purposes of appraisal. The main spatial issues are described and illustrated on **Figure 4.1** overleaf, but this is not intended to be an exhaustive list or diagram.

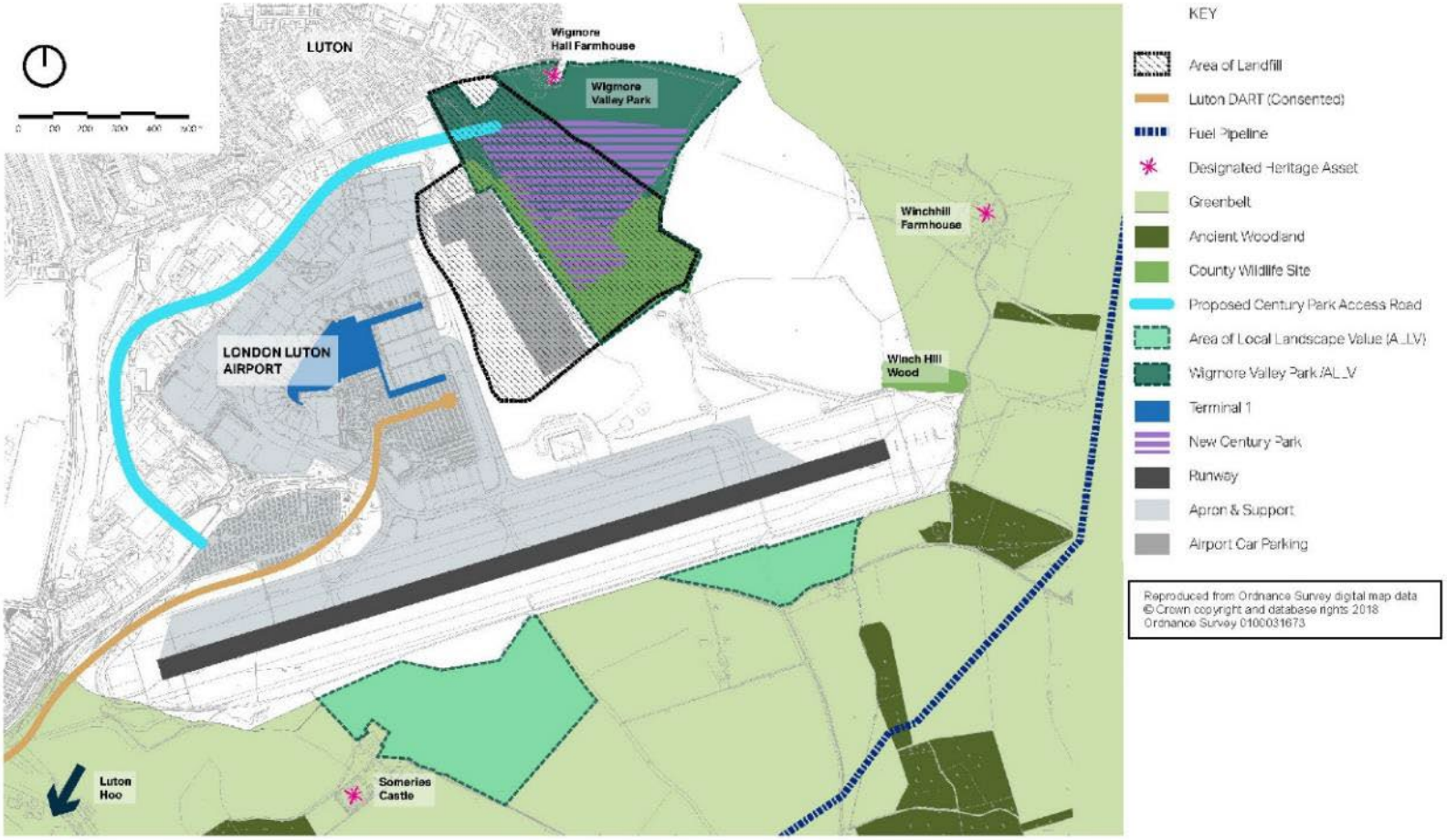
### Policy

4.2.3 The issues here relate in particular to our 'Strategic Fit' criteria which focus on fit with Government Aviation policy (S1), national town planning policy (S2) and capacity of options (S3).

4.2.4 In local planning policy terms, the Luton Local Plan 2011-2031 (Ref 4.1) defines a strategic policy boundary for the growth of the Airport (Policy LLP6) which seeks to make provision for the airport, safeguarding its "key sub-regional economic contribution to jobs and wealth creation while setting a clear environment and transport framework with which to regulate future growth" (paragraph 4.5.1).

4.2.5 The Local Plan allocation is broadly contiguous with the start of the Green Belt, which applies to the south and east of the Airport, as shown in **Figure 4.1** overleaf.

Figure 4.1 Illustrative key site issues map



4.2.6 The Government attaches great importance to preserving Green Belts, with the fundamental aim of the policy being that of prevention of urban sprawl from large built up areas and safeguarding the countryside between neighbouring towns. Development of the type envisaged by this Project should not be approved on any Green Belt unless very special circumstances can be demonstrated (paragraph 143 of the NPPF 2019, Ref 4.2).

## Economic and social

4.2.7 Issues which relate to economic and social criteria (S4 to S6 inclusive) are closely related to environmental and surface access issues (see below), in terms of the potential impacts on health, wellbeing, access to employment and training opportunities and leisure opportunities. As such, they are not mapped separately on **Figure 4.1**.

## Environment

4.2.8 The issues here relate in particular to our sustainability and environment criteria (S7 to S15 inclusive).

4.2.9 There are a wide range of environmental factors which have informed the appraisal of options, including but not limited to the following:

- *Natural habitats* - such the Wigmore Park County Wildlife Site (CWS), Winch Hill Wood CWS and Local Wildlife Site, Ancient Woodland, as shown on **Figure 4.1** and other known habitats such as badger setts and bat roosts (not shown on Figure 4.1);
- *Designated heritage assets* – including Someries Castle (Scheduled Monument); Wigmore Hall Farmhouse and Winchhill Farmhouse (Grade II listed buildings) as shown on **Figure 4.1** and Luton Hoo (Grade 1 listed building)(outside of the area shown on Figure 4.1), as well as areas of high archaeological potential to the north-east of the site. The potential visual impact of development on the setting of these heritage assets and others needs to be carefully considered;
- *Earthworks and landfill* – this is relevant as the impact of building over landfill (piling would be required within landfill) and creating an earthworks platform needs to be considered in terms of costs, and because disturbance to landfill can potentially increase the risk of groundwater pollution. The area of landfill is shown on **Figure 4.1**. A range of earthwork activities will need to be carried out regardless of the chosen option but sourcing the earth required will be the main issue; and

- *Locally and nationally designated landscape areas* – including locally designated Areas of Local Landscape Value (ALLV)(shown on **Figure 4.1**) or Areas of Great Landscape Value (AGLV) and designated Areas of Outstanding Natural Beauty (Chilterns AONB)(both outside of the area shown on Figure 4.1). The landscape and visual impact of development on these areas needs to be considered, as does the effect on open space green infrastructure and the Green Belt. There may also be a number of visual receptors susceptible to change in views and visual amenity.

4.2.10 There are other considerations which are not mapped here such as noise and air quality receptors (proximity to), which were also part of the appraisal process and which will also influence the appraisal of social criteria.

## Surface access

4.2.11 The issues here relate in particular to surface access criteria (S16 to S18 inclusive). There are existing surface access issues and there are also proposed projects which need to be taken into consideration during the appraisal as they impact on the options.

4.2.12 In terms of existing surface access, the main priority is to make the best use of existing highways infrastructure, providing improvements to mitigate any identified airport expansion impacts, and to assess the need for new highway links and junctions. Roads infrastructure will need to be provided on the site with improvements to some local roads and junctions.

4.2.13 Looking to the future there is a need to consider how the options affect the potential to introduce measures to boost the share of airport associated trips by means other than the private car, with a particular emphasis on increased travel by public transport, both rail and road based.

4.2.14 In terms of forthcoming surface access projects already proposed, there are two which need to be considered and which are mapped on **Figure 4.1**:

- *Century Park Access Road (CPAR)* – Century Park is an undeveloped site adjacent to and east of LTN that is identified as a major site for employment development with Luton Borough Council's (LBC) Local Plan. It was acquired by LLAL in 2015. The CPAR is a proposed new road around the airport to support the proposed development at New Century Park.
- *Luton Direct Air-Rail Transit (DART)* – Luton DART will be a new fully-automated transport system, approximately 2.1km in length, to move passengers between Luton Airport Parkway station and the airport terminal. The system is

scheduled to become operational by 2021. It is envisaged that this would need to be extended and linked to the new terminal, whichever option is developed, and its alignment interface with proposed airfield and terminal options needs to be considered.

## Operational

4.2.15 The issues here relate in particular to our deliverability, operational viability and cost criteria (S19 to S22 inclusive).

4.2.16 LLAL – which is in turn wholly owned by Luton Borough Council - owns LTN. The airport is operated under a concession agreement, until 2031, by LLAOL. The boundaries of the land owned or operated by each entity is an important consideration in the development and appraisal of options as it affects a range of cross-cutting and interdependent issues, including:

- *Deliverability* – where development is proposed on site, or how it might be phased, could impact upon the existing concessionaire and the running of its operations;
- *Land ownership* – if development is proposed on land owned by LLAL, there would be a lower risk and cost to the Project, whereas if land needs to be acquired for development this could have financial and social implications. If development is proposed on land operated by the concessionaire, this could impact upon operational viability;
- *Operational viability* – depending on where development is proposed on site, it could impact on the operational efficiency and resilience of the airport. Construction phases could affect existing levels of service in the airport for some time for example, but new terminal buildings could offer enhanced levels of service in the future. Having more than one terminal building could enhance operational resilience in the event of a major incident, but could impact on efficiency if operations have to be split across multiple buildings; and
- *Cost* – there are a range of costs to consider: firstly, if land needs to be acquired for development, this would impact on the cost and financial viability of the overall Project. Secondly, options need to be operationally and financially attractive to the concessionaire. In addition, construction costs and phasing could ultimately reduce benefits to users and producers, including the airlines.

## Proposed development

4.2.17 As discussed above, LLAL acquired the adjacent Century Park site in 2015 and has applied for planning permission for New Century Park (shown in outline on **Figure 4.1**), a mixed-use commercial development on Wigmore Valley Park. The scheme

will include employment space, new infrastructure (the CPAR as discussed above) and a new public park and amenities in order to mitigate the loss of part of the existing Wigmore Valley Park – which is being used to deliver the commercial development.

## 4.3 Options appraised in Sift 2

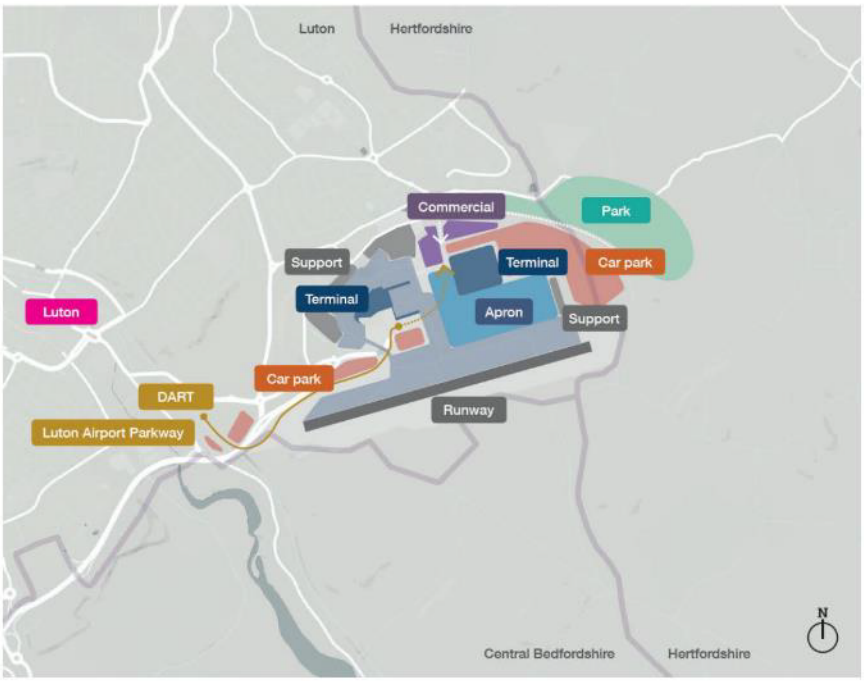
4.3.1 As stated in **Paragraph 2.1.2**, the following four options were appraised during Sift 2:

- Option 1a (**Figure 4.2**)– new terminal and apron capacity to the north of the runway, resulting in two terminals north of the runway;
- Option 1b (**Figure 4.3**)– a single terminal complex to the west of the site
- Option 1c (**Figure 4.4**)– a single terminal complex to the east of the site; and
- Option 2 (**Figure 4.5**) – new terminal and apron capacity to the south of the runway, with two terminals; one north and one south of the runway.

## 4.4 Option 1A

4.4.1 This option would comprise two terminals north of the runway, retaining the existing terminal and with a new terminal on part of the existing Wigmore Valley Park, which could be replaced further to the east.

Figure 4.2 Option 1A




4.4.2 This option looks at providing a second 20mppa terminal building on land to the north of the runway. It could be built in a phased approach in line with passenger demand. Unlike options 1b and 1c, the construction of a second terminal builds on the existing capacity of 18mppa of the current terminal building (T1), bringing the overall potential capacity to a maximum 36-38mppa between the two terminals. It is anticipated that T1 would in time be refurbished or possibly reconstructed in a phased approach.

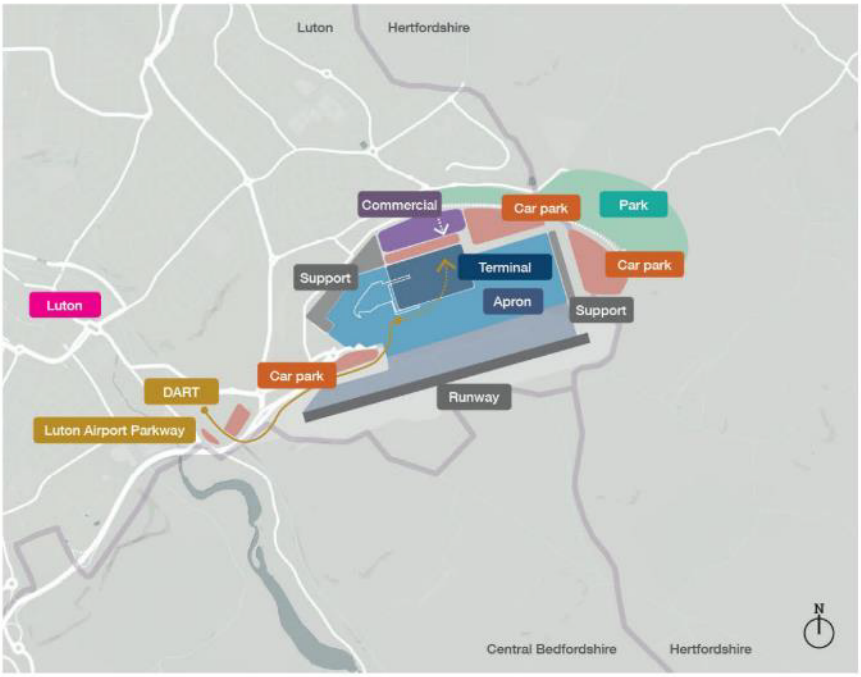
4.4.3 As well as the development of the terminal buildings, the option covers the concurrent development of the airfield infrastructure, the associated surface access enhancement into the airport, the necessary enabling works and extension to the mass transit system. This option aims to contain the airport as far as practical within the current LLAL limits of ownership.

4.4.4 With this option, Wigmore Valley Park could be reprovided to the east.

## 4.5 Option 1B

4.5.1 This option 1b would comprise a single new terminal option north of the runway on the long stay car park and part of Wigmore Valley Park phased over time to incorporate or replace the existing terminal. This terminal could be located as far west as possible and expand eastwards as required.

Figure 4.3 Option 1B




4.5.2 The phased terminal development would be progressed in line with passenger demand, to ultimately a potential single terminal of up to 38 mppa capacity. During the development of the new terminal building (T2), operations would run out of the existing T1, which would maintain the operational airport capacity of 18mppa. Decommissioning/ demolition/incorporating of the existing T1 would be in line with sufficient development of T2 to accommodate passenger demand.

4.5.3 The single terminal scheme would need to be sized both for the forecast increase in demand and also to allow migration of operations from the existing 18mppa T1. It would subsequently be phased to deliver increasing capacity to satisfy the ongoing growth of the airport.

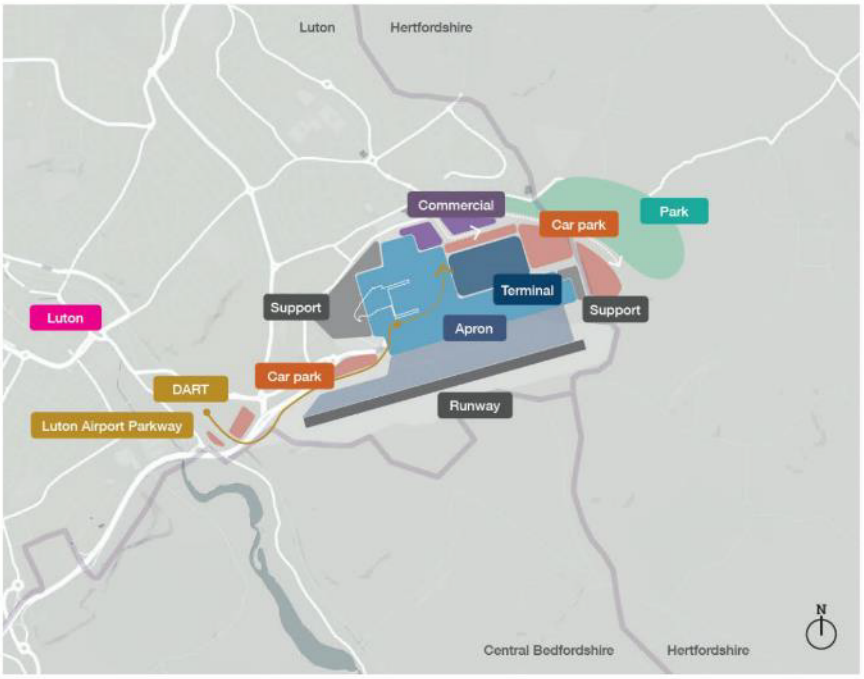
4.5.4 As well as the development of a single main terminal building, the option covers the concurrent development of the airfield infrastructure, the associated surface access enhancement into the airport, the necessary enabling works and extension to the mass transit system. This option also aims to contain the airport as far as practical within the current LLAL limits of ownership.

4.5.5 As with option 1a, Wigmore Valley Park could be reprovided to the east in this option.

## 4.6 Option 1C

4.6.1 This option would comprise a single new large terminal north of the runway on Wigmore Valley Park. This terminal could expand westwards as required.

Figure 4.4 Option 1C




4.6.2 This option is similar to option 1b, with the key difference that in option 1c is that the terminal would be developed from the east towards the west in a phased sequence towards the existing terminal building. In this option, the resulting terminal would be distant from the existing Terminal and the latter would not be incorporated into the new terminal. The decommissioning/demolition of the existing T1 would occur as sufficient accommodation is developed within the new Terminal.

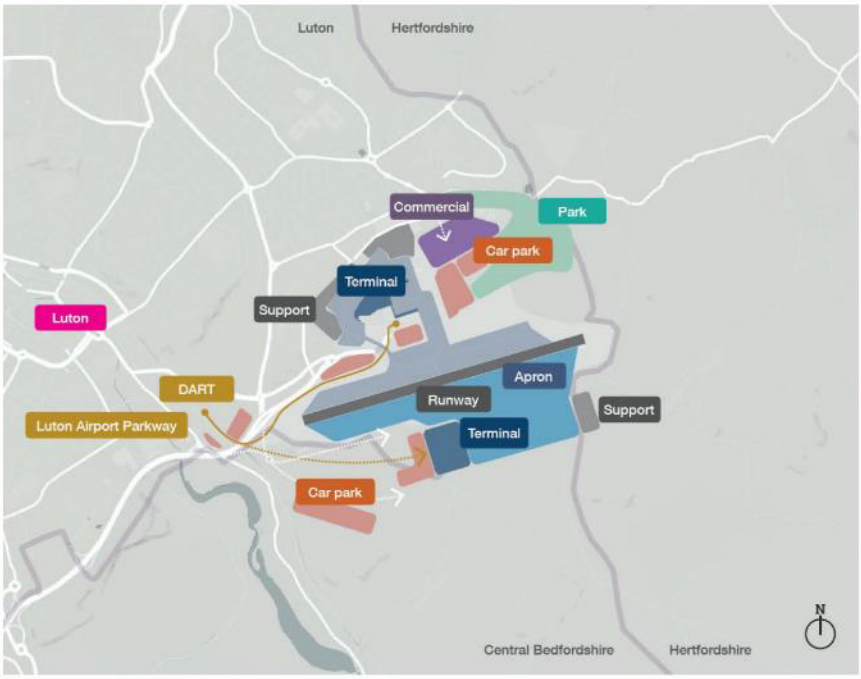
4.6.3 As well as the development of a single main terminal building, the option covers the concurrent development of the airfield infrastructure, the associated surface access enhancement into the airport, the necessary enabling works and extension to the mass transit system.

