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Executive Summary

Sustainability Appraisal (SA) must be carried out for all emerging Development Plan Documents and Supplementary Planning Documents under the Planning and Compulsory Purchase Act 2004 (HM Government, 2004a). SA assesses such plans against a range of environmental, social and economic criteria in order to determine the extent to which implementation of the plan will achieve sustainable development. This process also considers potential cumulative effects that may not be considered on a project-by-project basis.

Doncaster Sheffield Airport Limited, a subsidiary company of Peel Airports Limited, has prepared a Master Plan setting out its vision, development proposals and associated schemes and proposals for Robin Hood Airport Doncaster Sheffield (RHADS) (see Figure 1), covering the period up to 2030.

While there is no statutory requirement to carry out a formal SA of the Airport Master Plan, the process provides a structured approach to addressing the potential impacts of the Master Plan on people and the natural environment, and providing proposals to minimise and mitigate impacts, as required by the Government’s White Paper, The Future of Air Transport (DfT, 2003).

The White Paper and its 2006 Progress Report state the following in relation to RHADS:

“Planning permission for the development of a civil airport at the former RAF Finningley, near Doncaster, was granted in April 2003. The issues were considered at the public inquiry, and were therefore not considered in the Government’s consultation. Finningley will be able to develop within the conditions set as part of the planning permission...” (DfT, 2003, p. 89)

“The long-term development of Finningley will need to be considered in any future review of this White Paper or, if required sooner, through normal regional and local planning processes.”

“The first priority is to make the most of the UK’s existing airports through a process of improvement and modernisation. Growth and developments at regional airports, without the need for new runways, give people across the country improved access to air travel from modern airports.” (DfT, 2006, p. 10)

“Regional airport development has significant implications for local economies. Robin Hood Airport estimates that it will create 4000 local jobs before 2008, with a further 3000 by 2014.” (DfT, 2006, p. 50)

The White Paper recommends that airport operators maintain a Master Plan document detailing development proposals in line with the strategy set out in the White Paper.

The Airport Company prepared the draft Master Plan for public consultation in line with requirements of the Guidance on the Preparation of Airport Master Plans (DfT, 2004). Following consultation the Master Plan has now been finalised. The Master Plan does not have development plan status, but it provides an opportunity for airport operators to inform the content of the Local Development Framework and explain their airport-specific proposals in line with the White Paper Strategic Framework.

A Strategy Towards Sustainable Development of UK Aviation (Sustainable Aviation, 2005), to which Peel Airports Limited is a signatory, provides a coordinated industry response to the challenges (including climate change) outlined by the Government in the White Paper. In this document, the aviation industry outlines a long-term strategy for limiting the contribution of the aviation industry to climate change, for the commitment to technological innovation to reduce the impacts of aircraft, and for community mitigation of noise.
This SA report documents the first four stages of the SA process:

- **Stage A**: setting the context, establishing the baseline and deciding the scope of the SA;
- **Stage B**: appraising and redefining the options, appraising the Master Plan document and recommending mitigation and monitoring;
- **Stage C**: preparing the SA report; and
- **Stage D**: consultation on the SA report and appraisal of changes.

*Figure 1: The Airport from the Air*
Stage A

Having reviewed all relevant policies, plans and programmes, considered the baseline conditions and identified potential key sustainability issues, the following SA Objectives (against which the Master Plan would be appraised) were established:

1. to provide good-quality employment opportunities available to all;
2. to provide conditions to enable business success, economic growth and investment;
3. to provide education and training opportunities, building the skills and capacity of the population;
4. to provide safety and security for people and property;
5. to provide conditions and services engendering good health, including the minimisation/avoidance of dust, noise, light and air pollution;
6. to provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest;
7. to promote vibrant communities that participate in decision making;
8. to meet local needs locally;
9. to provide a transport network that maximises access whilst minimising detrimental impacts;
10. to promote efficient land use patterns, minimising travel and promoting balanced development;
11. to re-use previously developed sites and buildings;
12. to provide quality housing that is available to everyone;
13. to protect and enhance landscape character qualities;
14. to protect and enhance biodiversity, including biological resources, and internationally, nationally, regionally and locally designated sites of nature conservation and geological importance;
15. to conserve soils and mineral resources, including prevention of soil pollution and sterilisation of minerals and to limit loss of agricultural land;
16. to minimise greenhouse gas emissions and support a managed response to the effects of climate change;
17. to minimise flood risk;
18. to promote the prudent and efficient use of energy and natural resources, with minimal production of waste;
19. to conserve the quality and quantity of groundwater, ponds, lakes and water courses; and
20. to promote the efficient use of physical infrastructure.
Stage B

The Master Plan Objectives were developed while taking account of their compatibility with the SA Objectives developed during Stage A. As part of Stage B, this compatibility was formally assessed, and it was considered that the Master Plan Objectives represented the necessary ‘tools’ to facilitate more sustainable development at the Airport.

Airport growth via additional infrastructure and facilities has been identified as preferable to maintaining existing facilities. Airport growth matches the Airport’s vision and is the option on which the public and stakeholders have been consulted. It also supports existing national and regional policy, and will provide economic and social gains to the region.

A number of development options have been considered in the Master Plan to accommodate growth up to 2030. The SA assesses those developments for which multiple feasible options have been identified. Those developments are:

- car parking and internal circulation;
- control tower;
- cargo handling facilities;
- general and business aviation facilities;
- hotel development;
- business parks development; and
- residential development.

Other developments are also described in the Master Plan, including extension of the passenger terminal, fuel farm and waste water treatment works, additional aircraft stands, green infrastructure and community provision. These development options are not considered in the SA because only one option for each has been identified in the Master Plan and there is no comparison to be made.

Preferred Options

In order to comply with the DfT’s Guidance on the Preparation of Airport Master Plans (2004), developments are presented in two time frames: 2007-2016 and 2016-2030. However, growth will continue to occur incrementally throughout that time.

Planning applications will be made in due course for phases of development. The first phase is likely to include the majority of the passenger-related infrastructure requirements to 2016 that fall outside the scope of permitted development (permitted development works do not require planning permission), but may also involve smaller applications as needs arise. The implementation of approved works will continue to reflect operational and safety requirements, airline needs and passenger and market demand.

The following preferred development options were selected after comparison with the SA Objectives. The preferred options are not necessarily mutually exclusive and it may have been appropriate, in some cases, to select multiple options in order to meet objectives or requirements.

- Car Parking and Internal Circulation: Options CP3 and CP5 (the two options for multi-storey car parking) are the preferred options for car parking, since they present the maximum sustainability advantages and minimum disadvantages, as well as having disadvantages that are reconcilable in terms of the longer-term operation and sustainability of the Airport. Combined, they would meet the parking demand for the long term, while maximising
investment into the area in terms of infrastructure and jobs, minimising vehicle travel distance, and minimising pressures on the immediate environment such as on land, biodiversity and potentially landscape. In addition, up to 2016, Option CP4 could be adopted in order ensure that capacity is met, and thus enhance the short-term profitability of the Airport and associated businesses. This may prove essential while multi-storey parking facilities are being constructed.

- Control Tower: Option CT3 (a new facility to the south of the existing facility on the eastern boundary) is the preferred option, since there are clear sustainability advantages and the sustainability disadvantages can be mitigated at the project level. These are limited to the potential for adverse construction impacts, though this could include short- and medium-term landscape impacts (until vegetation matures).

- Cargo Handling Facilities: Option C1 (north of the terminal) is the preferred option up to 2016, since it can accommodate the forecasted growth in cargo demand during the period and provides clear sustainability advantages with no significant disadvantages until passenger aprons begin to conflict with General and Business Aviation (GBA) usage. From 2017 to 2030, Option C3 (outside of the existing operational boundary to the south-west) is the preferred option, as a result of long-term viability, a balance of sustainability advantages and disadvantages, and the fact that most, if not all, disadvantages can be mitigated at the project level.