4.6.4 As with option 1b, this option aims to contain the airport as far as practical within the current LLAL limits of ownership, and Wigmore Valley Park could be reprovided to the east.

## 4.7 Option 2

4.7.1 This option would comprise a two-terminal solution, retaining the existing terminal with a new terminal south of the runway.

Figure 4.5 Option 2




4.7.2 Similar to option 1a, this option is based on utilising the existing 18mppa terminal and the construction of a new terminal building of up to 20mppa capacity but south of the existing runway giving a potential 36-38mppa capacity.

4.7.3 The additional work is similar to the other options, though in this option the associated works required for extending the mass transit system and the surface access are significant in comparison to the other options. The mass transit system would need to branch to the southern side of the runway, significantly increasing the length of the system and civil engineering works in comparison with the other options. Significant road enhancement will need to be provided with a new dual carriageway system connecting the southern terminal building to the existing road network.

4.7.4 With associated taxiways, aprons, stands and airport support facilities located with the terminal, the development would mirror that on the north side of the runway to a significant extent.

4.7.5 A larger proportion of option 2, compared to the other three options, falls outside the current LLAL ownership and would require acquisition of a significant area of additional land.

4.7.6 In this option, it is anticipated Wigmore Valley Park could significantly remain where it is proposed to be located under the planning application for New Century Park.

# 5 APPRAISAL RATIONALE

## 5.1 Overview

5.1.1 This chapter sets out a summary of how the options were appraised under each of the 28 sift criteria, as previously described in **Chapter 3.**

5.1.2 The sift criteria have been grouped by the strategic objective to which they relate. For each criterion, we have set out below summary tables which present the results of the appraisal for each option family against each of the relevant sub-criteria, and the rationale for the overall appraisal level in each case. Each table also includes a general summary on the respective performance of the options for that sift criterion.

5.1.3 The chapter concludes with an overview of the overall results of the appraisal.

## 5.2 Strategic Objective O1: Compliance with Government Aviation Policy

5.2.1 **Table 5.1** below sets out how the options performed against the relevant criterion and its sub-criteria, examining whether they are consistent with Government Aviation policy in relation to: proposed use or modification of existing runway; implications for Heathrow Airport expansion; support for consumer objectives and the delivery of a competitive aviation sector.

Table 5.1: S1 Consistent with making best use of the existing runway

| ***S1 Consistent with making best use of the existing runway*** | | | | |
|---|---|---|---|---|
| Sub Criteria | Option Family | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does the option use the existing runway or propose a new runway? | All four option families appraised were considered capable of delivering at least 50 aircraft movements per hour, which has been assessed as the operational capacity to deliver best use of the single runway at LTN. Hence, achieving this hourly movement rate is a benchmark representing 'best use' consistent with aviation policy such as the NPS and Aviation Strategy Call for Evidence. The capacity target is consistent with 2003 Future of Aviation White Paper which supported expansion of capacity at LTN up to 240,000 aircraft movements a year with the existing runway. | | | |
| Does the option require modifications to the existing runway – alignment or length? | None of the options propose a new runway or modifications to existing alignment and it has been assumed that an emergency runway, if included in future detailed design, would not constitute a breach in policy. | | | |
| Would the option have implications for the deliverability of the proposed Northwest runway at Heathrow as supported by emerging Government policy (Draft NPS)? | There would be no impact from any of the options on deliverability of the Northwest runway at Heathrow as airspace is being redesigned to ensure that there are no airspace conflicts and Government policy supports other airports making best use of their runways alongside the third runway at Heathrow. | | | |
| Would the option support the Government's consumer objectives? | For all options, expanding the airport to 'best use' will deliver connectivity and consumer benefits consistent with broader Government policy objectives. | | | |
| Would the options support the delivery of a competitive aviation sector? | Increased capacity will enhance competition between airports in the South East of England and aid airline competition in support of broader Government policy objectives. | | | |
| **Appraisal level** | 20 | 20 | 20 | 20 |
| **Summary** | All four option families were considered to be Large Beneficial, with no clear differentiating factors between the four options relating to this criterion. | | | |

## 5.3 Strategic Objective O2: To identify a scheme that is likely to be capable of being consented and secured through a DCO

5.3.1 **Table 5.2** below sets out how the options performed against the relevant criterion and its sub-criteria, considering their alignment with planning policies at the national and local level.

Table 5.2: S2 In broad conformity with national and local town planning policies and capable of attracting the consents required

| ***S2 In broad conformity with national and local town planning policies and capable of attracting the consents required*** | | | | |
|---|---|---|---|---|
| Sub Criteria | Option Family | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does the proposal meet National Planning Policy and Local Planning Policy sufficiently to support the grant a DCO, having regard to s104 of the Planning Act 2008, and the need to have regard to the Local Impact Report(s) and all relevant matters, including National and Local planning policies? | Options 1a, 1b and 1c are within the Strategic Allocation outlined in the Luton Local Plan Policy LLP6. The indicative option designs indicate that there is a potential requirement to place some, comparatively minor, development within the Green Belt (limited to facilitating development such as surface level car parking). However, in taking forward the northern options, it is anticipated that a key requirement of the ongoing design development will be to seek to avoid such development in the green belt by exploring alternative surface access strategies, arrangements and layouts. If this is not possible on the basis of design constraints, economics or viability, then a very special circumstances case would need to be presented and balanced against any potential harm to the openness of the Green Belt.<br>On the above basis, the option families have been appraised as Moderate Beneficial. | | | The second terminal and all associated buildings and structures south of the runway would be outside of the Strategic Allocation outlined in the Luton Local Plan Policy LLP6. This option also places all built development including significant terminal structure and a new access road within land designated as Green Belt.<br>This option is unlikely to meet the 'very special circumstances' Green Belt test as long as the other three options remain viable alternatives, hence being appraised as Currently Unworkable. |
| **Appraisal level** | 10 | 10 | 10 | -20 Currently Unworkable |
| **Summary** | The three options focusing development north of the runway – options 1a, 1b and 1c - perform equally well, whereas Option 2 is considered to be Currently Unworkable given current policy constraints. | | | |

## 5.4 Strategic Objective O3: To provide additional capacity and connectivity in line with the assessment of need

5.4.1 **Table 5.3** below sets out how the options performed against the relevant criterion and its sub-criteria, taking into consideration their ability to provide additional capacity in the runway, apron and terminal subsystems, and to phase this capacity in line with projected demand.

Table 5.3: S3 Increase capacity both airside and landside to achieve target increase up to 36-38mppa

| *S3: Increase capacity both airside and landside to achieve target increase up to 36-38mppa* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| What is the capacity to be provided in each subsystem :<br>– Runway?<br>– Apron?<br>– Terminal? | Simulation modelling has demonstrated that all options could deliver 50 movements per hour on the runway. Provision of a second full parallel taxiway could enable a higher runway movement rate to be delivered (c.52 movements per hour), subject to other constraints.<br>The two terminals could provide capacity for up to 36-38mppa with the potential for 20mppa in the new terminal building. | Simulation modelling has demonstrated that all options could deliver 50 movements per hour on the runway. Provision of a second full parallel taxiway could enable a higher runway movement rate to be delivered (c.52 movements per hour), subject to other constraints.<br>Sufficient apron could be provided to accommodate 220,000 passenger ATMS a year and the required space for cargo, MRO and business aviation activity.<br>The single terminal buildings in Options 1b and 1c could provide capacity for up to 36-38 mppa. | | Please see appraisal for option 1a. |
| What is this option's ability to phase in line with demand? | Development can be phased to meet demand in option1a, whereas this is problematic for options 1b and 1c. | Some capacity constraints during the phased implementation of a single terminal (see S19) due to limited apron expansion area available. Unlikely to deliver capacity in time to meet demand and may result in reduced capacity during initial reconfiguration works to the T1 area after 2031. There | Additional apron and terminal capacity will need to be provided at an early date to allow aircraft and passengers to be partially decanted from T1 to T2 to enable reconfiguration of the T1 area after 2031. Due to phasing issues, phased delivery will not be straightforward. | Development can be phased to meet demand in option 1a, whereas this is problematic for options 1b and 1c. |

| *S3: Increase capacity both airside and landside to achieve target increase up to 36-38mppa* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | | could be some complications of rebuilding T1 and the potential for substantial new capacity to have to be built ahead of demand. | | |
| **Appraisal level** | 20 | -5 | 10 | 20 |
| **Summary** | Both two-terminal options – Option 1a and 2 - performed better overall due to their ability to phase development than Options 1b and 1c. | | | |

## 5.5 Strategic Objective O4: To maximise the potential economic benefits to the regional, sub-regional and local economies

5.5.1 This strategic objective covers two criteria:

- S4 Deliver economic benefits nationally and regionally; and
- S5 Increase job opportunities for the people of Luton and the surrounding area.

5.5.2 **Table 5.4** and **5.5** below sets out in more detail how the options performed against the two criteria and their sub-criteria, focusing on the options' abilities to: deliver benefits to users, producer benefits and wider connectivity benefits (S4); and increase job opportunities for those living in and around Luton (S5).

Table 5.4: S4 Deliver economic benefits nationally and regionally

| ***S4 Deliver economic benefits nationally and regionally*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| What are the benefits to users (journey time and air fare savings due to availability of choice and more routes), known as Transport Economic Efficiency? | User benefits will arise from savings to journey times compared to alternative airports and air fare benefits from LTN's low fare offer (subject to scheme cost and affordability O12) and these would be the same for all options. | | | |
| What are the producer benefits (increased income to airlines, airport operators)? | Option 1a is considered to be capable of delivering the same Producer Benefits as the single terminal options, without experiencing the same phasing/capacity issues. | Phased construction of this option is likely to be very difficult and costly due to disruption to T1 operations, resulting in a capacity restriction during reconfiguration of T1 area. It may also require new capacity to the east to be built ahead of need so increasing the costs of the construction. As a consequence, producer benefits will be substantially lower than the other options, although it would still provide | Requirement for delivery of apron capacity at an early date to allow decanting of traffic from T1 will reduce producer benefits (to the airport), compensated to some extent by efficiencies delivered from a single terminal. As a consequence, producer benefits will be slightly lower than the two terminal options 1a and 2 (but better than option 1b), although it would still provide increased capacity provided | Please see appraisal for option 1a. |

| S4 Deliver economic benefits nationally and regionally | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | | increased capacity and deliver potential efficiencies from a single terminal in the longer term.<br>To the extent that higher costs translate to higher prices to airlines, there would be loss of airline producer benefits and/or consumer benefits such that these costs are passed on through higher airfares with a potential consequential impact on the timescale over which 36- 38 mppa would be achieved. | and deliver potential efficiencies from a single terminal in the longer term.<br>As with option 1b, higher costs could translate to high prices to airlines and therefore loss of airline producer benefits and/or consumer benefits. | |
| What are the Wider Connectivity Benefits (trade, tourism, inward investment) via improved road and rail infrastructure? | Wider benefits are proportional to the capacity delivered. All four options could be capable of achieving up to 36-38 mppa and delivering large benefits to users and airlines, and supporting GVA growth in the surrounding areas by attracting additional investment. Detailed assessments have yet to be carried out so initial judgements are made and, prima facie, these benefits would be considered to be substantial. | | | |
| **Appraisal level** | 20 | 5 | 10 | 20 |
| **Summary** | Given that the user and wider connectivity benefits are considered equally beneficial in all options, the differentiating factor is the options' performance against the producer benefits, where the two-terminal options 1a and 2 perform better in terms of phasing and capacity. | | | |

5.5.3 It should be noted that producer benefits are derived from the profitability of the investment – see O12 To be affordable including any public expenditure that may be required and taking account of the needs of airport users and operators (Value for Money).

Table 5.5: S5 Increase job opportunities for the people of Luton and the surrounding areas

| ***S5 Increase job opportunities for the people of Luton and the surrounding areas*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| How many jobs could be created regionally, sub-regionally (three counties) and locally (Luton)? | Local employment is envisaged to be proportional to capacity and through put of the airport, with growth to 38 mppa supporting a sizeable increase in jobs; provisionally of the order 16,000 new jobs (direct, indirect and induced, equivalent to 800 per mppa growth) in the sub-region (three counties) and £1.5bn uplift in GVA directly from the operation of the Airport.<br>There may be slightly higher direct employment with two terminals in this option compared to one terminal in options 1b and 1c. | As for option 1a although there may be slightly lower direct employment with one terminal in these options. | | Please see appraisal for option 1a. |
| What type of jobs could be created and retained – skilled jobs (higher paid) in Luton (permanent jobs)? | Jobs at the Airport and in the supply chain will be at a range of skills and wage levels and include apprenticeship opportunities for local people (it is expected that this requirement will be included in the new concession agreement) and linked to the Luton Skills and Employability Strategy.<br>Maintaining land available for MRO in all options could also help to maximise contribution to the creation and retention of skilled jobs. | | | As with options 1a, 1b and 1c, option 2 would create a similar range of jobs for local people. However, local access to may be more difficult for low wage/low skill employees from Luton to the south side location of one of the terminal buildings, as public transport is likely to be less frequent and journey times lengthier. |
| **Appraisal level** | 20 | 20 | 20 | 10 |
| **Summary** | Overall, all four options could increase the number and type of job opportunities for people in and around the Airport, with the three options which focus development north of the runway (options1a, 1b and 1c) scoring higher, in part due to relative ease of access by public transport, compared to option 2 where one terminal building would be south of the runway. | | | |

## 5.6 Strategic Objective O5: To maintain and where possible improve the quality of life for Luton's residents and the wider population

5.6.1 **Table 5.6** below sets out in more detail how the options performed against the relevant criterion and its sub-criteria, focusing on their ability to maintain and improve the quality of life for those living in and around Luton.

5.6.2 It should be noted that the appraisals for a number of the sub-criteria appear identical for several or all options because some elements are non-spatial. For example, with regard to the first two sub-criteria (improving the quality and choice of opportunities and reducing adverse effects of unemployment, low income and job security), the assessments are based on job generation and the type, quality and number of opportunities. This does not vary between spatial options, wherever the terminal buildings and associated facilities are located. Similarly, for the fifth and sixth sub-criteria which seek to protect and promote quality of life and positive equality impacts, the appraisals do not vary between the spatial options as the potential will be very similar if not identical for all four options.

5.6.3 With regard to the third and fourth sub-criteria, in relation to impacts on existing community facilities and residential amenity, the appraisals are very similar for all the northern options (1a, 1b and 1c). The loss of less formal areas of open space within Wigmore Park and re-provision to the east of the existing parkland is common to all the northern options, and the impacts on the amenity of residential areas is likely to be similar if not identical for all northern options during construction given that the relationship of the construction areas and access routes to residential areas is very similar.

Table 5.6: S6 To promote quality of life and minimise adverse impacts on communities

| *S6 To promote quality of life and minimise adverse impacts on communities* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does this option improve quality and choice of employment and training opportunities? | As noted above in relation to criterion S5, provisionally around 16,000 new jobs in the three counties (direct, indirect and induced, equivalent to 800 per mppa growth) could be created. Direct job creation would range from highly skilled to low and unskilled, with the largest proportion assumed to be in the latter categories. This would result in a significant increase in availability and choice of employment both within Luton and across the region, and the potential for training and skills benefits associated with this. Appointment of the construction contractors would include assessment of their commitment to upskilling the local workforce as part of the evaluation in line with LLAL's commitment to social values. Development of the terms of the concession would include partnership obligations to deliver key criteria included within the Luton Investment Framework 2015 - 2035, which is focused on improving life chances for local people. | | | |

| ***S6 To promote quality of life and minimise adverse impacts on communities*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does this option reduce adverse effects of unemployment, low income and job insecurity? | The increased passenger numbers would provide a basis for negotiating a new concession agreement. This will contain improved terms which would permanently benefit direct employees in the airport and increase the proportion of jobs taken by hard to reach groups. It will also seek to target the benefits of employment and training to those most in need via a range of potential approaches. These could include working with LBC to integrate measures to support the Luton Investment Framework, Skills and Employment Strategy and Health Inequalities Strategic Plan, and to set ambitious targets within its construction supply chain contracts. The appraisal here has been made based on the DART project's assumptions with social value criteria forming part of the contract selection process.<br>It is considered that there is a potential for a large beneficial effect with regard to this sub-criteria; however there is insufficient detail at this stage to definitively comment. | | | |
| Does this option avoid direct impacts on, and maintain access to, existing community facilities? | Wigmore Park currently covers approximately 40ha, including a small children's play area, allotments, a skate park and extensive areas for 'country walks'. The northern-most area of parkland closest to residents in Wigmore will remain, and would include the improved facilities proposed within the New Century Park application, namely improved children's play space and an improved skate park. The allotments will also remain. The less formal area of open space will be lost, and re-provided, to the east of the existing parkland. This will make this part of the open space less accessible to much of the population it currently serves, based on criteria set out in the LBC Green Space Strategy Review (1.2km walking or 2km cycling) including future residents in proposed developments east of Wigmore. The new parkland would also be closer to North Hertfordshire villages, such as residents of Darley Road immediately north, and Breachwood Green 300m to the east.<br>The increase in highway traffic movements along the A1081 from the M1 could result in increased congestion and delays, which could create a barrier between people trying to access facilities, communities and employment opportunities outside of Luton. Movement within Luton would be reasonably unchanged from changes to traffic volumes. Improvements to public transport to allow more people to access jobs at the airport could also improve access between communities and to wider community facilities within Luton. | | | Many of the potential impacts for option 2 are similar to options 1a, 1b and 1c. However, the re-provision of the less formal area of open space directly adjacent to the east of the existing parkland will make this part of the open space less accessible to only *some* of the population it currently serves (compared to options 1a, 1b and 1c), but will bring it closer to future residents in proposed developments east of Wigmore.<br>This option does not see the increase in highway traffic movement along the A1081, unlike 1a, 1b and 1c. |
| Does this option preserve the amenity of residential areas and enjoyment of community facilities and outside spaces? | There are likely to be temporary adverse construction impacts on the amenity of residential areas in south-east Luton from construction and earth-moving works associated with the earth platform excavation, from demolition of the existing airport buildings and infrastructure, and construction of the new terminal building and car parks. These activities are also likely to impact the amenity of users of the improved open space facilities (children's play space, skate park etc.) in Wigmore Park, and Wigmore Pavillion. | | | There is potential for temporary adverse construction impacts on the amenity of residents in small rural hamlets and isolated dwellings south of Luton. |

| ***S6 To promote quality of life and minimise adverse impacts on communities*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | Potential for permanent adverse impacts on the amenity of residents and community facilities to the immediate north of the airport, due to additional aircraft movement noise due to the increase in passenger numbers, additional traffic from surface transport accessing the airport, and the visual element of a new car park and airport related buildings; such as the parkland at community centre at Raynham Way. .<br>The increase in aircraft movements is likely to increase impacts on amenity on those residential areas and community facilities already located under existing flight paths, such as Surrey Street Primary School and The Linden Academy to the west; Breachwood Green JMI School, Breachwood Green Baptist Church and Breachwood Green Village Hall / playing fields to the east. | | | The potential for adverse impacts on the amenity of residents and the increased aircraft movements for this option is the same as for 1a, 1b and 1c. |
| Does this option protect and promote public services that support quality of life and wellbeing? | For all options, any increase in airport growth is likely to increase LLAL's continued contributions to local services. With profits made by LLAL payable to LBC as a dividend due to their role as sole shareholder, this money is used to maintain the statutory and discretionary services provided by LBC. As the dividend increases, this may provide further opportunities for further contributions to local services.<br>In addition, LLAL maintains a Corporate Social Responsibility (CSR) Fund with money allocated each year to different organisations and activities in line with the priority outcomes derived from the Luton Forum Sustainable Community Strategy 2008-2026. This includes a range of local and regional initiatives, primarily Active Luton, which provides leisure facilities, and Luton Culture which manage sites including Stockwood Discovery Centre and Wardown House as well as arts provision across the borough. | | | |
| Does this option promote positive equality impacts and minimize the potential for adverse equality impacts for groups with protected characteristics or communities that experience high levels of socio-economic deprivation? | As set out above, the potential for equality groups to benefit from the employment opportunities will depend on the implementation of measures to ensure the benefits reach relevant groups.<br>Adverse impacts on local residents arising from construction and operation, as discussed above, could have the potential for adverse effects for people from equalities groups living in these areas who may be more sensitive to environmental impacts such as noise, air quality and changes to the visual environment. | | | |
| **Appraisal level** | 5 | 5 | 5 | 5 |
| **Summary** | Given the need to balance the beneficial impacts of access to employment (with an estimated 16,000 new jobs created across the three counties) with the externalities highlighted above, and assuming that each option is delivered in line with employment strategies to maximise the benefits, all four option families are therefore appraised as Slight Beneficial. | | | |

## 5.7 Strategic Objective O6: To minimise environmental impacts and, where practicable, to actively mitigate and manage any potential environmental effects

5.7.1 This strategic objective covers nine criteria:

- S7 Noise;
- S8 Air quality;
- S9 Natural habitats and biodiversity;
- S10 Carbon emissions;
- S11 Water resources;
- S12 Flood risk;
- S13 Cultural heritage;
- S14 Landscape and visual impact and environmental land use; and
- S15 Climate change.

5.7.2 **Table 5.7** below sets out in more detail how the options performed in relation to the potential noise impact from site preparation, construction and operation.

Table 5.7: S7 Noise impact

| ***S7 Noise impact*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does this option minimise the number of people exposed to the adverse impacts of noise? Including consideration of:<br><br>• Site preparation noise and vibration | Noise and vibration generated during site preparation and construction will take place east of the existing terminal. During site preparation, substantial earthworks will be undertaken to level the ground, potentially resulting in adverse impacts at receptors in the residential area north of Eaton Green Road. The temporary nature of the works and the potential for implementing mitigation and adopting a methodology that implements best practicable means provides a basis for the | | Option 1c is almost identical to option 1a and 1b with regard to noise impacts. The one difference is that aircraft stands will be closer to receptors to the north of Eaton Green Road.<br>Consequently, it is considered | The main site preparation and construction works will be south of the runway, in the area designated for new terminal infrastructure, with potentially significant impacts on the nearby Copt Hall Cottage receptors. Given the |

| ***S7 Noise impact*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | likely impacts to be reduced or offset. | | that option 1c performs marginally less well than option 1a and 1b; however, the difference between the options in terms of noise impacts is likely to be indistinguishable. | small number of receptors that are located at Copt Hall Cottages, it may be possible to offset significant impacts; however, as the level of mitigation cannot be guaranteed at this stage of the project, it is considered that site preparation and construction works could result in adverse impacts. |
| • Construction noise and vibration<br>• Noise from HGV traffic associated with site preparation and construction phases | During construction, works will be more confined to the area directly to the north of the runway, but the likely scale of works mean that adverse impacts may occur at receptors in the residential areas to the north of the site. As with site preparation works, the likely impacts could be controlled to some extent.<br>Substantial levels of HGV movements are anticipated during the site preparation and construction works phase. The level of impacts will be dependent on the haul route selected; however, it is anticipated that traffic could access the site using the A1081, which has an existing high density of road traffic flows. Consequently, it is unlikely that the magnitude of HGV movements on main roads will be high enough to result in a perceivable change in noise and site preparation/construction traffic. | | | As with options 1a, 1b and 1c, construction traffic will likely access the site via the A1081 which already experiences high density road traffic movements.<br>To access the works site to the south of the runway, a temporary haul road will need to be constructed, potentially on the alignment of the new southern link road to allow road traffic access to the new terminal from the A1081. HGV movements on this haul route would adversely impact Copt Hall Cottage receptors; however, when considered in the context of the baseline noise conditions, the impacts may be considered no worse than slightly negative. |
| • Aviation noise (aircraft approaches and departures) | As factors affecting airborne aircraft noise (i.e. air traffic movements, aircraft variants, runway use and airspace design) are unlikely to change for each option, the impact of airborne aircraft noise will be the same for all options. Given the considerable increase in aircraft movements due to the expansion, there is potential for significant adverse impacts to occur. However, there is | | | |

| ***S7 Noise impact*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | the prospect that the level of impact will be reduced through changes in aircraft type, further improvements in aircraft technology, management of night-time flights and other mitigation/compensation measures. | | | |
| • On-site ground noise (i.e. aircraft taxiing, on-site road infrastructure, parking facilities etc.) | In comparison to the existing layout, it is likely that the option 1a, 1b and 1c layouts will be an improvement on the current situation as taxi-routes will be shortened and aircraft will spend less time spent idling as they queue for a stand. Additionally, building layouts are aligned with the runway and may result in increased screening of ground based noise sources for residential areas to the north of the airport.<br>However, any benefits may be offset by increases in ground activity. Receptors to the south of the site will experience an intensifying of ground noise from airport activities; however, given that noise due to ground activities are likely to be lower than airborne aircraft noise, potential impacts on receptors to the south are unlikely to be significantly impacted when taken in context with baseline noise levels.<br>Road traffic will access the airport via the A1018 and an upgraded New Century Park access road. Due to the existing high density of road traffic on the A1081, it is unlikely that increases in road traffic will be of a magnitude to result in a substantial negative impact.<br>As New Century Park is part of LTN Enterprise Zone, it is anticipated that any future development will be future- proofed against road traffic noise impacts; however, as the New Century Park is likely to be completed and occupied prior to full capacity at LTN being reached, it is considered reasonable to assume there could be slight negative impacts. | | | The option 2 layout would provide increased separation distance between new airport operations on the south side of the runway and sensitive receptors to the north. However, communities to the south of the runway e.g. Copt Hall Cottages, Chiltern Green, Peters Green would experience higher levels of noise due to the proximity of airport activities. Whilst receptors to the south may benefit from screening from the new southern terminal building, the new terminal will still represent an intensification of activities closer to those.<br>The majority of road traffic is likely to access the airport via the A1081 for option 2. A new link road connecting the terminal with the A1081 will be constructed to provide access, passing adjacent to Copt Hall Cottages. These communities are not currently subject to high levels of road traffic noise, so there is potential for notable impacts to occur. Mitigation may be implemented into the design; however, given the magnitude |

| *S7 Noise impact* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | | | | of change in noise (albeit to a limited number of receptors), it may not be possible to mitigate noise from road traffic entirely. |
| **Appraisal level** | -10 | -10 | -10 | -20 |
| **Summary** | Given the considerable increase in aircraft movements due to the expansion, there is potential for Large Adverse impacts to occur. However, there is the prospect that the level of impact will be reduced through changes in aircraft type, further improvements in aircraft technology, management of night-time flights and other mitigation/compensation measures. Until further work has been undertaken to better understand how these measures may offset the growth in number of aircraft movements, it is considered appropriate to judge the potential impact of options 1a, 1b and 1c as Moderate Adverse.<br>The provision of a southern link road in option 2 with the potential to significantly impact nearby communities, and receptors located to the south of the site with potential to experience significant increases in ground noise (compared to the baseline), suggest that option 2 is considered to have a greater adverse impact than options 1a, 1b and 1c. | | | |

5.7.3 **Table 5.8** overleaf sets out in more detail how the options performed with regard to their potential effects on air quality and sensitive receptors.

Table 5.8: S8 Air quality

| *S8 Air Quality* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Is this option likely to cause an exceedance of any air quality objective? | The additional road traffic in the vicinity of the airport, additional flights and associated activity on the airport may cause an adverse impact on current and future receptors in the vicinity of the airport and may adversely affect the nearby Air Quality Management Areas (AQMAs), notably the Luton town centre AQMA, in all four options. | | | |
| Is this option likely to delay compliance with EU limit values as calculated by the government using the PCM model? | If the decrease in concentrations due to national level improvements does not outweigh the increased activity due to the development, exceedances of the annual mean NO2 air quality objective in the AQMAs may be worsened which could be a constraint. After 2025 the proposed development would not be expected to exacerbate exceedances in the AQMAs as by that time the national improvements should cause a decrease in concentrations, using professional judgment based on the predicted change in emission factors (Defra's Emissions Factor Toolkit). | | | |
| Will this option have adverse or beneficial impacts on human receptors? | The additional road traffic in the vicinity of the airport, additional flights and associated activity on the airport may cause an adverse impact on current and future receptors in the vicinity of the airport and may adversely affect the AQMAs, the town centre AQMA in particular. | | | |
| Does this option minimise the number of people exposed to poor air quality? | Without data on the increase in surface access and the data for aircraft and other airside activity the increase in concentrations cannot be quantified. It is likely that the scheme will not cause adverse effects on current residents close to the Airport, using professional judgment based on the relatively low monitored $NO_2$ levels near to the airport currently. It is however likely to increase concentrations in all three AQMAs. It is hard to determine the impact on future receptors as they may be closer to the increased airport activity than the current receptors, and therefore may be subject to higher concentrations. For (future) non-residential receptors the hourly $NO_2$ air quality objective is most relevant and is unlikely to be exceeded. | | | The spread of airport activity, and therefore emissions to the south, envisaged in option 2, in particular the location of car parks to the south and the splitting of the surface access traffic between M1 Junction 10 and M1 Junction 11, is likely to reduce impacts on current and future receptors in the vicinity of the airport compared with options 1a, 1b and 1c. |
| Will this option have adverse or beneficial impacts on ecological receptors? | On the basis of currently available data the impact on ecological receptors cannot be quantified. The proposed development is not likely to cause an adverse impact on ecological Receptors, using professional judgment, based on distance of the ecological receptors from the Airport (over 5km). | | | |
| **Appraisal level** | -10 | -10 | -10 | -5 |
| **Summary** | All options will introduce additional emission sources due to increased capacity and activity (i.e. road vehicle emissions at additional car parks and aircraft emissions at additional stands). However, option 2 spreads airport activity and sources of emissions to the south, away from existing residential areas north of the airport. Therefore, option 2 is likely to have a reduced | | | |

| *S8 Air Quality* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | impact on existing receptors compared to the other options. | | | |

5.7.4 **Table 5.9** sets out in more detail how the options performed with regard to their potential effects on existing natural habitats and biodiversity.

Table 5.9: S9 Natural habitats and biodiversity

| *S9 Natural habitats and biodiversity* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Are there any internationally, nationally or locally protected/designated nature conservation sites affected? | No significant impacts to internationally or nationally designated sites are envisaged as part of the proposed works at this stage in options 1a, 1b and 1c. However, further information regarding impacts such as potential air quality changes as a result of increased traffic will be required to establish the zone of influence of the proposed development. Acoustic impacts on wildlife receptors will also need consideration.<br>Much of Wigmore Park County Wildlife Site (CWS), a non-statutory designated site, would be affected by the proposed works, but would in part be re-provided to the east (see mitigation below). In addition, the works are likely to impact on Winch Hill Woods CWS, which comprises ancient woodland, located to the east of the existing runway. The loss of Wigmore Park CWS is likely to require the creation of compensatory habitat through collaboration with the local wildlife trust and LBC.<br>Compensation would also be required for any degradation caused to the ancient woodland within Winch Hill Wood CWS; with any loss to this habitat being essentially irreplaceable. Other CWSs may also be impacted by changes in air quality and disturbance. | | | Similar impacts as for options 1a, 1b and 1c, although the Wigmore Park CWS would only be partially affected by the proposed works rather than substantially affected.<br>(Note that in this option, it is anticipated Wigmore Valley Park could significantly remain where it is proposed to be located under the planning application for New Century Park). |
| Will priority habitats identified in national legislation and local policy/guidance be impacted? | Potential impacts to habitats include habitat loss, fragmentation, degradation and disturbance. The most significant losses will be areas of lowland calcareous grassland and broadleaved woodland, both of which are Section 41 priority habitats (Natural Environment and Rural Communities (NERC) Act 2006) and therefore of principal importance to the conservation of biodiversity in England. In addition, the loss of arable field margin habitats such as set-aside, hedgerows and mature trees will result in fragmentation at a landscape scale. | | | Similar impacts envisaged to 1a, 1b and 1c although the most significant loss here would be areas of ancient woodland (Winch Hill Woods CWS) and calcareous |

| ***S9 Natural habitats and biodiversity*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | | | | grassland (Wigmore Park CWS) due to landscaping for the proposed public park and result in an adverse residual impact for biodiversity. |
| To what extent are populations of protected/notable species likely to be affected? | Based on current site understanding, the works would impact on at least two known bat roosts (common species in low numbers) and three main badger setts, resulting in species mortality in the absence of mitigation.<br>Previous surveys have also identified the presence of a small population of reptiles (slow worm), Roman snail and an assemblage of common farmland birds, which may be impacted by the proposed development.<br>Additional impacts on fauna include reduced foraging resource, disturbance and fragmentation. | | | The presence/absence of protected/notable species is largely unknown to the south of the existing runway, having not previously been surveyed. However, there are known bat roosts (small numbers of common species) along the eastern boundary of the airport and Roman snail to the south of the runway. Local records data also indicate the presence of common reptile species south of the runway. These species are likely to be displaced from their current habitats under this option. |
| To what extent can effects be managed and mitigated? What opportunities are likely to improve ecological connectivity and provide enhancements? | At this stage, it is considered that the above impacts could be mitigated effectively through well thought out licence applications and habitat management planning including additional (compensatory) planting and parkland to retain and enhance connectivity with the wider landscape and compensation for loss of ancient woodland and habitats within Wigmore Park CWS that could be lost as part of the development. | | | |
| **Appraisal level** | -10 | -10 | -10 | -10 |
| **Summary** | In all option families, there are likely to be potential impacts to Section 41 priority habitats – areas of lowland calcareous grassland and broadleaved woodland – and the loss of arable field margin habitats. At this stage, it is considered that the above impacts could be mitigated effectively, hence all four Option families are currently appraised as Moderate Adverse due to their negative impacts on features of medium value. | | | |

5.7.5 **Table 5.10** sets out in more detail how the options performed with regard to carbon emissions.

5.7.6 In the Sift 1 report, it was highlighted that carbon emissions, the largest greenhouse gas impacts caused by the expansion project, would increase in line with the increased air traffic movements (ATM). The Sift 1 appraisal originally excluded ATMs as it was considered to remain the same for all options and was an issue which is dealt with at the national scale instead of being specific to LTN. At Sift 2, the approach to appraisal for this criterion has been refined to include all potential impacts, and therefore ATMs, in line with the approach to be adopted in the Environmental Impact Assessment (EIA). In doing so, the results of the Sift 1 report have been updated to be consistent with the Sift 2 methodology.

Table 5.10: S10 Carbon emissions

| ***S10 Carbon emissions*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does this option minimise the GHG emissions from the proposed project (against the current status) during its construction, in its operation and its surface access with a focus on:<br>• The loss of a carbon sink due to land use change; | Option 1a will have an increase in emissions as a result of land use change, as with 1b and 1c, but the building of T2, forecourt and multi-storey car parks (MSCPs) on closed landfill could reduce the carbon emissions from land use change. | Both these options will lead to an increase in emissions as a result of land use change due to the expansion of the airport site and subsequent excavation of soil/vegetation in this area. | | With this option, minimal building over the closed landfill and converting of greenfield land south of the airport for the development will lead to increased emissions from land use change. |
| • Construction activities and embedded carbon in materials | Option 1a and 2 will require less demolition, more reuse of existing assets, less construction of buildings and infrastructure assets – all corresponding to a lower increase in carbon emissions from embedded carbon in materials required and diesel consumption for construction activities compared with option 1b and 1c.<br>This option, along with 1b and 1c, requires significantly more | Options 1b and 1c will require more demolition work, less reuse of existing assets, and construction of larger buildings and infrastructure assets compared to the two-terminal options, 1a and 2. This could lead to a larger increase in carbon emissions due to embedded carbon in materials used and diesel consumption for construction activities.<br>Options 1b and 1c (and 1a) require significantly more land clearance than option 2. | | Similar to option 1a, however option 2 will also require the construction of additional infrastructure such as roadway, junction, Luton DART, etc.<br>Option 2 requires much less land than the other three options, corresponding to a reduced increase in diesel consumption for construction activities. |

| ***S10 Carbon emissions*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | land clearance than option 2, resulting in an increase in diesel consumption from increased construction activities. | | | |
| • Airport buildings and infrastructure operations i.e. energy consumption, water supply, waste water, waste disposal; | Both two-terminal options, options 1a and 2, are likely to require additional demand in potable water and grey water, and marginally higher generation of foul water and energy demand compared to single terminal options 1b and 1c.<br>According to S21: Feasibility of landfill, earthworks and ground conditions, these two options are likely to generate more waste than options 1b and 1c as waste management areas would need to be duplicated. | Options 1b and 1c are likely to have a lower demand for potable water and grey water, and potentially a marginally lower generation of foul water and energy demand compared to the two-terminal options 1a and 2.<br>According to S21: Feasibility of landfill, earthworks and ground conditions, these two options are also likely to generate less waste during operation than 1a and 2 since a single terminal option is assumed to be better than two terminals as it allows for economies of scale through a single waste management area. | | Please see appraisal for option 1a. |
| • Airport operated vehicles including those owned by third party operators (airside/landside); | Option 1a will likely have a marginally smaller increase in carbon emissions from landside/ airside vehicles compared to option 2 due to compact site; and a marginally larger increase in carbon emissions from landside/ airside vehicles compared to options 1b/1c due to having two terminal buildings (potentially leading to increased journeys, distance to travel, etc.) | Option 1b and 1c will have a marginally smaller increase in carbon emissions from landside/airside vehicles compared to option 1a and 2 due to a more compact site. | | Option 2 will have a marginally higher increase in carbon emissions from landside/airside vehicles compared to 1a; and a marginally larger increase than options 1b/1c due to a second terminal building. |

| *S10 Carbon emissions* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| • Surface access journeys (passengers, freight, employees); and | S16 Public transport modal share states a range of 50%+ public modal share is targeted in all options. | | | |
| • Aircraft (during landing take-off cycle, cruise emissions). | There will be a similar increase to aircraft taxi times from each option compared to the baseline. The increase in aircraft cruise emissions will be the same across all four options; this will be the largest impact on the carbon footprint and will need further consideration. | | | |
| **Appraisal level** | -20 | -20 | -20 | -20 |
| **Summary** | For any option by far the most significant GHG emissions impact will be from aircraft cruise emissions i.e. emissions from aircraft over 3,000ft. As a result every option is judged to have a Large Adverse impact over the baseline. Emissions from the landing take-off (LTO) cycle of aircraft, while not as large as cruise emissions will also be important. For the sift process it has been assumed that the increase in cruise emissions, once the airport is operating at a maximum capacity of up to 36-38mppa, will be the same for each scheme. The rate at which this maximum capacity is reached, and therefore the associated GHG emissions arising, will vary over time depending on which option is selected. However at this stage there is insufficient information available to quantify this impact and hence all are presented as Large Adverse. | | | |

5.7.7 The results of the appraisal in relation to water resources are set out below in **Table 5.11**. It should be noted that the existing surface water flow paths that cross the existing airport and the proposed development site will have to be taken into account through the development proposals. It is assumed the development process can preserve existing surface water connectivity maintaining existing surface water feeds to local receptors.