- General and Business Aviation Facilities: Option BGA1 (within the existing Building 419) is the preferred option up to 2016, since it provides clear sustainability advantages with no significant disadvantages until passenger aprons begin to conflict with General and Business Aviation (GBA) usage. From 2017 to 2030, Option BGA3 (a new, dedicated facility to the south-east of the Airport) is the preferred option, since it provides the maximum sustainability advantages and has disadvantages that can be mitigated. Advantages include avoidance of impacts on Finningley village, ability to accommodate long-term GBA demand, and efficient use of airport infrastructure. Disadvantages, including effects on biodiversity, landscape and light pollution, can be mitigated through such measures as a suitable landscaping regime and appropriate lighting design (e.g. use of cut-off lanterns).

- Hotel Development: Options H1 (north-west of the circulation route) and H6 (as part of a golf course development) are the preferred options due to the number of sustainability advantages of both, and the lack of disadvantages associated with Option H1. The disadvantages associated with Option H6 can be reduced or eliminated at the project level.

- Business Parks Development: Option TP2 (south of the Airport Access Route (AAR)) is the preferred option, given the number of sustainability advantages including good road links and avoidance of conflicting land use issues (such as with residential or recreational use of land). Also, the few disadvantages identified can possibly be reduced or eliminated altogether at the project level.

- Residential Development: Option R1 (north of the AAR) is preferred, since it has a number of sustainability advantages, including existing woodland (see Figure 2) that forms a landscape buffer to otherwise non-conforming land uses. It also has potential to integrate well into the existing built area of Hayfield Green and Auckley, especially if future sustainable transport links and potential community facilities are provided.

The development identified in the Master Plan to 2016 would be phased in accordance with need and planned growth. Large infrastructure projects have long lead-in times, are required to go through extensive planning processes, and need regulatory approval. Land may have to be acquired in order to allow them to proceed. It will be necessary to programme and prepare construction detail and tendering for various projects.

An evaluation of the likely significant effects of the entire Master Plan (i.e. the combined preferred options measures and other developments) has been made with consideration given to the potential
receivers (from a local to international scale), baseline conditions, the positive or negative nature of
effects, the magnitude or severity of effects, and the reversibility and timescale of effects, as required
by the Government guidance. The evaluation also includes an indication of the likelihood that the
actual effects will occur as appraised. Potential cumulative, secondary or synergistic effects are
documented, and mitigation measures are proposed where appropriate. A summary of this evaluation
is provided below.

Achieving Environmental Objectives

The Master Plan has some significant positive environmental effects, including increasing the efficiency
of development patterns and infrastructure locally and regionally, potentially reducing the impacts of
surface transport, maximising usage of previously developed land, improving the quality of residential
areas and providing a new high-quality residential area, as well as providing measures to improve
energy efficiency and driving waste up the waste hierarchy (reduce, re-use, recycle and dispose).

However, the Master Plan is likely to have some significant negative environmental effects without
project-level mitigation, because it promotes new development on greenfield land and growth of
aviation services. This is unavoidable given the nature of the proposals, which are related to the
growth of the Airport.

There are potential temporary negative effects with regard to construction, particularly regarding noise,
air quality, light pollution and water quality, but these can be avoided or reduced by using good site
practice. There could also be residual long-term adverse effects on biodiversity, absolute noise levels
(residents being protected by Sound Insulation Grants), light pollution, greenhouse gas emissions and
loss of agricultural land. Locally, there would be increased fossil fuel and energy usage (absolute
levels) and increased waste production. However, there is also the effect of reducing the resources
used and waste produced at airports in the South East and for longer-distance surface travel to/from
those airports. There are a number of possible mitigation measures to eliminate or minimise potential
negative effects as outlined in Table 3 (on page 27 of this document), mostly in terms of what the
Master Plan can attempt to address at this early stage prior to the onset of development.

Effects on landscape, flood risk and water quality are expected to be neutral/negligible in the long term.