Table 5.11: S11 Water resources

| S11 Water Resources | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does the option have any direct/indirect impacts on water quality in surrounding watercourses, particularly where Water Framework Directive (WFD) status may be compromised? | These three options would require piling through an existing landfill on a Principal Aquifer and therefore poses the risk of creating pathways for potentially contaminated water to reach the groundwater. However, it is assumed that this risk can be managed appropriately via the implementation of appropriate mitigation measures.<br>As the Principal Aquifer underlying the site is classified as a WFD waterbody, the Upper Lea chalk, a WFD compliance assessment may be required to determine whether these options would affect the current WFD groundwater body status. | | | This option would entail a small area of piling and excavation of the existing landfill. Underlying clay deposits will help to protect the chalk aquifer.<br>A WFD compliance assessment may be required as per options 1a, 1b and 1c. |
| Does the proposed option have the potential to affect any groundwater receptors, such as through dewatering or impacts on groundwater quality? | These options have the potential of having a large adverse impact on groundwater receptors. During the design process however, it is likely that impacts can be mitigated and reduced, ensuring that any material effects are limited in extent and duration. | | | This option involves the use of minor earthworks which has the potential to have a minor impact on the Principal Aquifer, SPZ and abstraction. However, as it is not anticipated to have an impact on the use and/or integrity of the Principal Aquifer, SPZ and abstraction, or quality of groundwater. |
| Will the option have any direct/indirect effects on water abstractions (Groundwater and surface water) and Source Protection Zones (SPZ)? | The proposed excavation on the eastern side of the site is within a groundwater SPZ (Zone 3) and could affect groundwater levels and quality, therefore also affecting the groundwater regime and the abstraction of groundwater in this area, depending on the depth of excavation. A quantitative assessment has not been carried out at this stage but it is possible that the impact on groundwater levels could be large. However, it is assumed that the risk can be managed appropriately via the implementation of appropriate mitigation measures to ensure that any measurable impacts are limited in extent and duration. | | | |
| **Appraisal level** | -5 | -5 | -5 | 0 |
| **Summary** | Options 1a, 1b and 1c require piling through an existing landfill site on a Principal Aquifer, therefore potentially creating pathways for contaminated water to reach the groundwater. However, it is assumed that the potential risk can be managed appropriately via the implementation of appropriate mitigation measures to ensure that any measurable impacts are limited in extent and duration, and these options are therefore appraised as Slight Adverse. In comparison, Option 2 is considered to have a Neutral impact as the scale of earthworks would be smaller and is therefore not anticipated to have an impact on the use and/or integrity of the Principal Aquifer, SPZ and abstraction. | | | |

5.7.8 The results of the appraisal in relation to flood risk are set out below in **Table 5.12**. Whilst the airport site and immediate surrounding area are not considered to be at risk of fluvial flooding (Environment Agency Flood Map for Planning, Ref 5.1; LBC Preliminary Flood Risk Assessment, Ref 5.2; and North Hertfordshire Preliminary Flood Risk Assessment, Ref 5.3), there is an area at risk from surface water close to the existing terminal building with flow paths to the east flowing down Winch Hill, representing the upper catchment of the River Mimram.

Table 5.12: S12 Flood risk

| ***S12 Flood Risk*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does the option encroach on any areas at risk of flooding from surface water, rivers, artificial water bodies or groundwater? | There are parts of the existing airport site that are shown to be subject to high risk from surface water flooding and several surface water flow paths crossed by the access road associated with all four options which will need to be taken into account in the development proposals. | | | |
| Does the option have the potential to pose any increase in flood risk to receptors located in the vicinity of the site? | It is assumed that the development process can appropriately manage surface water flood risk via the implementation of an appropriate drainage design to ensure no adverse effects on nearby receptors.<br>The site extent associated with this option is of low susceptibility to groundwater flooding and will therefore not result in any impacts on groundwater flooding. | | | |
| To what extent can any potential impacts on flood risk be appropriately managed? | It is assumed that any potential impacts on surface water flood risk can be appropriately managed via drainage design. | | | |
| **Appraisal level** | 0 | 0 | 0 | 0 |
| **Summary** | On the basis that any potential impacts on surface water flooding are managed via the implementation of an appropriate drainage design, all four options will not result in any impacts to loss of flood storage or increase in flood risk and are therefore considered to be Neutral. | | | |

5.7.9 The results of the appraisal in relation to potential effects on assets of cultural heritage are set out below in **Table 5.13.**

Table 5.13: S13 Cultural heritage

| ***S13 Cultural Heritage*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does the option seek to minimise adverse effects on the significance of internationally and nationally designated heritage assets and their settings? | In options 1a, 1b and 1c a large area of new surface car parking may be visible from Wigmore Hall, a Grade II Listed building, and the new terminal building will probably be visible beyond this. However, the setting of Wigmore Hall has already been compromised as it is oriented to face onto Eaton Green Road and a housing estate now forms its principal view. | | | Under this option the new airport infrastructure, including taxiways and aprons would be located closer to the boundary of the Someries Castle Scheduled Monument. This would introduce new elements in terms of buildings to the east and apron areas and would be a change to the setting of a Scheduled Monument. The impact on the setting of Luton Hoo Registered Park and Garden and the Grade I listed Luton Hoo House as well as other listed structures within the park will require careful assessment; key potential impacts are noise, light pollution and visual impact. |
| Does the option affect other heritage assets? | The excavation of the earthwork platform is likely to require the demolition of Winch Hill Farm House, a Grade II Listed building. The development on the New Century Park site (currently Wigmore Valley Park) will require evaluation trenching to determine the impact on the Iron Age/Romano British site. | | | There is the site of an Iron Age enclosure known from aerial photographs and retrieval of finds on land south west of Chiltern Hall, and an unknown potential for the preservation of archaeological sites across the land to the south of the airport. |
| To what extent can effects potentially | Where archaeological deposits are shown to be preserved within the area that will be affected by | | | The introduction of new tree |

| *S13 Cultural Heritage* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| be managed and mitigated? | the earthworks the impact will require mitigation by excavation/ preservation by record). The visual impact of the new buildings and car parking and other surface structures can be mitigated by the introduction of bunding and screening to reduce the visual impact. | | | planting to the south east of Someries Castle Scheduled Monument would alter the setting in terms of its intervisibility, particularly from Luton Hoo because it was originally conceived to be a landmark. |
| **Appraisal level** | -5 | -5 | -5 | -20 |
| **Summary** | For all options, the impact on the setting of Luton Hoo Registered Park and Garden and the Grade I listed Luton Hoo House as well as other listed structures within the park will require careful assessment; key potential impacts are noise, light pollution and visual impact.<br>The western side of the airport has already been subject to ground levelling for previous development. This has reduced the likelihood of pockets of shallow archaeology surviving across the site, apart from a small area at the north western extent beyond the end of the runway (coinciding with the route of the Luton DART) which may have some potential for the preservation of archaeological deposits.<br>The possible visual impact on the setting of Someries Castle Scheduled Monument is much more significant in option 2 and the introduction of new tree planting to the south east of the Scheduled Monument would alter the setting in terms of its intervisibility, particularly from Luton Hoo because it was originally conceived to be a landmark. | | | |

5.7.10 The results of the appraisal in relation to landscape and visual impact, and environmental land use, are set out below in **Table 5.14.**

Table 5.14: S14 Landscape and visual impact and environmental land use

| *S14 Landscape and visual impact and environmental land use* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does this option impact, protect or enhance designated landscapes or townscapes? | The Chilterns Area of Outstanding Natural Beauty (AONB) is located to the west (beyond the M1 motorway) and north of Luton. It is not considered that the airport development proposed within these three options would be discernible from the AONB, although associated development, over-flying aircraft and light pollution may be visible and may impact the tranquillity of people in the AONB to some extent.<br>The earthworks and built development proposed under these options would have a substantial impact on the 'Wigmore Rural' designated Area of Local Landscape Value (ALLV), and the Dane Street Farm ALLV. | | | Development would not be discernible from the AONB, but associated development, over-flying aircraft and light pollution may be visible and may impact the tranquillity of people in the AONB to some extent. The airport expansion would substantially affect the Dane Street Farm and Someries Farm ALLVs and Hyde designated Area of Great Landscape Value (AGLV). |
| Does this option affect the visual amenity of potentially sensitive visual receptors (e.g. those recreating in the surrounding landscape; those visiting historic buildings; etc.)? | These three options could affect the visual amenity and tranquillity of people using Wigmore Valley Park and walkers using public rights of way (notably users of the Chiltern Way long distance footpath) to the east and northeast of the airport.<br>Operations within the airport, associated developments and night-time effects of lighting, may impact amenity of some residential properties, particularly those within Luton and adjoining LLAL's land ownership to the east of the airport (Century Park) and the Option Land. | | | Option 2 could affect walkers using public rights of way south of the airport and visitors to Someries Castle and Luton Hoo, as well as the visual amenity of some residential properties. |
| Does this option affect locally sensitive landscape features (e.g. ancient woodlands, historic hedgerows, etc.) or contributors to landscape value (e.g. public access, etc.)? | There would be substantial alteration to landform and the removal of several blocks of woodland and historic hedgerows within LLAL's land ownership to the east of the airport. Development would affect a designated County Wildlife Site and District Wildlife Site (east and west of the airport respectively), as well as a number of rights of way, and require substantial | Similar to option 1a, although 1b would not affect designated Ancient Woodland. | Please see appraisal for option 1a. | Option 2 necessitates the removal of several hedgerows (some mature) and woodland blocks to the south of the existing airport.<br>Historic road alignments to the south of the runway would need to be realigned, and a number of rights of way would need to be stopped up or redirected. |

| S14 Landscape and visual impact and environmental land use | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | alteration to Wigmore Valley Park.<br>This option would also affect an area of designated Ancient Woodland, directly to the east of the airport would need to be removed to accommodate the extended taxiways. | | | |
| Does this option affect the character of the landscape/townscape or the perceptual characteristics of surrounding landscape/townscape character areas? | The earthworks operations and commercial development proposed within these options would substantially affect the physical character of the landscape, directly affecting three Landscape Character Areas.<br>The reconfiguration of the airport and construction of taxiways would impact to some extent (particularly to its north) the landscape character and perceptual characteristics of Character Area 14: Luton Airport, shown in the Luton Landscape Character Assessment.<br>Increased air traffic is considered to affect the perceived tranquillity experienced from seven surrounding Landscape Character Areas for these three options and option 2 as well.<br>The replacement open space in North Hertfordshire is an appreciable distance from the existing area of parkland and users, and is considered to be incongruous to the existing landscape character within its surrounding area. | | | The new terminal and its access road would substantially affect the physical landscape of the three Landscape Character Areas, whilst the CPAR and reconfiguration of built form would impact the landscape characteristics of Character Area 14: Luton Airport. |
| To what extent can effects on landscape or visual amenity be managed and mitigated? | There is modest opportunity to mitigate or enhance the affected areas of landscape within LLAL land in these options. Hedgerow reinstatement and strategic woodland planting at the perimeter of LLALs land ownership to the east of the airport (Century Park) and the Option Land would assist in screening the development to some extent.<br>Varying the gradation and including planting on the slope to the perimeter of the proposed platform and structural planting within the parkland and to the perimeter of drainage water bodies and car parks would also help to mitigate the visual impacts.<br>These options would require some 'off-site' landscape compensation and strategic planting to screen affected views and to mitigate for affected valued landscape elements that cannot be compensated within the LLAL's ownership. | | | This option offers less opportunity than 1a, 1b and 1c to mitigate or enhance the affected areas of landscape without the use of third party land. Option 2 could require a large amount of 'off-site' landscape compensation for strategic woodland planting to screen affected views/ night-time effects from the surrounding areas (e.g. views from Luton Hoo) and could require specific lighting measures in order minimise night-time impacts. |

| ***S14 Landscape and visual impact and environmental land use*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Is this option likely to result in the loss or damage to best and most versatile agricultural land (i.e. ALC Grades 1, 2 or 3a)? | It is reasonable to predict that these three options will affect agricultural land which is approximately a mixture of 50% Subgrade 3a (i.e. Best and Most Versatile land - BMV) and 50% Subgrade 3b (not BMV). The quantum of agricultural land affected (of which it is estimated 50% will be BMV) under any of these three options would appear to be broadly similar. | | | Major development and highways proposed to the south of the airport is likely to affect the most BMV agricultural land. |
| Does this option affect local farm businesses (effects on sustaining a rural economy and on individual farmers and their farming operations)? | Local farm businesses east of the airport could be affected by these three options. | | | Option 2 is likely to have the greatest effect on local farm businesses as it affects the largest area of agricultural land. It also affects a higher number of holdings than the other options. |
| Does this option affect soil (including topsoil and subsoil) as a finite resource? | The effects on soil (including topsoil and subsoil) are likely to be substantial as all four options will involve extensive earthworks.<br>At this stage it is difficult to quantify the effects on soil and therefore establish whether any option is more or less favourable than the others in terms of effects on soil. | | | |
| Does this option affect rural land designations (e.g. Agri-Environment Schemes or Nitrate Vulnerable Zones)? | The likely effects on rural land designations appear to be broadly similar for all three options where development is focused north of the runway. | | | Option 2 will have a greater effect on rural land designations as two areas of agricultural land nearby have been entered into the Entry Level Stewardship scheme (or higher). |
| To what extent can effects on land use be managed and mitigated? | These options would involve substantial alteration to existing agricultural land and soils, affecting local farm businesses and BMV land. By using appropriate soil management regimes and minimising the footprint of any earthwork activities, effects on soils as a finite resource could be minimised. | | | In addition to those impacts identified for 1a, 1b and 1c, the area of landscape affected by option 2 is considered to be greater in scale; broadly of similar overall value and sensitivity; and more problematic in land use terms to that affected by options 1a, 1b and 1c. |
| **Appraisal level** | -10 | -10 | -10 | -20 |

| *S14 Landscape and visual impact and environmental land use* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| **Summary** | Options 1a, 1b and 1c are considered to be broadly similar in effect, which whilst potentially more significant during construction, are also considered to have greater potential for being mitigated in the longer term. The area of landscape affected by option 2 is considered to be greater in scale; broadly of similar overall value and sensitivity; and more problematic in land use terms to that affected by any of the other options which focus development north of the runway. | | | |

5.7.11 The results of the appraisal in relation to climate change are set out in **Table 5.15.**

5.7.12 In undertaking the appraisal for this criterion it was assumed that the appropriate engineering responses to climate change will be incorporated into the design of the project, such that all four options would be as resilient to climate change as far as practicable. In turn, the degree of complexity of the engineering response depends on each option's circumstances and design. The design of the airport infrastructure and associated surface access routes, drainage, material selection, all have an influence on the climate change resilience of the scheme. For all options, the engineering response will have to consider the following in particular when addressing climate change resilience:

- building on closed landfill – contamination, remediation, earthworks, etc;
- hard standing surface area – this refers to apron, forecourt drop off area, short stay car park, terminal footprint, etc. The amount of hard standing affects surface water run off impacts during extreme weather events, increased precipitation and flash flooding; and
- the urban heat island – this may impact on the operation of buildings (increasing energy demand for example) through increased temperatures and changes in seasonality.

5.7.13 In addition, the project site is not located near a water course or flood plain. Therefore any increased flood risk would be as a result of increased heavy rainfall events leading to flash flooding – this should also be addressed through engineering responses.

5.7.14 It is important to note here that as a result of the additional information available at the time of Sift 2, the appraisal levels contained within **Table 5.15** are therefore more positive than Sift 1 as the technical lead had further detail and

confidence in the ultimate construction methods of the proposed terminals. Please note the scoring for this criterion has been updated from the draft Sift 2 report. Paragraph 4.4.2 of the Sift 3 Report explains the basis for this change.

5.7.15 For the purposes of this sift, another sub-criterion (which looked at the impacts on environmental receptors when considered in combination with climate change) has not been evaluated due to insufficient information available from the interdependent criteria; the required information is anticipated to become available during the EIA process when it will become possible to fully determine the in-combination impacts of the project and future climate change on surrounding environmental receptors.

5.7.16 However, based on professional judgement at this stage is appears unlikely that there will be any significant in-combination impacts on cultural heritage, social value and economic benefits, but there may be some in-combination impact from the project and future climate change on water resources and habitats and biodiversity.

Table 5.15: S15 Climate change

| ***S15 Climate Change*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Climate Change Resilience: Does this option reduce the following climate change risks related to the proposed project during its construction, its operation and its surface access?<br>• Extreme high temperature<br>• Heavy precipitation<br>• Flood risk<br>• Damage to building/ infrastructure<br>• Increased seasonal events<br>• Increase in mean temperature | All options represent an increase in hard standing area compared with the existing airport. Although some options, such as options 1b and 1c require a higher volume of hard standing than others, the engineering and drainage solutions will be designed appropriately for the corresponding sizes of the respective options. As a result, the layouts will mitigate the risks associated with climate change to the same level for each option. | | | |
| **Appraisal level** | 5 | 5 | 5 | 5 |
| **Summary** | All options were appraised to have a beneficial impact in terms of their resilience to climate change in comparison to the existing airport. It is assumed that any new assets and infrastructure would be engineered to current design and building specifications therefore making them more resilient to the predicted impacts of climate change. | | | |

## 5.8 Strategic Objective O7: To maximise the number of passengers and workforce arriving at the airport on public transport

5.8.1 Strategic objective 7 sought to maximize the number of airport passengers and workforce arriving at the airport on public transport, with **Table 5.16** appraising the options on their public transport accessibility and their anticipated walking/ cycling modal share.

Table 5.16: S16 Public transport modal share

| Sub Criteria | Option Family | | | |
|---|---|---|---|---|
| | Option 1a | Option 1b | Option 1c | Option 2 |
| Can the Luton DART be extended to increase modal share? | The Luton DART could be extended (subject to detailed design) but the provision of two stations, one for each terminal, will lead to increased complexity, less frequent services and longer journey times. | The Luton DART can be extended (subject to detailed design). With option 1b the distance would be marginally closer but not significant. | | This may be difficult to achieve with this option given the terminal building south of the runway. It is also likely that it will be more expensive than the Luton DART solution for options1a, 1b and 1c |
| Can bus services be increased to accommodate a larger PT modal share? | Bus services could be increased but they may be less attractive to airport employees if they stop at the existing terminal prior to the new terminal. | Bus services could be increased, with the added attractiveness of the drop off areas / pick up areas being close to the urban conurbation in these two options, so no duplicate services would be required. | | Bus services could be increased, but it is unlikely that the same buses would be able to serve both terminals without restrictive time penalties. This would predominantly affect airport employees rather than passengers. |
| Can more coach services be accommodated to increase PT modal share? | More coach services could be accommodated but they would be less attractive due to dwell time at two terminals (i.e. added journey time). This can be somewhat overcome by having a single terminal area for coaches and then a | There is sufficient space for a public transport interchange to be accommodated. However, a split level solution might be more appropriate which is more expensive. | | With the provision of a new terminal there is sufficient space to accommodate a PT interchange and to include more coach services. However, journeys between the two terminals may be seen as negative. |

| Sub Criteria | Option Family | | | |
|---|---|---|---|---|
| | Option 1a | Option 1b | Option 1c | Option 2 |
| | transfer onto Luton DART. | | | |
| Can walking and cycling be accommodated to increase modal share? | For staff, these options are attractive in terms of their proximity to the urban conurbation of Luton; therefore take-up of walking and cycling should be healthy. | | | For staff, as the new terminal building is not close to residential / built up areas, walking and cycling will not be as attractive as in option 1a, 1b and 1c. |
| Can landside forecourt layout provision accommodate all traffic increase – PT and others? | A split level solution is most likely for the new terminal based on early layouts produced, but is considered more expensive. | Landside forecourt layout provision could accommodate the increase but early layout configurations suggest a split level solution would be required to accommodate passenger drop off, short stay parking and public transport interchange. | | There is sufficient space to accommodate traffic increases. |
| What is an appropriate PT modal share target/ aspiration? | A range of 50-60% is targeted. However, a phased approach is envisaged as the later years up to 2042 would be largely aspirational as there is currently no binding agreement from stakeholders such as Network Rail; with some of the proposals that might come forward being completely out of LLAL's control. | | | Up to 50% is targeted, less than for options 1a, 1b and 1c. |
| **Appraisal level** | 5 | 10 | 10 | -5 |
| **Summary** | Options 1b and 1c are appraised as Moderate Beneficial because: the Luton DART could be extended in these options more easily than for option 1a and option 2; they are closer to the conurbation (increasing take-up of walking and cycling and attractiveness of bus services); and they have the potential to achieve a higher target of 50-60% for public transport modal share. Whilst option 1a also has the higher target of public transport modal share, it is considered Slight Beneficial due to the need to serve two terminal buildings, impacting on the attractiveness of bus and coach services. Option 2 is considered Slight Adverse due to the difficulties of extending the Luton DART and the increased journey times for buses and coaches required to serve both terminal buildings. | | | |

## 5.9 Strategic Objective O8: To minimise new build highway requirements

5.9.1 Sift criterion S17 appraises the potential magnitude and scale of additional highway infrastructure required to service the four option families. **Table 5.17** below sets out the results of the appraisal.

Table 5.17: S17 Requirement for additional highway infrastructure

| *S17 Requirement for Additional Highway Infrastructure* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Are new highways needed to accommodate the proposals generated traffic? | Yes, amendments to junctions and potential sections of the CPAR will be required in option 1a. Grade separation may be required at Airport Way and major changes to Junction 10 of the M1 (scale as yet unknown). | A higher magnitude of upgrade of CPAR would be required; however it may not be necessary to grade-separate the junction with Airport Way. | | New highways are required including a further key road link connecting to Airport Way. As with options 1a, 1b and 1c, the vicinity around Junction 10 will need to be improved (scale unknown but major). CPAR in present format should be adequate. |
| What is the magnitude of these highway proposals? | The CPAR junction with Airport Way will need to be grade separated, and the junction to the north of the GKN Plc building may require significant amendments. As with options 1a and 1b, the scale of changes required at Junction 10 are as yet unknown. | Major (new build) with potential additional lanes and new junction configurations required, suggesting that the nature of the CPAR may/will change. In addition, the M1 by Junction 10 will also require changes; the scale is currently unknown but is subject to the success of PT modal share increases. | | Major (Junction 10). Difficult and challenging new links to Airport Way will be required to provide access to the southern terminal locations. |
| Can forecourt highway links be accommodated in an efficient manner? | A split level solution will be required at the new terminal building. Car parking at surface level for long stay will be pushed further into Century Park. | Yes, however split level activities are most likely to be required based on early designs. It may also be difficult to achieve grade-separation given the distance between the proposed terminal and CPAR. | | The site is unconstrained and as such an efficient highway layout could be provided (assuming a split level forecourt). |
| How well can it link with proposed new highway solutions in the vicinity? | The proposed terminal builds on the CPAR provision. As with options 1b and 1c, it | Although it links up with CPAR, major reconfiguration and changes to the CPAR are required. It could link up well with the A505 if pursued, but could potentially have major impacts on | | New, independent highway solutions are required. |

| *S17 Requirement for Additional Highway Infrastructure* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | could link up well with the A505 if pursued, but could potentially have major impacts on Junction 10 of the M1 and its vicinity. | Junction 10 of the M1 and its vicinity. | | |
| **Appraisal level** | -10 | -20 | -20 | -20 |
| **Summary** | Due to the need to upgrade the CPAR, therefore requiring major highway interventions, options 1b and 1c are appraised as Large Adverse. Option 2 is also appraised as Large Adverse as a new link road is required to serve the southern terminal. Although major new build infrastructure may be required, in comparison with the other options, the impact of option 1a is likely to be the lowest in magnitude/scale so it is considered to be Moderate Adverse. | | | |

## 5.10 Strategic Objective O9: To minimise impact on the wider highway network

5.10.1 **Table 5.18** below sets out an overview of how the options could impact on the wider highway network.

Table 5.18: S18 Impact on wider highway network

| *S18 Impact on wider highway network* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Will highway capacity show problems in accommodating additional traffic levels before mitigation? | Yes, around M1 Junction 10, motorway and link roads to the airport with the CPAR less affected, compared to options 1b and 1c. | Yes, around M1 Junction 10 and motorway links, and the CPAR, as well as local junctions in the built up conurbation. Early studies suggest the M1 may be able to cater with around 50% increases in airport traffic beyond 18mppa. Thus more PT modal share and traffic management interventions will be required. | | Yes, the motorway link around Junction 10. |
| Can mitigation be provided within highway or airport owned land, or do areas of mitigation require third party land? | Significant off site highway works will likely be required and would require third party land in some instances. | | | The new link road to Airport Way will require third party land. |
| How many links and junctions might require mitigation? | Approximately 20 (subject to model confirmation). | Approximately 25 (subject to model confirmation). Major grade separation is likely to be required. | | Whilst this option would affect less than 10 (this is a high level estimate subject to model confirmation), the need for a new road link and the environmental issues and costs that result weigh against this option. |
| Can car parking be accommodated on airport land? | Likely, however this is subject to detailed work. However, surface level parking for long stay may require further land beyond airport control. | | | No. The southern terminal and its environs are located on land beyond LLAL's ownership. |
| **Appraisal level** | -10 | -20 | -20 | -20 |
| **Summary** | Significant additional public transport modal share and traffic management interventions will be required for all options. Options 1b and 1c are considered to have a Large Adverse impact on the wider network and 25 links/junctions could require mitigation (subject to model confirmation). Option 1a requires less mitigation on airport and third party land than 1b and 1c, hence the Moderate Adverse rating. Whilst option 2 requires less mitigation again than option 1a, the need for a new road link and the resultant environmental issues and costs has led to a Large Adverse rating. | | | |

## 5.11 Strategic Objective O10: To be technically viable, taking account of the needs of airport users, operators and phasing

5.11.1 **Table 5.19** below focuses on the deliverability of the options.

Table 5.19: S19 Deliverable within the context of the current concession to 2031

| *S19 Deliverable within the context of the current concession to 2031* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Deliverable without impacting substantially on current concession boundary | Construction should be capable of being managed without impacting on the current concession. | A second terminal starting west of the existing taxiway network cannot be constructed without impacting on the operation of the existing terminal and concession area which runs until 2031. This option could only realistically be delivered if the existing concession was terminated early or other agreement reached with the concessionaire to reconfigure the existing terminal area at an early date. | This option will be difficult to deliver within the context of the existing concession boundary and without impacting on the operation of Terminal 1. The location of the terminal would need to be to the east of the existing taxiway network and existing cargo facilities would need to be relocated. | It is technically feasible to construct option 2 without impacting on the existing concession and only with minimum interface to the existing operation (runway tie-ins only). |
| Impact on additional land leased by LLAOL | T2 would require relocation and replacement of long stay car parks on land leased by LLAOL but the impact is expected to be manageable. | T2 would require relocation and replacement of long stay car parks on land leased by LLAOL. | T2 would require relocation and replacement of long stay car parks on land leased by LLAOL. | No impact. |
| Can the option be phased so as to meet demand until a new concession is in place? | Yes, construction can be phased, with a minimum first phase of 10-12 mppa. | In order to enable reconfiguration of Terminal 1, Terminal 2 would need to have capacity for 16-20 mppa by 2033 (i.e. more than would be required in a freestanding second terminal) in order to allow for decanting of traffic | In order to enable reconfiguration of Terminal 1, Terminal 2 would need to have capacity for 16-20 mppa by 2033 (i.e. more than would be required in a freestanding second terminal) in order to allow for decanting of traffic | Please see appraisal for option 1a. |

| *S19 Deliverable within the context of the current concession to 2031* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | | from T1. Phasing construction would be complex, even assuming 50% of T1 traffic could be decanted. | from T1. Phasing construction would be complex, even assuming 50% of T1 traffic could be decanted. Even then, it is not clear how the operation could be maintained at an acceptable level of service during the reconstruction process. | |
| **Appraisal level** | 10 | -10 | -5 | 20 |
| **Summary** | Delivery of option 1b, although not impossible, would be extremely challenging both in terms of managing capacity, meeting customer expectations and without substantial contractual issues, and is therefore considered Moderate Adverse. Option 1c is considered Slight Adverse due to the potential to disrupt the operation of T1 under the current concession. Option 1a is considered Moderate Beneficial compared to options 1b and 1c due to its limited impact upon the current concession's operations. Option 2 could provide the largest beneficial impact of all the options due to its ability to largely be constructed without impacting on the existing concession. | | | |

5.11.2 **Table 5.20** overleaf looks at how attractive each option would be to a future concessionaire coming into LTN in terms of investment, revenue and operations.

Table 5.20: S20 Attractive to future concessionaire

| *S20 Attractive to future concessionaire* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Cost of works and timing relative to income | This is likely to be the most cost effective option as it allows a smaller scale of initial build relative to the overall capacity required at the airport. In addition, this option maintains the existing MRO and maintenance areas, therefore preserving existing revenue streams. | It is unclear how this would be constructed due to the interaction with the existing concession. Contractual complexities are unlikely to be attractive to a new concessionaire as this would add substantially to the risk. | This option requires a larger earthworks platform. Unlikely to be attractive to incoming concessionaire due to high cost. | Like option 1a, this option can be phased and also maintains the existing MRO and maintenance areas. It minimises earthworks due to the southside alignment, but also has potentially high costs with the opening up of the site south of the runway and new infrastructure. |
| Can the option be phased to align with income? | Both options 1a and 2 would allow phasing aligned to demand, therefore minimising early concessionaire expenditure. | This would require a very large first phase built to allow reconstruction of T1 and is unlikely to be attractive to incoming concessionaire due to the high cost. | | Please see appraisal for option 1a. |
| Opportunities for additional revenue generation, e.g. from MRO, Business Aviation, ancillary facilities | This option potentially minimises the earthworks platform but the extended platform could offer additional opportunities for MRO and Business Aviation to enhance revenue. | This option reduces land for Business Aviation and MRO unless the earthworks platform is extended. | This option potentially maintains large areas of land for MRO and Business Aviation, allowing more opportunities for additional revenue than option 1b. | Please see appraisal for option 1a. |
| Does the scheme provide sufficient flexibility from a design and operational perspective, for future concessionaires and airlines? | Two-terminal operation north of the runway is likely to be more cost efficient than a split operation across the runway (as in option 2), therefore reducing concessionaire operation costs, but at the expense of the loss of some flexibility due to split terminal operations. | Single terminal could be more cost efficient in operation and provide for some flexibility in use by airlines. | | Southside operations (cross runway) may result in inefficiencies (see strategic objective O11), higher operating costs for the concessionaire and lower commercial income compared to a single terminal solution. |

| *S20 Attractive to future concessionaire* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| **Appraisal level** | 20 | -5 | 5 | 20 |
| **Summary** | Options 1b and 1c are likely to encounter challenges in phasing which reduces option 1c to Slight Beneficial, with option 1b appraised as Slight Adverse due to the additional reduction in the amount of land for Business Aviation and MRO.<br>Overall, both options 1a and option 2 are appraised as Large Beneficial given the flexibility they provide to future concessionaires and the ability to phase delivery in line with demand. | | | |

5.11.3 As highlighted in S15, some options involve occupying part of the area underlain by the landfill and would require earthworks to create a platform at an appropriate level. The costs and logistical difficulties involved in these works could be significant to the viability and deliverability of the Project so it will be important to keep them in view throughout the development of the design. **Table 5.21** below provides an overview of the appraisal of the options with regard to the feasibility of the landfill, earthworks and ground conditions.

Table 5.21: S21 Feasibility of landfill, earthworks and ground conditions

| *S21 Feasibility of landfill, earthworks and ground conditions* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| What extent does this option use geological resource i.e. aggregate? | At least 4.4million $m^3$ of fill would be needed to create the platform. | At least 1.6million $m^3$ of fill would be needed to create the platform for the airfield area. The fill material could all be sourced from the option land to the east. | At least 4million $m^3$ of fill would be needed to create the platform for the airfield area. | At least 0.5million $m^3$ of fill would be needed to create the platform. Fill material could all be sourced from the development area and a cut/fill balance achieved. |
| To what extent does this option present a potential pollution risk to water or soil quality? Can this be mitigated? | As with options 1b and 1c, but the area involved and extent of disturbance is likely to be greater. | These options include excavation of a considerable volume of waste and the construction of piles through the landfill to support the stands and buildings. This could create pathways that impact on site users and controlled waters. Mitigation will be possible but the scale of the disturbance of the landfill may make it difficult to avoid short term impacts. | | Very low risk that could be mitigated. Development will be underlain by clay deposits that will protect the chalk. Desk study has not identified any potential contamination sources. |
| To what extent does this option require landfill waste to be excavated? | Excavation for this option would be greater than for 1b and 1c. | These options include a considerable area of stands on the landfill - the enabling works to allow this will result in the excavation of similar amounts of waste to in both options 1b and 1c. | | Possible small area of excavation to enable new taxiway. |
| To what extent does this option reuse excavated materials? | Yes - there are carparks on the landfill - this will provide an area to reuse waste generated by the enabling works. | | | Yes - a cut/fill balance is likely to be possible. |
| Does this option improve the contamination conditions of soil/groundwater? | Yes - the mitigation measures that will be necessary will result in a reduction of risk in the long term. There may be an increase in risk in the short term however - see above. | | | No current impacts are likely in the terminal/stands area. |
| What is the extent of construction risks to environment and health of local residents? | Movement, processing and disturbance of large volumes of waste have the potential to cause gas, dust and odour impacts to local residents. Very careful management of this will be needed. | | | Low risk due to significant distance to populated area – emissions are likely to be lower than other options. |
| Does this option generate large volumes of waste or problematic waste (e.g. hazardous or landfill waste) in construction, operation and decommissioning that cannot be effectively managed locally? | Yes - some of the waste excavated will not be suitable for reuse and will have to be taken to an off- site repository. | Please see appraisal for option 1a. | As with options 1a and 1b but option 1c will also include the demolition of existing buildings, leading to the generation of residual non-recyclable materials. | No. |

| *S21 Feasibility of landfill, earthworks and ground conditions* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| To what extent does it rely on large volumes of non-renewable materials for its construction? | Approximately 4.4 million $m^3$ of fill will be needed to create the platform for this option. The fill material can all be sourced from the development area and a cut/fill balance achieved. | Approximately 5million $m^3$ of fill will be needed to create the platform. The fill material can all be sourced from the option land to the east of the development area. | Approximately 4million $m^3$ of fill will be needed to create the platform for this option. The fill material can all be sourced from the option land to the east of the development area. | Approximately 0.5million $m^3$ of fill will be needed to create the platform for this option. The fill material can all be sourced from the development area and a cut/fill balance achieved. |
| How do each of the options relate to waste operations? | A two-terminal option is assumed to perform less well than a single terminal option as waste management areas would need to be duplicated and this would not deliver the same economies of scale.<br>The dual north option is assumed to perform better than a north/ south option because some collocated facilities could be included. | A single terminal option is assumed to be better than a two-terminal option as it allows for economies of scale through a single waste management area | | Please see appraisal for option 1a. |
| **Appraisal level** | -20 | -20 | -20 | -5 |
| **Summary** | Options 1b and 1c were appraised as Large Adverse because: obstructions in the landfill may make piling difficult; a large earthwork platform would be required; and construction will be dependent on earthworks weather (restricted to building in the summer earthworks season). The impacts of option 1a are also considered to be Large Adverse for the same reasons as 1b and 1c, but also because the large area of stands on the landfill will require many piles or a compromise on stand reliability/maintenance. In comparison, Option 2 is considered relatively straightforward with regard to the earthworks required, with possible minor work to mitigate soft spots. | | | |

5.11.4 Sift criterion S22 considers the elements of the proposed layouts, earthworks and access routes, and whether they occupy land owned or optioned by LLAL. The results of the appraisal are shown in **Table 5.22**. As part of the back-checking process undertaken to finalise this report, it was identified that additional work undertaken to inform the earthworks solution had an impact on the appraisal contained in the draft Sift 2 Report. It is now clear that some of the options being considered would involve isolated pockets of land ownership outside of LLAL's current holdings.

Paragraph 4.4.4 of the Sift 3 Report provides further explanation. Therefore, a conservative approach has been taken to assume that all options which could potentially use one of those landform options considers this additional information as part of the Sift 2 appraisal. This has resulted in the Large Beneficial appraisal levels in the draft Sift 2 report being reduced to Moderate Beneficial in Table 5.22.

Table 5.22: S22 Additional land required beyond current LLAL holdings

| ***S22 Additional land required beyond current LLAL holdings*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Does the proposed layout, and the earthworks needed to support it, directly occupy land not owned by LLAL? | LLAL generally own or have an option on all the land envisaged at this stage to be required. | | | Yes a large area of additional land is required. |
| Will the earthworks required to win material involve land not owned by LLAL? | LLAL generally own or have an option on all the land envisaged at this stage to be required, with the exception of isolated pockets. | | | No - it will not be necessary to involve additional land to win earthworks material. |
| Do the proposed access routes and the earthworks needed to support them directly occupy land not owned by LLAL? | LLAL generally own or have an option on all the land envisaged at this stage to be required. | | | Yes a large area of additional land is required. |
| **Appraisal level** | 10 | 10 | 10 | -20 |
| **Summary** | Given that options 1a, 1b and 1c would be located generally within LLAL's boundaries, they are considered as performing well against this criterion. However, as these options may require isolated pockets outside of LLAL ownership for their underpinning earthworks, they are appraised as Moderate Beneficial. Option 2 however is considered Large Adverse as it could require third-party land to be included to enable access. | | | |

## 5.12 Strategic Objective O11: To enhance LTN's system efficiency and resilience

5.12.1 The current airfield layout is inefficient, giving rise to delays to arriving and departing aircraft and limiting the number of aircraft movements per hour using the runway. The current terminal layout is also inefficient, with long walking distances for some passengers, particularly those using the older part of the building. There are therefore clear opportunities to provide new airfield and terminal layout which improve overall efficiency, and to make the most of technological improvements which could drive efficiency. **Table 5.23** below sets out how each of the four options performs with regard to operational effectiveness.

5.12.2 As part of the finalisation of this report, the back-checking process covered in the Sift 3 report identified that the current passenger experience was an important consideration for airport users and airline operators, and should be afforded greater consideration in the appraisal. In the draft Sift 2 report, options 1b and 1c were appraised as Large Beneficial as the single terminal building would likely increase operational efficiency, flexibility and enhance the passenger experience. After the back-checking, the appraisal level of option 1b has been reduced to Moderate Beneficial, reflecting the perceived impact to passenger experience due to building from west to east, resulting in disruption to existing terminal operations before there is sufficient space to decant operations to the east. The updated appraisal levels and rationale are reflected in **Table 5.23** below and paragraph 4.4.6 of the Sift 3 Report provides further explanation of the changes.

Table 5.23: S23 Operational effectiveness

| ***S23 Operational effectiveness*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| How efficient is the layout? | New terminal would enhance efficiency but could result in some inefficiency due to split operation over two buildings. | Single terminal would potentially increase operational efficiency. | | Some inefficiencies due to split operation across the runway. |
| Delays to airlines | Delays are considered to be within acceptable levels. | | | Delays within acceptable levels but some reduction in performance due intermeshing movements north and south of the runway. |

| *S23 Operational effectiveness* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Passenger experience | Whilst the new terminal building would provide operational flexibility and enhance passenger experience, the existing terminal would be retained with a lower efficiency and passenger experience. | The passenger experience of this option is comparatively worse than option 1c due to building from west to east. This would result in disruption to existing terminal operations before there is sufficient space to decant operations to the east. | A completely new terminal building would be designed to provide operational flexibility and to enhance passenger experience. | Please see appraisal for option 1a. |
| **Appraisal level** | 10 | 10 | 20 | 10 |
| **Summary** | Options 1c is appraised as Large Beneficial due to increased efficiency due to the design of a completely new terminal building, which would also provide operational flexibility to airlines and enhance the passenger experience. Whilst option 1b also receives these benefits, passenger benefits within this option are comparatively lower given the disruption of building from west to east. Options 1a and 2 are both considered Moderate Beneficial due to the residual inefficiencies of the existing terminal. | | | |

5.12.3 Shortage of taxiway infrastructure means that the current airfield layout has little resilience to any blockage of the runway or taxiways, and the single entrance to the central terminal areas means that there are no alternative road access routes to the terminal. The Project provides the opportunity to provide a full length parallel taxiway which could also provide for an Emergency runway to improve resilience in the event of a blockage to the main runway.

5.12.4 Building on the strategic objective 11, sift criterion S24 appraised the four option families for their resilience to operational disruption, both in absolute terms and compared to the existing scenario, as shown below in **Table 5.24**. It should be noted that this assessment is made on the basis of the final configuration as indicated by the options as phasing issues are considered separately under deliverability (see S19).

Table 5.24: S24 System resilience

| *S24 System resilience* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Resilience to operational disruption | Two-terminal operations increase resilience to disruption.<br>The inefficient loop taxiway configuration is retained, although additional taxiways will reduce delays. | Single terminal improves operational efficiency but lower resilience in the case of disruption to single terminal operation.<br>These options replace the inefficient loop taxiway configuration which is prone to blockage. Additional taxiway infrastructure enhances resilience. | | As for option 1a with the additional benefit that the southside location of one of the terminal buildings could provide enhanced resilience to any incidents north of the runway. |
| Resilience in the broader infrastructure (road and rail) | Two-terminal options provide alternative surface access routes and are therefore more resilient than the single terminal options. | These options are reliant on a single front door and surface access links and are therefore less resilient that the two-terminal options. | | Please see appraisal for option 1a. |
| Extent of resilience improvement | Extent of resilience improvement is greater in two-terminal options in terms of operational disruption and broader infrastructure. | Resilience is improved to a lesser extent when compared with two-terminal buildings as in 1a and option 2. | | Please see appraisal for option 1a. |
| **Appraisal level** | 20 | 10 | 10 | 20 |
| **Summary** | The single terminal options are considered to provide lower resilience in the case of disruption compared to two-terminal options. This is because options 1b and 1c are reliant on singular surface access links and therefore reduce the ability to close a section of the airport; whilst this would be possible if there was an incident, in either of the two-terminal options.<br>As a result, options 1b and 1c are appraised as Moderate Beneficial, with options 1a and option 2 appraised as Large Beneficial. | | | |

5.12.5 Low airport charges currently make LTN the airport of choice for low fare airlines serving north London and south east Midlands. However, at present, a shortage of aircraft stands limits the opportunities for based additional aircraft; high levels of remote parking and bussing add to operating costs and may contribute to delays; and terminal congestion and the use of older parts of the terminal may lead to shortcomings in the quality of service. Cost effective development of capacity at an early date could secure LTN's position in the London airport system and improved facilities could enhance LTN's attractiveness to a broader range of airlines.