In terms of the potential negative effects associated with greenhouse gas emissions created as a result
of the expansion of the Airport, the White Paper (DfT, 2003) highlights that climate change is a global
issue that should be addressed through international measures. However, the White Paper also
supports significant growth at airports in the North of England and the Future of Air Transport Progress
Report (DfT, 2006) reaffirms this support. Climate change is an issue that must be tackled at the
national and international level, and is not considered in detail within the Master Plan and Master Plan
SA. However, the Airport is a signatory to ‘Sustainable Aviation’ and is committed to the European
Union (EU) Emissions Trading Scheme (ETS) and its Local Carbon Sequestration Scheme ‘Last Call!’,
which are measures to control and compensate for the levels of greenhouse gas emissions at the local
level.
Achieving Social Objectives

Coupled with positive effects on economic growth and employment opportunities (see below), the Master Plan would lead to an increase in training opportunities at the Airport and possibly elsewhere, either directly through supporting Directions Finningley and the Aviation Academy (commercial aviation training), or indirectly through businesses or education/training initiatives associated with growth of the Airport. The Master Plan would increase leisure and outdoor recreational opportunities in the area, alongside meeting local housing needs, and increasing the number of residents for which these opportunities are accessible. These include access to local cultural heritage features and locally designated nature conservation sites.

The Master Plan represents a major contribution towards public involvement in decision-making, given both future consultation on the Master Plan document itself and this SA Report, and its commitment to local involvement through the Airport Consultative Committee, Noise Monitoring Sub-Committee and Airport Transport Forum (ATF). It is also expected to have a moderate positive effect on opportunities to improve health and fitness and meeting local needs locally, due to increased and improved links between residents and employment opportunities, improved open space, schools (see Figure 3) a new train station, and an expanded local foot and cycle path network connecting community facilities already in place and recently improved as part of previous Airport proposals.

In terms of the implications of noise and pollution on human health, there are not expected to be any significant adverse effects (see the environment section for absolute effects). With various security measures (including Closed-Circuit Television (CCTV)), monitoring and response measures in place, the effect of the Master Plan on safety and security objectives would be neutral.
Achieving Economic Objectives

The Master Plan will have cumulative major positive effects on levels of employment, and on business success, economic growth and investment. Such economic development is supported by national, regional and local policy, and includes advancement of cargo handling facilities for example (see Figure 4).

Figure 4: Example of Aviation Cargo Activities
The Sustainability of the Master Plan

Achieving sustainability is to achieve a balance between environmental, social and economic effects. The Master Plan has some significant environmental effects, although opportunities for mitigation and enhancement are possible and the Airport is committed to minimising its negative environmental effects where practicable. However, the Master Plan achieves the majority of sustainability objectives as a result of the overriding social and economic benefits that it will bring to an area of widespread deprivation.

Monitoring

The purpose of a monitoring strategy is to ensure that any unforeseen adverse effects are identified as early as possible in order for effective and appropriate remedial action to be taken. It is necessary to monitor any aspects that have potentially significant effects. Any proposed mitigation measures should also be monitored to ensure their efficacy. Monitoring data can be collated from existing sources such as National Statistics Census information. Additional monitoring will also be carried out for the following:

- noise;
- greenhouse gas emissions;
- air quality;
- biodiversity;
- landscape;
- cultural heritage;
- water resources management;
- waste management;
- energy and energy efficiency;
- surface access;
- crime;
- employment and training;
- business; and
- public participation.

The measure of public participation will be the number of comments received from the public.

Additional issues will be addressed and reported through the Airport Company’s work towards ISO14001 certification.
Stages C and D

Following completion of all Stage B tasks, a SA Report has been prepared.

Both the Draft Master Plan and Draft SA Report documents have been subject to public consultation and stakeholder comments have been appraised.

The development options in the final Master Plan and the conclusions of the SA remain unchanged since the Draft documents were prepared, but both documents have been updated, and amended to address consultation comments.
1 Introduction

The Need for Sustainability Appraisal

1.1 A Sustainability Appraisal (SA) is required of all emerging Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs) under The Planning and Compulsory Purchase Act 2004. SA assesses such plans against a range of environmental, social and economic criteria in order to determine the extent to which implementation of the plan will achieve sustainable development.