5.12.6 **Table 5.25** covers the appraisal of the four option families on their attractiveness to airline operators, taking into account the attractiveness to passengers, airport charges and the cost of operation.

Table 5.25: S25 Attractiveness to airline operators

| ***S25 Attractiveness to airline operators*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Impact on airline delays | The additional taxiways will increase efficiency and could reduce delays. | The efficient apron layout in these options will reduce delays for arriving and departing aircraft. | | Please see appraisal for option 1a. |
| Impact on airport charges and cost of operation | The ability of this option to phase should keep charges to acceptable levels and provide capacity in time to meet demand. | The high cost of delivery of these options, notably ahead of demand, could impact adversely on airport charges. | | Please see appraisal for option 1a. |
| Resilience to operational disruption | Two terminals would enhance resilience to disruption. | A single terminal is potentially less resilient to disruption than the two-terminal options, 1a and 2. | | Please see appraisal for option 1a. |
| Attractiveness to passengers | As charges would be kept to an acceptable level, these options would be more attractive to passengers than option 1b and 1c where the airlines are likely to incur higher costs. | The high costs incurred by the airlines could be passed down to passengers, making the airport less attractive. | | Please see appraisal for option 1a. |
| Flexibility to adapt to airlines changing requirements | The proposed retention of T1 would reduce efficiency and make the airport less flexible to adapt to changing markets or service requirements. | New terminal is likely to be more flexible in layout and use than the existing terminal. | | Please see appraisal for option 1a. |
| Flexibility to adapt to airline operational requirements (i.e. parking/offices) | The two terminal buildings proposed could require airline split operations. | The efficiency of single terminal operations is likely to be attractive to airlines. | | Split terminals across the runway reduce efficiency of operation and may result in one or more airlines having split operations. |
| Ability to accommodate based carriers | Co-located maintenance activities on the northside of the runway are likely to be more attractive | | | Maintenance activity on the |

| *S25 Attractiveness to airline operators* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| | to based airlines than split operations. | | | northside of the runway may be less attractive for based airlines in this option. |
| **Appraisal level** | 10 | 10 | 10 | 5 |
| **Summary** | Options 1b and 1c are considered to have Moderate Beneficial impacts as both would ultimately provide a modern efficient airport but the phasing required could increase costs and hence airport charges. Option 1a was also appraised as Moderate Beneficial as it would leave the relatively inefficient T1 still in use. Option 2 was rated as Slight Beneficial in comparison to the other options as it would leave T1 still in use but would also risk some airlines having to split operations either side of the runway. | | | |

5.12.7 Current policy does not support expansion beyond the capacity of a single runway but preserving options for further capacity expansion would be desirable from LLAL's point of view. However, land for further expansion is limited by residential development to the north, Green Belt to the east and south, and Luton Hoo and Someries Castle to the southwest and south respectively. **Table 5.26** sets out how well the four option families performed in sift criterion S26 in relation to safeguarding for expansion.

Table 5.26: S26 Safeguarding for expansion

| *S26 Safeguarding for expansion* | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Flexibility in expansion | These three options will utilise all of the effective northside site when full phasing and MRO requirements are taken into account. | | | Land on the north could facilitate some further expansion, subject to alternative uses of the land in the meantime. This would provide the airport with some flexibility to accommodate additional airport related uses on the north. |
| Safeguarding for requirements past 2040 | These options leave open any expansion options to the south in the longer term, unlike option 2. | | | Configuration could impact on ultimate expansion prospects to the south. |
| **Appraisal level** | 10 | 10 | 10 | 5 |
| **Summary** | Both options 1b and 1c involve the redevelopment of the existing T1 building which may result in some wastage of space, and option 1a also requires the redevelopment of T1 but in the longer term – all three options were considered to have a Moderate Beneficial rating. In comparison, option 2 was appraised as having a Slight Beneficial rating as it will occupy land to the south before the potential of this area has been fully explored whilst in the meantime, land to the north of the runway may have been developed for alternative uses. | | | |

5.12.8 LTN currently has substantial MRO activity at the airport (with hangars in the west of the site), and retaining at least the current level of operations is important to ensuring the Airport continues to deliver skilled job opportunities. Cargo is located currently in a facility to the north of the terminal, with two dedicated aircraft stands, and there are two fixed base operators (FBOs), Signature and Harrods.

5.12.9 The concessionaire currently earns a sizeable income stream from business aviation activity and gains income from cargo and MRO aircraft parking. These will be important for the attractiveness of the future concession but may not deliver significant direct income to LLAL. Options which have land available for the expansion of these activities could increase employment opportunities in these activities, and a longer runway could facilitate services by aircraft with

greater freight capacity. **Table 5.27** sets out the appraisal of the options against sift criterion S27. It should be noted that the precise requirement for cargo, MRO and business aviation will be defined in a subsequent stage of design.

Table 5.27: S27 Safeguarding existing levels of MRO, business aviation and cargo activity

| ***S27 Safeguarding existing levels of MRO, Business Aviation and cargo activity*** | | | | |
|---|---|---|---|---|
| **Sub Criteria** | **Option Family** | | | |
| | **Option 1a** | **Option 1b** | **Option 1c** | **Option 2** |
| Maintain slots and land for MRO, Business Aviation and Cargo to minimise disruption and maintain existing operations | This option allows for the western maintenance zone, cargo and business aviation zones to remain in operation. | These options allow for the western maintenance zone to remain in operation but cargo, the EasyJet hangar and Harrods business aviation would need to be relocated. | | Please see appraisal for option 1a. |
| **Appraisal level** | 20 | 10 | 10 | 20 |
| **Summary** | Options 1a and 2 are appraised as Large Beneficial as they retain existing levels of MRO, Business Aviation and Cargo Activity. Options 1b and 1c are appraised as Moderately Beneficial and the options will impact on existing businesses. | | | |

## 5.13 Strategic Objective O12: To be affordable including any public expenditure that may be required and taking account of the needs of airport users and operators (Value for Money)

5.13.1 A preliminary comparative analysis on the direct benefit of the programme has been undertaken based on broad based likely investment and revenue assumptions. This analysis has sought to understand the benefit derived over a possible future concession arrangement.

Table 5.28: S28 Estimated cost benefit

| Sub Criteria | Option Family | | | |
|---|---|---|---|---|
| | Option 1a | Option 1b | Option 1c | Option 2 |
| Capex expenditure | Capex cost is estimated to be lower in this option than 1b and 1c. | Capex cost is estimated to be larger in these single terminal options compared to the two-terminal options 1a and 2. | | Capex cost is estimated to be lower in this option than 1b and 1c. |
| Affordability of scheme | Affordability is greater than for alternative options with higher capital expenditure. There is insufficient difference at this stage between 1a and 2 to differentiate scoring. | Whilst the revenue profiles are broadly generated by the projected passenger numbers and common to each option, the investment profiles are thought to vary significantly with investment in these options and potentially twice that of 1a and 2. Therefore overall affordability is lower than for alternative options with lower capital expenditure affordability. | | Affordability is greater than for alternative options with higher capital expenditure. There is insufficient difference at this stage between 1a and 2 to differentiate scoring. |
| Appraisal level | 20 | 10 | 10 | 20 |
| Summary | Given the assumptions stated above, Options 1a and 2 are appraised as 'Large Beneficial', with insufficient differences at this time between options to differentiate between them. Options 1b and 1c, with the comparatively much greater investment indicate lower benefit compared to the two-terminal options and are therefore appraised as 'Moderate Beneficial'. Beyond comparative levels of investment, any future differentiation between options will be greatest if there is any variation in the maximum number of passengers supported by an option (i.e. an option is constrained in comparison to others). | | | |

## 5.14 Overall commentary

5.14.1 The overall performance of the options against the criteria is shown below in **Table 5.29** and, as noted above, includes updated appraisal levels for sift criteria S15, S22, S23 and paragraph 4.4.6 of the Sift 3 Report provides further explanation of the changes.

Table 5.29 Overall appraisal levels and numerical values for each option at Sift 2

| Strategic Objective | Sift Criteria | Option Family | | | |
|---|---|---|---|---|---|
| | | Option 1a | Option 1b | Option 1c | Option 2 |
| O1: Compliance with Government Aviation Policy | S1: Consistent with making best use of the existing runway | Large Beneficial (20) | Large Beneficial (20) | Large Beneficial (20) | Large Beneficial (20) |
| O2: To identify a scheme that is likely to be capable of being consented and secured through a DCO | S2: In broad conformity with national and local town planning policies and capable of attracting the consents required | Moderate Beneficial (10) | Moderate Beneficial (10) | Moderate Beneficial (10) | Currently Unworkable (-20) |
| O3: To provide additional capacity and connectivity in line with the assessment of need | S3: Increase capacity both airside and landside to achieve target increase up to 36-38mppa | Large Beneficial (20) | Slight Adverse (-5) | Moderate Beneficial (10) | Large Beneficial (20) |
| O4: To maximise the potential economic benefits to the regional, sub-regional and local economies | S4: Deliver economic benefits nationally and regionally | Large Beneficial (20) | Slight Beneficial (5) | Moderate Beneficial (10) | Large Beneficial (20) |
| | S5: Increase job opportunities for the people of Luton and the surrounding areas | Large Beneficial (20) | Large Beneficial (20) | Large Beneficial (20) | Moderate Beneficial (10) |
| O5: To maintain and where possible improve the quality of life for Luton's residents and the wider population | S6: Promote positive benefits and minimise adverse impacts on local communities | Slight Beneficial (5) | Slight Beneficial (5) | Slight Beneficial (5) | Slight Beneficial (5) |
| O6: To minimise environmental impacts and, where practicable, to actively mitigate and manage any potential environmental effects | S7: Noise impact | Moderate Adverse (-10) | Moderate Adverse (-10) | Moderate Adverse (-10) | Large Adverse (-20) |

| Strategic Objective | Sift Criteria | Option Family | | | |
|---|---|---|---|---|---|
| | | Option 1a | Option 1b | Option 1c | Option 2 |
| | S8: Air quality | Moderate Adverse (-10) | Moderate Adverse (-10) | Moderate Adverse (-10) | Slight Adverse (-5) |
| | S9: Natural habitats and biodiversity | Moderate Adverse (-10) | Moderate Adverse (-10) | Moderate Adverse (-10) | Moderate Adverse (-10) |
| | S10: Carbon emissions | Large Adverse (-20) | Large Adverse (-20) | Large Adverse (-20) | Large Adverse (-20) |
| | S11: Water Resources | Slight Adverse (-5) | Slight Adverse (-5) | Slight Adverse (-5) | Neutral (0) |
| | S12: Flood risk | Neutral (0) | Neutral (0) | Neutral (0) | Neutral (0) |
| | S13: Cultural Heritage | Slight Adverse (-5) | Slight Adverse (-5) | Slight Adverse (-5) | Large Adverse (-20) |
| | S14: Landscape and visual impact and Environmental Land Use | Moderate Adverse (-10) | Moderate Adverse (-10) | Moderate Adverse (-10) | Large Adverse (-20) |
| | S15: Climate change | Slight Beneficial (5) | Slight Beneficial (5) | Slight Beneficial (5) | Slight Beneficial (5) |
| O7: To maximise the number of passengers and workforce arriving at the airport on public transport | S16: Public transport modal share | Slight Beneficial (5) | Moderate Beneficial (10) | Moderate Beneficial (10) | Slight Adverse (-5) |

| Strategic Objective | Sift Criteria | Option Family | | | |
|---|---|---|---|---|---|
| | | Option 1a | Option 1b | Option 1c | Option 2 |
| O8: To minimise new build highway requirements | S17: Requirement for additional highway infrastructure | Moderate Adverse (-10) | Large Adverse (-20) | Large Adverse (-20) | Large Adverse (-20) |
| O9: To minimise impact on the wider highway network | S18: Impact on wider highway network | Moderate Adverse (-10) | Large Adverse (-20) | Large Adverse (-20) | Large Adverse (-20) |
| O10: To be technically viable, taking account of the needs of airport users, operators and phasing | S19: Deliverable within the context of the current concession to 2031 | Moderate Beneficial (10) | Moderate Adverse (-10) | Slight Adverse (-5) | Large Beneficial (20) |
| | S20: Attractive to future concessionaires | Large Beneficial (20) | Slight Adverse (-5) | Slight Beneficial (5) | Large Beneficial (20) |
| | S21: Feasibility of landfill, earthworks and ground conditions | Large Adverse (-20) | Large Adverse (-20) | Large Adverse (-20) | Slight Adverse (-5) |
| | S22: Additional land required beyond current LLAL holdings | Moderate Beneficial (10) | Moderate Beneficial (10) | Moderate Beneficial (10) | Large Adverse (-20) |
| O11: To enhance LTN's system efficiency and resilience | S23: Operational effectiveness | Moderate Beneficial (10) | Moderate Beneficial (10) | Large Beneficial (20) | Moderate Beneficial (10) |
| | S24: System resilience | Large Beneficial (20) | Moderate Beneficial (10) | Moderate Beneficial (10) | Large Beneficial (20) |
| | S25: Attractiveness to airline operators | Moderate Beneficial (10) | Moderate Beneficial (10) | Moderate Beneficial (10) | Slight Beneficial (5) |

| Strategic Objective | Sift Criteria | Option Family | | | |
|---|---|---|---|---|---|
| | | Option 1a | Option 1b | Option 1c | Option 2 |
| | S26: Safeguarding for expansion | Moderate Beneficial (10) | Moderate Beneficial (10) | Moderate Beneficial (10) | Slight Beneficial (5) |
| | S27: Safeguarding existing levels of MRO, Business, Aviation and Cargo activity | Large Beneficial (20) | Moderate Beneficial (10) | Moderate Beneficial (10) | Large Beneficial (20) |
| O12:To be affordable including any public expenditure that may be required and taking account of the needs of airport users and operators (Value for Money) | S28: Estimated cost benefit | Large Beneficial (20) | Moderate Beneficial (10) | Moderate Beneficial (10) | Large Beneficial (20) |
| | **Total** | 125 | -5 | 40 | 15 |

## 5.15 Summary of appraisal

5.15.1 Overall, the key findings by strategic objective heading were:

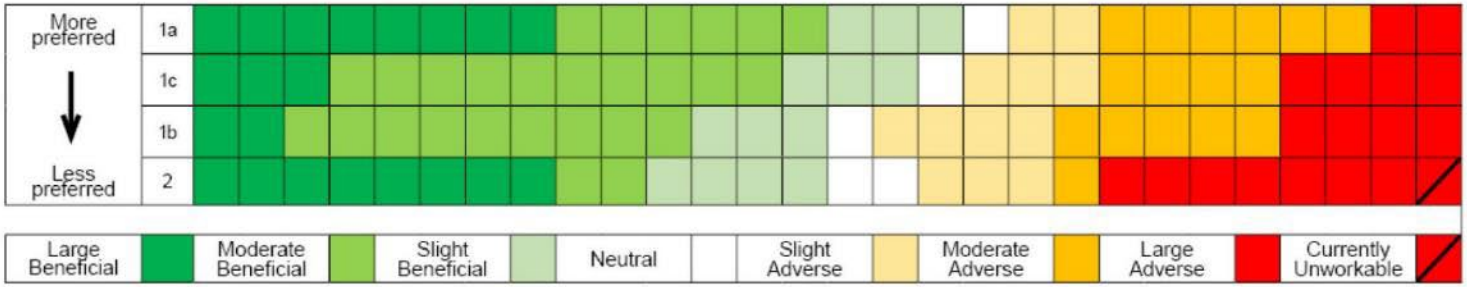
- **Strategic fit** – The appraisal of strategic fit has shown that all of the options are capable of providing beneficial impacts to a greater or lesser degree, with the obvious exception of option 2 which is considered Currently Unworkable as it is highly unlikely to be capable of securing the consents required at the present time due to the "very special circumstances" Green Belt test. Both single terminal options, options 1b and 1c, score less well in terms of delivering the additional capacity and connectivity than the two-terminal options, 1a and 2, due to the increased ability to phase development in line with demand.
- **Economic** – Broadly speaking, all the options are considered capable of delivering benefits nationally and regionally (to both users and airlines) and locally in terms of increased job opportunities. Economic benefits are considered to be proportional to the capacity and throughput of the airport. The single terminal options are likely to have less beneficial impacts than the two-terminal options, due to their comparative disruption to the existing terminal operations.
- **Social (people)** – All options are likely to maintain and improve the quality of life for residents of Luton and the wider area, with an overall appraisal of Slight Beneficial for all options. This takes into account for all options benefits of improved quality and choice of employment and training opportunities and reduced adverse effects of unemployment, low income and job insecurity, with the negative impacts from increased ATMs on amenity on residential areas and community facilities already affected under existing flight paths.
- **Sustainability and environment** – Overall for the majority of the sustainability and environment criteria, all four options score less well than for other strategic objectives, although all options are likely to have slight to moderate beneficial impacts in terms of their resilience to climate change. Option 2 scored less well than the other three in terms of the impact on noise levels, cultural heritage, and landscape and visual impact and land use. All options were considered to have a Large Adverse impact on carbon emissions.
- **Surface access** – The three options which propose development on the north side of the runway are expected to produce positive increases in public transport modal share, whilst option 2 will require a more difficult Luton DART design solution which is also less likely to be attractive to operators and users. Options 1b, 1c and 2 are expected to produce Large Adverse effects in terms of additional highways required compared to option 1a. In terms of

Surface Access, a single terminal option would require more significant infrastructure provision to the CPAR over and above what is currently proposed, compared to the two-terminal options. In Public Transport terms a single terminal is more attractive.

- **Deliverability** – The three options which focus development north of the runway all propose occupying part of the area underlain by landfill and will require earthworks to create a platform at an appropriate level, with cost implications for the Project, therefore scoring Large Adverse. Both the two-terminal options score positively compared to the single terminal options in terms of being considered more deliverable within the context of the current concession to 2031, as well as being more attractive to future concessionaires. However, option 2 requires a large area of additional land beyond current LLAL holdings, compared to the comparatively minor amount required for earthworks in the other options, which reduces its appraisal score.
- **Operational viability** – all options are considered likely to deliver benefits in terms of enhancing LTN's system efficiency and resilience. The single terminal options could deliver Large Beneficial impacts due to increased operational efficiency, ability to deliver an enhanced passenger experience and operational flexibility to airlines, but split operations either side of the runway are less desirable operationally. The two-terminal options could deliver similarly significant positive impacts in relation to enhanced system resilience due to having two terminal buildings, and ability to retain existing levels of MRO, business aviation and cargo activity which can remain operational during construction.
- **Cost/ Benefit** – this is based on a preliminary analysis on the benefit derived from the Project focusing on comparative magnitudes of investment and the information available at this stage in relation to passenger traffic and revenue assumptions. All options are likely to deliver positive beneficial impacts, with both two terminal options offering greater financial benefits than the single terminal options.

5.15.2 **Figure 5.1** below takes the numerical values above and ranks the options from more preferred to less preferred, to show the relative distribution of appraisal levels. It can be seen that option 2 has four times the number of Large Adverse appraisal levels as the more preferred option, option 1a, and a Currently Unworkable appraisal level as well.

Figure 5.1 Frequency of appraisal levels for each option family at Sift 2 (please note this has been updated from the draft version, reflecting the revised scores under criteria S15, S22 and S23, as described above)



# 6 OUTCOMES

## 6.1 Introduction

6.1.1 Following from the summary of the appraisals set out in **Table 5.29** and **Section 5.15**, **Chapter 6** identified the less favoured and most preferred option appraised as part of Sift 2.

## 6.2 Least preferred option

6.2.1 Based on the sift 2 findings, only one option is considered to be much less favourable than the other options, option 2, which represents a new terminal building and all associated infrastructure south of the existing runway. It is recommended that this option should be discontinued based on the appraisal of sift criterion S2: *In broad conformity with national and local town planning policies and capable of attracting the consents required*, subject to the outcome of the consultation process. This recommendation is because the appraisal concluded that it would be difficult to establish the necessary compelling case in the public interest for the very special circumstances required for development in the Green Belt where alterative options are available north of the runway. In addition, option 2 proposes development south of the runway which is outside of the LLP6 Strategic Allocation boundary and extending into the Luton and Central Bedfordshire Green Belts. As such, it is considered that option 2 is currently unworkable as an option given the existing planning policy context and other options available. However, option 2 is recommended to be included in the non-statutory consultation.