1.2 While there is no statutory requirement to carry out a formal SA for the Airport Master Plan, the process provides a structured approach to addressing the potential impacts of the Master Plan on people and the natural environment, and providing proposals to minimise and mitigate impacts, as required by the Government's White Paper The Future of Air Transport (DfT, 2003).

1.3 This SA report documents the first four stages of the SA process:

- Stage A: setting the context, establishing the baseline and deciding the scope of the SA; and
- Stage B: appraising and redefining the options, appraising the Master Plan document and recommending mitigation and monitoring.
- Stage C: preparing the SA Report; and
- Stage D: consultation on the SA report and appraisal of changes.

1.4 An SA Framework (a set of 'SA Objectives') was developed during Stage A, as documented in this report. During Stage B, the draft Master Plan options were assessed against the SA Framework, and the preferred options identified. The draft and final Master Plan has been appraised for its contribution to sustainable development. An outline of the reasons for selecting the preferred options is provided.

The Purpose of Creating an Airport Master Plan

1.5 The White Paper states the following in relation to Robin Hood Airport Doncaster Sheffield (RHADS) (formerly known as Royal Air Force (RAF) Finningley):

"Planning permission for the development of a civil airport at the former RAF Finningley, near Doncaster, was granted in April 2003. The issues were considered at the public inquiry, and were therefore not considered in the Government's consultation. Finningley will be able to develop within the conditions set as part of the planning permission...

The long-term development of Finningley will need to be considered in any future review of this White Paper or, if required sooner, through normal regional and local planning processes." (DfT, 2003, p. 89)

1.6 The White Paper recommends that airport operators maintain a Master Plan document detailing development proposals in line with the strategy set out in the White Paper.

1.7 The Master Plan has been prepared in line with requirements of the Guidance on the Preparation of Airport Master Plans (DfT, 2004). The Master Plan considers proposed development to 2016 in detail, and to 2030 in more general terms. The Master Plan does not have development plan status but provides an opportunity for airport operators to inform the content of Local Development Frameworks (LDFs) and explain their airport-specific proposals in accordance with the White Paper's strategic framework.
2 The Sustainability Appraisal Process

2.1 SA is a systematic process undertaken during the preparation of a plan or strategy. Its role in this case is to assess the extent to which the emerging Master Plan will help to achieve environmental, social and economic objectives. In doing so, it provides an opportunity to consider ways in which the Master Plan can contribute to improvements in environmental, social and economic conditions, as well as a means of identifying and addressing any adverse effects that the Master Plan might result in. This process also considers potential cumulative effects that may not be considered on a project-by-project basis.

The Meaning of Sustainable Development

2.2 Development can result in conflict between the desire for economic growth, the needs of society, and the long-term availability of environmental resources. The aim of sustainable development is to achieve a balance between economic, social and environmental issues so that development “meets the needs of the people of today without compromising the ability of future generations to meet their own needs” (WCED, 1987).

2.3 A better quality of life - strategy for sustainable development for the United Kingdom introduces sustainability as the concept of “ensuring a better quality of life for everyone, now and for generations to come” (DETR, 1999, Chapter 1), with an emphasis on economic growth and employment provision.

2.4 The revised strategy Securing the Future - The UK Government Sustainable Development Strategy (Defra, 2005) introduces five principles that form the basis for sustainable development policy-making in the UK. These are:

- living within environmental limits;
- ensuring a strong, healthy and just society;
- achieving a sustainable economy;
- promoting good governance; and
- using sound science responsibly.

2.5 The principles put greater emphasis on ‘quality of life’ outcomes than previous strategies. The UK Government has identified four priority areas within this strategy. These are:

- sustainable consumption and production;
- climate change and energy;
- natural resource production and environmental enhancement; and
- sustainable communities.