## 6.3 Most preferred option

6.3.1 Option 1a performed better against the majority of the sift criteria than the other options and is considered the most preferred at this stage, based on available information. This option performed the most strongly in relation to strategic fit, economic benefits, deliverability (within the context of the current concession, attractiveness to future concessionaires and not requiring significant additional land beyond current LLAL holdings), operational viability and cost benefit.

6.3.2 It is therefore recommended that this option is progressed for more consideration and promoted for initial stakeholder feedback. It is also recommended that whilst this option is put forward as the currently most preferred option, it should be accompanied by the other three option families for feedback in the non-statutory consultation process.

## 6.4 Other preferred options

6.4.1 Overall, both single terminal options 1b and 1c performed less well than option 1a. Whilst they were appraised as being capable of delivering some degree of beneficial impacts in relation to strategic fit, economic, social, deliverability, operational viability and cost benefits, the scoring of Large Adverse on four of the criteria meant that it performed less well than option 1a which had two less Large Adverse scores. Both single terminal options scored poorly in relation to option 1a particularly regarding the surface access criteria which looked at the requirement for additional highways infrastructure and the potential impact on the existing highways network. Major new build highways would be required to accommodate the generated traffic with a higher magnitude of upgrade to the CPAR for options 1b and 1c. Finally, the impact of these options on the existing highway network is likely to require greater off site highway works than for option 1a.

6.4.2 The outcome of Sift 2 suggests that options 1b and 1c are less preferred options compared to option 1a based on their appraisal scores, but should still be taken forward and progressed in the evaluation and optioneering process and considered as part of the forthcoming non-statutory consultation process.

# APPENDIX A: Refinement between Sift 1 and Sift 2

## Refinement to strategic objectives

| Strategic objective in Sift 1 | Reason for refinement | Used for Sift 2 appraisal |
|---|---|---|
| O1: To make best use of the existing runway | Need to appreciate wider aspects of aviation policy, such as environmental guidance and definitions of 'best use' | O1: Compliance with Government Aviation Policy |
| O2: To identify a scheme that is likely to be capable of being consented and secured through a DCO | N/A | O2: To identify a scheme that is likely to be capable of being consented and secured through a DCO |
| O3: To provide additional capacity and connectivity in line with the assessment of need | N/A | O3: To provide additional capacity and connectivity in line with the assessment of need |
| O4: To maximise the potential economic benefits to the regional and sub-regional economy | N/A | O4: To maximise the potential economic benefits to the regional, sub-regional and local economies |
| O5:To maintain and where possible improve the quality of life for Luton's residents and the wider population | N/A | O5: To maintain and where possible improve the quality of life for Luton's residents and the wider population |
| O6: To minimise environmental impacts and, where practicable, to actively mitigate and manage any potential environmental effects | N/A | O6: To minimise environmental impacts and, where practicable, to actively mitigate and manage any potential environmental effects |
| O7: To maximise the number of passengers and workforce arriving at the airport on public transport | N/A | O7: To maximise the number of passengers and workforce arriving at the airport on public transport |
| O8:To minimise new build highway requirements | N/A | O8: To minimise new build highway requirements |
| O9: To minimise impact on wider highway network | N/A | O9: To minimise impact on the wider highway network |
| O10: To be financially and technically viable, taking into account of the needs of airport users, operators and phasing | Removed the word financially to avoid overlap with Strategic Objective 12 | O10: To be technically viable, taking account of the needs of airport users, operators and phasing |
| O11: To enhance LTN's system efficiency and resilience | N/A | O11: To enhance LTN's system efficiency and resilience |
| O12: To be affordable, including any public expenditure that may be required and taking account of the needs of airport users and operators (Value for Money). | N/A | O12:To be affordable including any public expenditure that may be required and taking account of the needs of airport users and operators (Value for Money) |

Refinement to sift criteria

| Strategic objective | Sift criteria in Sift 1 | Reason for refinement | Used for Sift 2 appraisal |
|---|---|---|---|
| O1: Compliance with Government Aviation Policy | Consistent with, and supportive of, Government Aviation policy and wider objectives | Emphasis change in Strategic Objective 1 | S1 Consistent with making best use of the existing runway |
| O2: To identify a scheme that is likely to be capable of being consented and secured through a DCO | Consistent with national town planning policies | Although previously considered, clarify local planning policy has been considered | S2 In broad conformity with national and local town planning policies and capable of attracting the consents required. |
| O3: To provide additional capacity and connectivity in line with the assessment of need | Increase capacity both airside and landside | Adjusted to make reference to Vision aspiration of up to 36-38 mppa | S3 Increase capacity both airside and landside to achieve target increase up to 36-38mppa |
| O4: To maximise the potential economic benefits to the regional and sub-regional economy | Increase economic opportunities for the regional and sub-regional economies | WebTAG guidance focuses on benefits, with employment opportunities considered under S5 | S4 Deliver economic benefits nationally and regionally |
| | Increase job opportunities for the people of Luton and the surrounding areas | As above | S5 Increase job opportunities for the people of Luton and the surrounding areas |
| O5:To maintain and where possible improve the quality of life for Luton's residents and the wider population | To promote quality of life and minimise adverse impacts on communities | N/A | S6 To promote quality of life and minimise adverse impacts on communities |
| O6: To minimise environmental impacts and, where practicable, to actively mitigate and manage any potential environmental effects | Noise impact | N/A | S7 Noise impact |
| | Air Quality | N/A | S8 Air quality |
| | Natural habitats and biodiversity | N/A | S9Natural habitats and biodiversity |
| | Carbon emissions | N/A | S10 Carbon emissions |
| | Surface, ground water and landfill | Landfill covered under its own criterion | S11 Water Resources |
| | Flood risk | N/A | S12 Flood risk |
| | Cultural Heritage | N/A | S13 Cultural Heritage |
| | Landscape and visual impact | Clarify distinction between S14 and S21-22. This criterion considered land in an environmental sense. | S14 Landscape and visual impact and Environmental Land Use |

| Strategic objective | Sift criteria in Sift 1 | Reason for refinement | Used for Sift 2 appraisal |
|---|---|---|---|
| | Climate change resilience | Detailed design stage- sub criteria as relevant to information available. | S15 Climate change |
| O7: To maximise the number of passengers and workforce arriving at the airport on public transport | Public transport modal share | N/A | S16 Public transport modal share |
| O8:To minimise new build highway requirements | Requirement for additional highway infrastructure | N/A | S17 Requirement for additional highway infrastructure |
| O9: To minimise impact on wider highway network | Impact on wider higher network | N/A | S18 Impact on wider higher network |
| O10: To be technically viable, taking into account of the needs of airport users, operators and phasing | Technically viable | Achievable separated into user groups | S19 Deliverable within the context of the current concession to 2031 |
| | | | S20 Attractive to future concessionaires |
| | Land | Clarify distinction between S14 and S21-22. This criterion considered land in a planning sense | S21 Feasibility of landfill, earthworks and ground conditions |
| | | | S22 Additional land required beyond current LLAL holdings |
| O11: To enhance LTN's system efficiency and resilience | Provide appropriate levels of service (including during construction) | There are many different, and potentially competing, elements within the appraisal of the deliverability and operational merits of the options; these have therefore been highlighted in additional criteria. | S23 Operational effectiveness |
| | | | S24 System Resilience |
| | | | S25 Attractiveness to airline operators |
| | | | S26 Safeguarding for expansion |
| | | | S27 Safeguarding existing levels of MRO, Business, Aviation and Cargo activity |
| O12: To be affordable, including any public expenditure that may be required and taking account of the needs of airport users and operators (Value for Money). | Estimated cost of the programme including surface access, land purchase and associated infrastructure | Although implied during Sift 1, elaborated for clarity. | S28 Estimated cost/benefit |

# APPENDIX B: KEY POLICIES, STRATEGIES AND GUIDANCE

Key policies, strategies and guidance relevant for each sift criteria

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| S1 | Consistent with making best use of the existing runway | – 2003 Future of Aviation White Paper. Executive Summary: "The first priority is to make best use of the existing runways, including the remaining capacity at Stansted and Luton." A second runway was not supported and it was stated that support for maximum use of a single runway was on the basis of it remaining broadly on the existing alignment.<br>– 2013 Aviation Policy Framework. This remains policy until replaced by a new aviation strategy and the NPS in so far as relevant. Para 5: "The Government's primary objective is to achieve long term economic growth. The aviation sector is a major contributor to the economy and we support its growth within a framework which maintains a balance between the benefits of aviation and its costs, particularly noise and climate change." Airports Commission to consider requirement for airport capacity in the SE of England.<br>– Draft Airports NPS (Oct 2017). Directly applicable only to NW Runway at Heathrow but relevant consideration. Environmental policies are relevant. Expected to be law by mid-2018.Para 1.37: "The Government stated that in light of the Airports Commission's findings on more intensive use of existing airports, it was minded to be supportive of all airports who wish to make best use of their existing runways, including those in the South East"<br>– Aviation Strategy Call for Evidence. A new Aviation Strategy will replace the Aviation Policy Framework by the end of 2018. Objective: "To achieve a safe, secure and sustainable aviation sector that meets the needs of consumers and a global outward-looking Britain" Para 7.20 indicated provisional policy support for making best use of existing runways. Emphasis on the economic importance of connectivity and putting consumer interests at the heart of policy as well as environmental and safety/security issues. Capacity assessment based IATA Airport Development. | – Future of Aviation - Consultation on air transport policy, accessed at: http://www.open.edu/openlearn/ocw/pluginfile.php/630971/mod_resource/content/1/dft_aviation_pdf_503446.pdf<br>– Aviation Policy Framework, 2013, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/153776/aviation-policy-framework.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf |
| S2 | In broad conformity with national and local | – 2008 Planning Act (s105 / s122): Determination under Planning Act 2008 s105 (including regard to Local Impact Report and other relevant matters), any compulsory acquisition s122 (including is | – Planning Act 2008, accessed at: https://www.legislation.gov.uk/ukpga/2008/29/pdfs/ukpga_20080029_en.pdf |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | town planning policies and capable of attracting the consents required. | required, and compelling case in the public interest)<br>– National Planning Policy Framework: National Planning Policy Framework 2019, including "87. As with previous Green Belt policy, inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances.<br>– 'Draft Airports NPS 2017: Draft NPS 2017, not for determination in respect of non-Heathrow DCOs, but relevant consideration, including 'make best use of existing airport infrastructure', 'supportive of all airports who wish to make best use of their existing runways', and 'capacity expansion should take place in a way that satisfactorily mitigates these impacts wherever possible' Luton Local Plan 2017 (LLP6)<br>– Luton Local Plan 2017, including 'Proposals for development will only be supported where…directly related to airport use …fully assess the impacts on surrounding occupiers and/or local environment and identify appropriate forms of mitigation in the event significant adverse effects are identified'.<br>– North Hertfordshire and Central Bedfordshire Local Plans. Green Belt boundaries | – National Planning Policy Framework 2019, MHCLG, accessed at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779764/NPPF_Feb_2019_web.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– North Herts Local Plan 2011-2031 Proposed Submission, Oct 2016, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/Proposed%20Submission%20Local%20Plan.pdf<br>– Central Bedfordshire Local Plan 2015-2035, Jan 2018, accessed at: http://www.centralbedfordshire.gov.uk/Images/pre-submission-local-plan-compressed-v2_tcm3-27081.pdf |
| S3 | Increase capacity both airside and landside to achieve target increase up to 36-38mppa | – 2003 Future of Aviation White Paper. Executive Summary: "The first priority is to make best use of the existing runways, including the remaining capacity at Stansted and Luton." A second runway was not supported and it was stated that support for maximum use of a single runway was on the basis of it remaining broadly on the existing alignment.<br>– 2013 Aviation Policy Framework. This remains policy until replaced by a new aviation strategy and the NPS in so far as relevant. Para 5: | – Future of Aviation – Consultation on air transport policy, accessed at: http://www.open.edu/openlearn/ocw/pluginfile.php/630971/mod_resource/content/1/dft_aviation_pdf_503446.pdf<br>– Aviation Policy Framework, 2013, accessed at: https://www.gov.uk/government/uploads/sys |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
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| | | "The Government's primary objective is to achieve long term economic growth. The aviation sector is a major contributor to the economy and we support its growth within a framework which maintains a balance between the benefits of aviation and its costs, particularly noise and climate change." Airports Commission to consider requirement for airport capacity in the SE of England.<br>– Draft Airports NPS (Oct 2017). Directly applicable only to NW Runway at Heathrow but relevant consideration. Environmental policies are relevant. Expected to be law by mid-2018.Para 1.37: "The Government stated that in light of the Airports Commission's findings on more intensive use of existing airports, it was minded to be supportive of all airports who wish to make best use of their existing runways, including those in the South East"<br>– Aviation Strategy Call for Evidence. A new Aviation Strategy will replace the Aviation Policy Framework by the end of 2018. Objective: "To achieve a safe, secure and sustainable aviation sector that meets the needs of consumers and a global outward-looking Britain" Para 7.20 indicated provisional policy support for making best use of existing runways. Emphasis on the economic importance of connectivity and putting consumer interests at the heart of policy as well as environmental and safety/security issues. Capacity assessment based IATA Airport Development. | tem/uploads/attachment_data/file/153776/aviation-policy-framework.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf |
| S4 | Deliver economic benefits nationally and regionally | – Airports Commission Appraisal<br>– Economic Impact Assessment<br>– NPS<br>– Economic Assessment of Need<br>– WebTAG<br>– Aviation Module<br>– SEMLEP Economic Strategy. | – Airport Commission: Appraisal Framework, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Transport analysis guidance: WebTag, accessed at: https://www.gov.uk/guidance/transport-analysis-guidance-webtag#history |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | | – SEMLEP Strategic Economic Plan, accessed at : https://www.semlep.com/modules/downloads/download.php?file_name=742 |
| S5 | Increase job opportunities for the people of Luton and the surrounding areas | – Airports Commission Appraisal.<br>– Economic Impact Assessment - to promote employment and economic growth in the local area and surrounding region; and to produce positive outcomes for local communities and the local economy from any surface access that may be required to support the proposal.<br>– NPS. Employment and skills are part of the assessment criteria<br>– Luton Skills and Employability Policy/Luton Investment Framework. "Luton is committed to the development of a skilled workforce, creating better opportunities for its residents and supporting a vibrant and thriving business economy."<br>– SEMLEP Economic Strategy. Other economic strategies may also be relevant | – Airport Commission: Appraisal Frame work, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Luton Skills and Employability Strategy 2016-2020, accessed at: https://www.luton.gov.uk/Jobs_and_careers/Lists/LutonDocuments/PDF/Luton's%20skills%20and%20employability%20strategy%202016-2020.pdf<br>– SEMLEP Strategic Economic Plan, accessed at : https://www.semlep.com/modules/downloads/download.php?file_name=742 |
| S6 | To promote quality of life and minimise adverse impacts on communities | – Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 - requirement for EIA to consider, among other things, the direct and indirect significant effects of projects on 'population and human health'<br>– Draft Airports National Policy Statement(2017) and Aviation Policy Framework (2013)<br>– Luton Health Inequalities Strategic Plan 2015-2020: STRATEGIC OBJECTIVE 3: Creating Fair Employment and Good Work for All<br>– Luton Skills and Employability Strategy, 2016-2020<br>– Luton Green Spaces Strategy<br>– Luton Local Transport Plan 3 2011-2026 | – Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, accessed at: http://www.legislation.gov.uk/uksi/2017/572/pdfs/uksi_20170572_en.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Luton Skills and Employability Strategy |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | – Luton Local Plan 2011-2031<br>– Central Bedfordshire Draft Local Plan (2017)<br>– North Hertfordshire Submission Local Plan<br>– Equality Act 2010, including the Public Sector Equality Duty set out in Section 149<br>– Equalities assessment principles of the Revised Airports NPS (2017), set out in paragraphs 4.23-4.27<br>– National Planning Policy Framework (2012)<br>– Revised Airports NPS (2017) Appraisal of Sustainability and Equalities Assessment<br>– IEMA guidance note on EqIA<br>– Luton Passport for Skills<br>– Luton Investment Framework 2015 - 2035 | 2016-2020, accessed at: https://www.luton.gov.uk/Jobs_and_careers/Lists/LutonDocuments/PDF/Luton's%20skills%20and%20employability%20strategy%202016-2020.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– Central Bedfordshire Local Plan 2015-2035, Jan 2018, accessed at: http://www.centralbedfordshire.gov.uk/Images/pre-submission-local-plan-compressed-v2_tcm3-27081.pdf<br>– North Herts Local Plan 2011-2031 Proposed Submission, Oct 2016, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/Proposed%20Submission%20Local%20Plan.pdf<br>– National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf<br>– Aviation Policy Framework, 2013, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/153776/aviation-policy-framework.pdf |
| S7 | Noise impact | – National Planning Policy Framework<br>– National Planning Practice Guidance<br>– Noise Policy Statement for England<br>– Revised Draft Airport National Policy Statement, October 2017 | – National Planning Policy Framework 2013, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | – LTN Noise Action Plan 2013-2018<br>– TAG Unit 3, Environmental Impact Assessment, DfT | – Noise Policy Statement for England, Defra, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69533/pb13750-noise-policy.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– London Luton Airport Noise Action Plan 2013-2018, accessed at: https://www.london-luton.co.uk/CMSPages/GetFile.aspx?guid=31549e09-50ba-49ac-9380-02b5e5bec11d<br>– TAG UNIT A3 Environmental Impact Appraisal, 2014, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313823/webtag-tag-unit-a3-environmental-impact-appraisal.pdf |
| S8 | Air quality | – Revised Draft Airport National Policy Statement, October 2017<br>– Airport Commission Appraisal Framework<br>– National Planning Policy Framework (2012)<br>– Luton Borough Council Local Plan for 2011-2031<br>– Defra (2016), Local Air Quality Management Policy Guidance, PG16<br>– Defra (2016), Local Air Quality Management Technical Guidance, TG16<br>– EPUK/IAQM (2017) Land-use Planning & Development Control: Planning for Air Quality<br>– IAQM (2016) Guidance on the Assessment of Dust from Demolition and Construction.<br>– Defra/Environment Agency, Air emissions risk assessment for your environmental permit (guidance on assessing ecology impacts) | – Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Airport Commission: Appraisal Frame work, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/211 |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | | 6950.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– LAQM Policy Guidance (PG16), accessed at: https://laqm.defra.gov.uk/documents/LAQM-PG16-April-16-v1.pdf<br>– LAQM Technical Guidance (TG16), accessed at: https://laqm.defra.gov.uk/documents/LAQM-TG16-April-16-v1.pdf<br>– EPUK/IAQM Guidance on land-use planning and development control, accessed at: http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf<br>– IAQM guidance on the assessment of dust from demolition and construction, accessed at: http://iaqm.co.uk/text/guidance/construction-dust-2014.pdf |
| S9 | Natural habitats and biodiversity | – Revised Draft Airports National Policy Statement (2017)<br>– National Planning Policy Framework (2012)<br>– Luton Local Plan 2011-2031<br>– Bedfordshire and Luton Local Biodiversity Action Plan (2010)<br>– North Herts District Council Proposed Local Plan 2011-2031 (2017)<br>– A 50 Year Vision: A Biodiversity Action Plan for Hertfordshire (2008)<br>– ODPM Circular 06/2005 – Biodiversity and Geological Conservation<br>– CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland (2nd Edition) | – Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, |