2.6 Securing the Future considers climate change and energy to be a global environmental issue and the greatest threat to achieving sustainable development. The Government believes that “emissions trading represents the most effective economic instrument to tackle the climate change impacts of aviation” (Defra, 2005, p.86).

2.7 As air travel is a global industry, an international emissions trading scheme would provide the best solution, and the Government is pressing for this with the International Civil Aviation Organisation.
2.8 The European Union (EU) Emissions Trading Scheme (ETS), introduced in January 2005, is a key component of the EU’s drive to reduce emissions of greenhouse gases. The European Commission has recently approved the Directive through which aviation will be included in the EU ETS. From 1st January 2012 aviation activities of aircraft operators that operate flights arriving at and departing from European Community (EC) aerodromes will also be included in the scheme for greenhouse gas emission allowance trading within the EC.

2.9 Two important reports to HM Treasury in 2006 have addressed the issue of climate change and make it clear that transport should cover the full costs of its own climate impacts. Stern Review: the Economics of Climate Change (Stern, 2006) has identified emissions trading and new technology as the key to tackling this global problem. The Eddington Transport Study (Eddington, 2006) recognises the vital role that aviation has to play in the UK prosperity and quality of life. The inclusion of aviation in the ETS, endorsed by the Stern Review, is recognised as the means by which the industry would cover the cost of its climate impacts.

2.10 The Government has also committed to the objectives of the EU Sustainable Development Strategy (EU, 2001) in tackling climate change, natural resource protection, sustainable transport, ageing population, public health and the global dimension of sustainable development.

The Sustainable Aviation Strategy

2.11 A Strategy Towards Sustainable Development of UK Aviation (Sustainable Aviation, 2005), to which Peel Airports Limited is a signatory, provides a coordinated industry response to the challenges (including climate change) outlined by the Government in the White Paper (DfT, 2003). In this document, the aviation industry outlines a long-term strategy for limiting the contribution of the aviation industry to climate change, commitment to technological innovation to reduce the impacts of aircraft, and community mitigation of noise. The Sustainable Aviation Strategy document is provided as Appendix 1 to this report.

Figure 5: Commercial Aviation in Use at RHADS
The European Emissions Trading Scheme

2.12 Emissions trading is an economic instrument that uses market forces to limit emissions and to provide an economic incentive to reduce emissions. The Aviation Greenhouse Gas Emissions Trading Scheme Regulations 2010 came into force on 31st August 2010.

2.13 By including aviation in the EU ETS it is intended to achieve emissions reductions in the most cost-effective and efficient manner. The inclusion of aviation in the EU ETS needs to be considered in the context of the EU’s 2020 Greenhouse Gas reduction targets, and the need for aviation to play its part in achieving this goal.

The Yorkshire and Humber Plan: Regional Spatial Strategy to 2026 (May 2008)

2.14 In July 2010 the Government abolished Regional Spatial Strategies (RSS) in favour of more localised decision making, but RSS are expected to provide an important evidence base for the preparation of local development frameworks.

2.15 The development of the draft Master Plan and draft SA was at a time where the RSS still formed part of planning policy and these documents have therefore taken account of the principles and policies within RSS. Similarly the development of the SA indicators has taken account of regional priority indicators (see Appendix 4).

2.16 The Yorkshire and Humber Plan: Regional Spatial Strategy to 2026 was published by the Government Office for Yorkshire and the Humber (GOYH) in May 2008.

2.17 The Regional Spatial Strategy RSS recognises the regional economic importance of the Airport and supports its growth in accordance with Policies SY1D and T6.

2.18 Policy SY1, the South Yorkshire Sub Area Policy, states that “Plans, strategies, investment decisions and programmes for the South Yorkshire sub area should...[B6] Reflect the importance of Robin Hood Airport to the South Yorkshire Economy...[D4] Provide for operational and related development (as defined in PPG13) at Robin Hood Airport Doncaster Sheffield and improve surface access, particularly by public transport” (GOYH, 2008, p. 47-49).