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| | | | – accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– Bedfordshire and Luton Biodiversity Action Plan, accessed at: http://www.bedscape.org.uk/BRMC/newsite/index.php?c=bedslife_bap<br>– North Herts Local Plan 2011-2031 Proposed Submission, Oct 2016, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/Proposed%20Submission%20Local%20Plan.pdf<br>– Biodiversity Action Plan for Herts, accessed at: http://www.hef.org.uk/nature/biodiversity_vision/<br>– ODPM Circular 06/2005 – Biodiversity and Geological Conservation, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf<br>– CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (2nd Edition), accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf |
| S10 | Carbon emissions | – Climate Change Act 2008<br>– Climate Change Act fifth carbon budget for the UK (2028 to 2032)<br>– Revised EIA 2017 requirements for climate change assessment<br>– Revised Draft Airports National Policy Statement<br>– IEMA; Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emission and Assessing their Significance, 2017 | – Climate Change Act, accessed at: http://www.legislation.gov.uk/ukpga/2008/27/pdfs/ukpga_20080027_en.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/sys |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | – Local Luton Plan 2011-2031, November 2017<br>– WebTAG: TAG unit A5-2 aviation appraisal, 2015 | tem/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– EIA Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, accessed at: https://www.iaia.org/pdf/wab/EIA%20Guide_GHG%20Assessment%20and%20Significance_IEMA_16May17.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– TAG Unit A5.2 Aviation Appraisal, DfT, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/487604/TAG_unit_a5.2_aviation_appraisal_jan_2014.pdf |
| S11 | Water Resources | – Luton Borough Council Local Plan 2011-2031 – Policy LP36<br>– Luton Level 1 Strategic Flood Risk Assessment<br>– Luton Preliminary Flood Risk Assessment<br>– Luton Surface Water Management Plan<br>– Preliminary Flood Risk Assessment for Bedford Borough Council, Central Bedfordshire Council and Milton Keynes Council<br>– North Herts District Council Flood Risk Assessment<br>– Revised Draft Airports National Policy Statement<br>– Luton Water Cycle Strategy | – Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– Luton level 1 FRA, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/Climate%20change/CC%20004.pdf<br>– Luton Preliminary FRA, accessed at: https://www.luton.gov.uk/Transport_and_streets/Lists/LutonDocuments/PDF/Engineering%20and%20Transportation/Climate%20change/Luton-PFRA-20110608-V1pt0.pdf<br>– Luton Surface Water Management Plan, accessed at: |

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|---|---|---|---|
| | | | – https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/Climate%20change/CC%20002.pdf<br>– North Herts FRA, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/NHE13a%20-%20North%20Hertfordshire%20District%20Council%20SFRA%20Report%202008%20%28p1-83%29.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Luton Water Cycle Strategy, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/Climate%20change/CC%20005.pdf |
| S12 | Flood risk | – Luton Borough Council Local Plan 2011-2031 – Policy LP36<br>– Luton Level 1 Strategic Flood Risk Assessment<br>– Luton Preliminary Flood Risk Assessment<br>– Luton Surface Water Management Plan<br>– Preliminary Flood Risk Assessment for Bedford Borough Council, Central Bedfordshire Council and Milton Keynes Council<br>– North Herts District Council Flood Risk Assessment<br>– Revised Draft Airports National Policy Statement<br>– Luton Water Cycle Strategy<br>– National Planning Policy Framework | – Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– Luton level 1 FRA, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/Climate%20change/CC%20004.pdf<br>– Luton Preliminary FRA, accessed at: https://www.luton.gov.uk/Transport_and_streets/Lists/LutonDocuments/PDF/Engineering%20and%20Transportation/Climate%20change/Luton-PFRA-20110608-V1pt0.pdf<br>– Luton Surface Water Management Plan, accessed at: |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
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| | | | – https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/Climate%20change/CC%20002.pdf<br>– North Herts FRA, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/NHE13a%20-%20North%20Hertfordshire%20District%20Council%20SFRA%20Report%202008%20%28p1-83%29.pdf<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– Luton Water Cycle Strategy, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/Climate%20change/CC%20005.pdf<br>– National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf |
| S13 | Cultural Heritage | – Ancient Monuments and Archaeological Areas Act (1979)<br>– Planning (Listed Buildings and Conservation Areas) Act (1990)<br>– National Planning Policy Framework (NPPF) 4, Section 12: Conserving & Enhancing the Historic Environment (2012)<br>– Good Practice Advice in Planning (GPA2) Managing Significance in Decision – Taking in the Historic Environment (Historic England 2015).<br>– Good Practice Advice in Planning (GPA3) The Setting of Heritage Assets (Historic England 2017)<br>– Conservation Principles: Policies and Guidance (Historic England 2008) | – Ancient Monuments and Archaeological Areas Act, accessed at: http://www.unesco.org/culture/natlaws/media/pdf/gb/gb_ancientmonts_archaeareas1979_engorof.pdf<br>– Planning (Listed Buildings and Conservation Areas) Act 1990, accessed at: http://www.legislation.gov.uk/ukpga/1990/9/pdfs/ukpga_19900009_en.pdf<br>– National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/sys |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
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| | | – Planning Practice Guidance 18a: Conserving and enhancing the historic environment, scoping and Luton Local Plan 2011-2031<br>– Luton Local Plan<br>– Saved policies from North Herts Local Plan (2007)<br>– North Herts Proposed Submission Local Plan<br>– Draft Airports National Policy Statement | tem/uploads/attachment_data/file/6077/2116950.pdf<br>– Historic England Good Practice Advice in Planning – taking in the Environment, accessed at: https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– North Herts Saved Policies Local Plan, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/written_statement_sep_2007.pdf<br>– Good Practice Advice in Planning – The Setting of Heritage Assets, accessed at: https://content.historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets.pdf/<br>– Conservation Principles, Policies and Guidance, accessed at: https://content.historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/conservationprinciplespoliciesguidanceapr08web.pdf/<br>– Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/r |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | | evised-draft-airports-nps-web-version.pdf |
| S14 | Landscape and visual impact and Environmental Land Use | – The key policies are; The Revised Draft Airports National Policy Statement, Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, National Policy Statement for National Networks (December 2014), National Planning Policy Framework (NPPF), Policy LP 25 of the Pre- Submission Luton Local Plan (2011-2031), Green Belt Policy and the Planning Act 2008.<br>– Relevant guidance includes; Guidelines for Landscape & Visual Impact Assessment (GLVIA3) and subsequent guidance, Ministry of Agriculture, Fisheries and Food (1988) Agricultural Land Classification for England and Wales, Natural England Technical Information Note 049 (2012) Best and Most Versatile Agricultural Land, Wildlife Hazard Management at Aerodromes (CAP 722).<br>– Relevant strategies include; 'Safeguarding our Soils – A Strategy for England' (2009), 'Code of Practice for the Sustainable Use of Soils on Construction Sites' and 'Soil Action Plan for England' (2004-2006). | – Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf<br>– National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, accessed at: http://www.legislation.gov.uk/uksi/2017/572/pdfs/uksi_20170572_en.pdf<br>– Planning Act 2008, accessed at: https://www.legislation.gov.uk/ukpga/2008/29/pdfs/ukpga_20080029_en.pdf<br>– Natural England Information Notes, accessed at: http://publications.naturalengland.org.uk/category/9001<br>– Safeguarding our soils, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69261/pb13297-soil-strategy-090910.pdf |
| S15 | Climate change | – Climate change act 2008<br>– Guidance on Integrating Climate Change and Biodiversity into | – Climate Change Act, accessed at: http://www.legislation.gov.uk/ukpga/2008/27 |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | – Environmental Impact Assessment, 2013<br>– An EU Strategy for adaptation to climate change<br>– Climate Change Act fifth carbon budget for the UK (2028 to 2032)<br>– Revised EIA Directive 2017 requirements for climate change assessment<br>– Revised draft Airports National Policy Statement<br>– IEMA guide to climate change resilience and adaptation, 2015<br>– Local Luton Plan 2011-2031, November 2017<br>– LBC Climate Change Adaptation Action Plan<br>– UK Climate Change Risk Assessment, 2017<br>– England Biodiversity Strategy, 2011<br>– Climate Change Adaptation Report 2011, London Luton Airport | /pdfs/ukpga_20080027_en.pdf<br>– Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, 2013, accessed at: http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf<br>– EU Strategy on adaptation to climate change, accessed at: https://ec.europa.eu/clima/sites/clima/files/docs/eu_strategy_en.pdf<br>– Town and Country Planning (Environmental Impact Assessment) Regulations, accessed at: http://www.legislation.gov.uk/uksi/2017/571/pdfs/uksi_20170571_en.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– LBC Climate Change Adaptation Action Plan, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/LBC%20Climate%20Change%20Adaptation%20Action%20Plan%20March%202010.pdf<br>– England Biodiversity Strategy, 2011, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69446/pb13583-biodiversity-strategy-2020-111111.pdf |
| S16 | Public transport modal share | – National Planning Policy Framework<br>– Luton Local Plan<br>– Luton LTP3 | – National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/211 |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | – Herts LTP<br>– North Herts Local Plan<br>– DfT TA Guidance<br>– Aviation Policy Guidance | 6950.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– North Herts Local Plan 2011-2031 Proposed Submission, Oct 2016, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/Proposed%20Submission%20Local%20Plan.pdf<br>– Luton LTP, accessed at: https://www.luton.gov.uk/Transport_and_streets/Lists/LutonDocuments/PDF/Engineering%20and%20Transportation/LTP%203/Luton%20Local%20Transport%20Plan%202011-2026.pdf<br>– Herts LTP, accessed at: https://www.hertfordshire.gov.uk/media-library/documents/highways/transport-planning/local-transport-plan-live/local-transport-plan-2011-2031.pdf<br>– DfT TA Guidance, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263054/guidance-transport-assessment.pdf |
| S17 | Requirement for additional highway infrastructure | – National Planning Policy Framework<br>– Luton Local Plan<br>– Luton LTP3<br>– Herts LTP<br>– North Herts Local Plan<br>– DfT TA Guidance<br>– Manual for Streets<br>– Aviation Policy Guidance | – National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adopt |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | | ion/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– North Herts Local Plan 2011-2031 Proposed Submission, Oct 2016, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/Proposed%20Submission%20Local%20Plan.pdf<br>– Luton LTP, accessed at: https://www.luton.gov.uk/Transport_and_streets/Lists/LutonDocuments/PDF/Engineering%20and%20Transportation/LTP%203/Luton%20Local%20Transport%20Plan%202011-2026.pdf<br>– Herts LTP, accessed at: https://www.hertfordshire.gov.uk/media-library/documents/highways/transport-planning/local-transport-plan-live/local-transport-plan-2011-2031.pdf<br>– DfT TA Guidance, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263054/guidance-transport-assessment.pdf<br>– Manual for Streets, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf |
| S18 | Impact on wider highway network | – National Planning Policy Framework<br>– Luton Local Plan<br>– Luton LTP3<br>– Herts LTP<br>– North Herts Local Plan<br>– DfT TA Guidance<br>– Manual for Streets<br>– Aviation Policy Guidance | – National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031- |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | | November-2017.pdf<br>– North Herts Local Plan 2011-2031 Proposed Submission, Oct 2016, accessed at: https://www.north-herts.gov.uk/sites/northherts-cms/files/Proposed%20Submission%20Local%20Plan.pdf<br>– Luton LTP, accessed at: https://www.luton.gov.uk/Transport_and_streets/Lists/LutonDocuments/PDF/Engineering%20and%20Transportation/LTP%203/Luton%20Local%20Transport%20Plan%202011-2026.pdf<br>– Herts LTP, accessed at: https://www.hertfordshire.gov.uk/media-library/documents/highways/transport-planning/local-transport-plan-live/local-transport-plan-2011-2031.pdf<br>– DfT TA Guidance, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263054/guidance-transport-assessment.pdf<br>– Manual for Streets, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf |
| S19 | Deliverable within the context of the current concession to 2031 | – Concession Agreement and Supplementary Agreements: Defines length of concession and rights and liabilities in respect of the Concession site and other areas leased by LLAOL.<br>– IATA ADRM: Concession Agreement requires IATA LoS Level C. | – IATA Level of Service Best Practice, accessed at: http://www.iata.org/whatwedo/ops-infra/airport-infrastructure/Documents/airport-development-level-service-best-practice.pdf |
| S20 | Attractive to future concessionaires | – Concession Agreement and Supplementary Agreements: Defines length of concession and rights and liabilities in respect of the Concession site and other areas leased by LLAOL.<br>– IATA ADRM: Concession Agreement requires IATA LoS Level C. | – IATA Level of Service Best Practice, accessed at: http://www.iata.org/whatwedo/ops-infra/airport-infrastructure/Documents/airport- |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | | development-level-service-best-practice.pdf |
| S21 | Feasibility of landfill, earthworks and ground conditions | Standards and guidance with respect to earthworks design:<br>– The Waste (England and Wales) Regulations 2011<br>– National Planning Policy Framework (2012)<br>– Environment Agency (2017) The Environment Agency's approach to groundwater protection<br>– Luton Local Plan 2011-2031 (Pre-Submission) October 2015<br>– Environment Agency, Guiding Principles for Land Contamination (GPLC1).<br>– Luton's Sustainable Community Strategy (2008-2026)<br>– British Standard, Investigation of Potentially Contaminated Sites – Code of Practice BS10175<br>– Minerals and Waste Local Plan: Strategic Site and Policies (January 2014)<br>– Defra and Environment Agency (2004) Model Procedures for the management of land contamination. CLR 11<br>– Environmental Protection Act (EPA) 1990 as amended by the Environmental Act 1995<br>– Defra (2012) Environmental Protection Act 1990: Part 2A. Contaminated Land Statutory Guidance<br>– Contaminated Land (England) (Amendment) Regulations 2012<br>– National Planning Policy for Waste<br>– Waste Management Plan for England<br>– Environmental Permitting Regulations<br>– Luton Local Plan and SPGs<br>– EU Landfill Directive<br>– EU Waste Framework Directive & Waste (England and Wales) Regulations<br>– Guidance from CL:AIRE, Environment Agency and WRAP | – National Planning Policy Framework 2012, MHCLG, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf<br>– Luton Local Plan 2011-2031, Nov 2017, accessed at: https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Local%20Plan/adoption/Luton-Local-Plan-2011-2031-November-2017.pdf<br>– The Waste (England and Wales) Regulations 2011, accessed at: http://www.legislation.gov.uk/uksi/2011/988/pdfs/uksi_20110988_en.pdf<br>– Environment Agency's approach to groundwater protection, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/658135/LIT_7660.pdf<br>– Luton Sustainable Community Strategy, accessed at: https://www.luton.gov.uk/Business/Lists/LutonDocuments/PDF/Regeneration/SustainableCommunityStrategyFullBooklet.pdf<br>– BSI of Potentially Contaminated Sites, accessed at: http://bailey.persona-pi.com/Public-Inquiries/M4-Newport/C%20-%20Core%20Documents/12.%20Geology%20and%20Soils/12.2.13%20-%20BS10175%20Code%20of%20Practice%20for%20Investigation%20of%20Potentially%20Contaminated%20Sites%20%28inc.%202013%20Amendment%29.pdf<br>– Environmental Protection Act 1990: Contaminated Land Statutory Guidance, |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | | – accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223705/pb13735cont-land-guidance.pdf<br>– Waste Management Plan For England, 2013, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265810/pb14100-waste-management-plan-20131213.pdf<br>– Guidance from CL:AIRE, Environment Agency and WRAP, accessed at: https://www.claire.co.uk/<br>– Defra and Environment Agency (2004) Model Procedures for the management of land contamination. CLR 11. Accessed at: https://www.gov.uk/guidance/land-contamination-risk-management<br>– Defra (2012) Environmental Protection Act 1990: Part 2A. Contaminated Land Statutory Guidance. Accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223705/pb13735cont-land-guidance.pdf |
| S22 | Additional land required beyond current LLAL holdings | – | – |
| S23 | Operational effectiveness | – Concession Agreement and Supplementary Agreements - Defines length of concession and rights and liabilities in respect of the Concession site and other areas leased by LLAOL.<br>– IATA ADRM - Concession Agreement requires IATA LoS Level C. | – IATA Level of Service Best Practice, accessed at: http://www.iata.org/whatwedo/ops-infra/airport-infrastructure/Documents/airport-development-level-service-best-practice.pdf |
| S24 | System efficiency | – Concession Agreement and Supplementary Agreements - Defines length of concession and rights and liabilities in respect of the Concession site and other areas leased by LLAOL. | – IATA Level of Service Best Practice, accessed at: http://www.iata.org/whatwedo/ops- |

| Sift criteria number | Sift criteria | Key policies, strategies and guidance | Reference |
|---|---|---|---|
| | | – IATA ADRM - Concession Agreement requires IATA LoS Level C. | infra/airport-infrastructure/Documents/airport-development-level-service-best-practice.pdf |
| S25 | Attractiveness to airline operators | – Concession Agreement and Supplementary Agreements - Defines length of concession and rights and liabilities in respect of the Concession site and other areas leased by LLAOL.<br>– IATA ADRM - Concession Agreement requires IATA LoS Level C. | – IATA Level of Service Best Practice, accessed at: http://www.iata.org/whatwedo/ops-infra/airport-infrastructure/Documents/airport-development-level-service-best-practice.pdf |
| S26 | Safeguarding for expansion | – Draft Airports NPS (Oct 2017) - Covers the period to 2030. Capacity requirements beyond that period are not covered.<br>– Aviation Strategy Call for Evidence (2017) envisages longer term growth to 2050 and beyond. Para 2.10: "The Aviation Strategy will consider how the need for further growth should be treated beyond the additional runway that is required by 2030." | – Revised Draft Airports National Policy Statement, 2017, Department for Transport, accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/654123/revised-draft-airports-nps-web-version.pdf |
| S27 | Safeguarding existing levels of MRO, Business, Aviation and Cargo activity Estimated cost/benefit | – UK Government initiative on a strategic network for General Aviation<br>– Luton Investment Framework and skills agenda | – Luton Skills and Employability Strategy 2016-2020, accessed at: https://www.luton.gov.uk/Jobs_and_careers/Lists/LutonDocuments/PDF/Luton's%20skills%20and%20employability%20strategy%202016-2020.pdf |
| S28 | Estimated cost benefit | Not applicable | Not applicable |

## ABBREVIATIONS USED

| Abbreviation used | |
|---|---|
| ALC | Agricultural Land Classification |
| AGLV | Area of Great Landscape Value |
| ALLV | Area of Local Landscape Value |
| AONB | Area of Outstanding Natural Beauty |
| AQMA | Air Quality Management Areas |
| ATM | Air Traffic Movements |
| BMV | Best and Most Versatile Land |
| CIEEM | Chartered Institute of Ecology and Environmental Management |
| CSR | Corporate Social Responsibility |
| CWS | County Wildlife Site |
| CPAR | Century Park Access Road |
| DART | Direct Air-Rail Transit |
| DCO | Development Consent Order |
| DfT | Department for Transport |
| EIA | Environmental Impact Assessment |
| EA | Environment Agency |
| EU | European Union |
| FBO | Fixed-base Operator |
| GHG | Greenhouse Gas |
| GVA | Gross Value Added |
| HGV | Heavy Goods Vehicle |
| IATA | International Air Transport Association |
| ICCA | In-combination Climate Change Assessment |
| IAQM | Institute of Air Quality Management |
| LBC | Luton Borough Council |
| LLAL | London Luton Airport Ltd |
| LLAOL | London Luton Airport Operations Ltd |
| LTN | London Luton Airport |
| LTO | landing take-off |
| MPPA | Million passengers per annum |
| MSCP | Multi-storey car parks |
| MRO | Maintenance, Repair and Overhaul |
| NPPF | National Planning Policy Framework |
| NPS | National Policy Statement |
| NERC | Natural Environment and Rural Communities |
| NSIP | Nationally Significant Infrastructure Project |

| | |
|---|---|
| PCM | Pollution Climate Mapping |
| PFRA | Preliminary Flood Risk Assessment |
| PT | Public Transport |
| RAG | Red Amber Green |
| SEMLEP | South East Midland Local Economic Partnership |
| SPZ | Source Protection Zones |
| T1 | Terminal 1 (Existing Terminal) |
| T2 | Terminal 2 (New terminal) |
| WFD | Water Framework Directive |

# REFERENCES

Ref 1.1 London Luton Airport ltd (December 2017) London Luton Airport Vision for Sustainable Growth 2020-2050

Ref 2.1 Department for Transport (December 2015) WebTAG: TAG unit A5-2 Aviation Appraisal

Ref 3.1 Department for Transport (March 2013) Aviation Policy Framework

Ref 3.2 HM Government (July 2017) Beyond the Horizon: the future of UK aviation. Next steps towards an Aviation Strategy

Ref 3.3 Department for Transport (July 2017) A new aviation strategy for the UK: call for evidence

Ref 3.4 Department for Transport (June 2018) Airports National Policy Statement

Ref 3.5 Department for Transport (April 2014) Airports Commission: Appraisal Framework

Ref 4.1 Luton Borough Council (November 2017) Luton Local Plan 2011-2031.

Ref 4.2 MHCLG (2019) National Planning Policy Framework.

Ref 5.1 Environment Agency Flood Map for Planning (June 2018). Available at: http://apps.environment-agency.gov.uk/wiyby/37837.aspx

Ref 5.2 Luton Borough Council (2011) Preliminary Flood Risk Assessment for Luton

Ref 5.3 Hertfordshire County Council (2011) Preliminary Flood Risk Assessment for Hertfordshire