2.19 Section F of Policy SY1 identifies regionally significant investment priorities including (at F6) “Operational and related development at Robin Hood Airport, and development in appropriate locations arising from the Airport's importance to the wider South Yorkshire economy” (GOYH, 2008, p. 47-49).
Policy T6, Airports, states:

“A. The following considerations should apply to airport development and expansion proposals:

1. Contribution towards an overall strategy of achieving better access, particularly by rail and other public transport, for the people and businesses of Yorkshire and the Humber to the full range of types of airport facility and services, including international long-haul opportunities and air freight

2. Contribution to the regeneration requirements of the local and regional economy and the maximisation of potential economic benefit to the Region

3. Fully meets the principles of sustainable development as demonstrated through a sustainability appraisal setting economic and social benefits alongside local and global environmental impacts, and protects the integrity of internationally important biodiversity sites

4. Fully responds to the key policy principles of reducing surface travel distances to air services outside Yorkshire & Humber

5. Making best use of existing transport infrastructure (including Travel Plans for managing surface access, minimising generation of car-borne traffic (see Figure 6) and reviewing airport parking charges); and wherever possible improving or providing new access by public transport.

B. Leeds, Doncaster and North Lincolnshire Councils should ensure that any development of airport surface access takes account of the wider transport strategy for the local area, including in adjoining districts, and provides for a wider choice of mode of travel. Airport Transport Forums should implement surface transport initiatives to ensure that access is less car-dependent.”

(GOYH, 2008, p. 194)

2.21 Improvement to surface access to the Airport is identified as a Category A transport investment and management priority in Table 13.24A in relation to Policy T9, and the Airport Master Plan is identified as a mechanism for delivery of Policies T6 and T9.

**Figure 6: Promoting Sustainable Transport; Provision of Lockable Cycle Shelters at RHADS**
Local Development Frameworks

2.22 The Airport falls within Doncaster Metropolitan Borough Council (DMBC) local authority area. DMBC is currently preparing a LDF as required under the Planning and Compulsory Purchase Act, which will replace the currently adopted Unitary Development Plan (UDP). Unlike the UDP, the LDF will not be a single document but will consist of several smaller documents, which will allow quicker revision and alterations. It will consist of DPDs, SPDs, a Proposals Map, a Statement of Community Involvement (SCI) and a Local Development Scheme (LDS). The Proposals Map illustrates the spatial extent of policies to accompany the DPDs. The Core Strategy DPD will set out the vision, objectives and a monitoring and implementation framework for the LDF.

2.23 The LDF will provide objectives and policies to guide development at a local level for the period up to 2021 and will be subject to SA in accordance with the Planning and Compulsory Purchase Act 2004 as well as Strategic Environmental Assessment (SEA) in accordance with the Environmental Assessment of Plans and Programmes Regulations 2004.

2.24 The DMBC LDF is in preparation, and a revised LDS (which outlines the contents of the future LDF) is currently awaiting final Secretary of State and Council approval. The Revised Core Strategy DPD, which is the major policy-containing document of the LDF, is due for adoption in January 2012. A number of other documents have been published, including:

- Local Development Scheme (draft);
- Statement of Community Involvement (adopted 2006);
- Sustainable Construction SPD (adopted 2008);
- Landscape Planning on Development Sites in Doncaster SPD (adopted 2008);
- Planning for Trees and Hedgerows in Development Sites in Doncaster SPD (adopted 2008);
- Planning for Nature on Development Sites in Doncaster SPD (adopted 2008); and
- Biodiversity Mitigation and Compensation SPD (adopted July 2008).

2.25 The LDS includes for a Housing, Transport, Retail, Employment, and Local Waste Allocations and Detailed Policies DPD, the role of which is, inter alia, to “accommodate appropriate potential for economic growth brought about by Robin Hood Doncaster Sheffield Airport” (DMBC, 2007, p.15).

The Purpose of this Report

2.26 The purpose of this report is to document the appraisal of the Master Plan using the SA methodology described in Section 2 and outlined in Table 1. In doing so, it sets out the SA Framework against which the Master Plan is assessed, and documents the results of that assessment. It documents how the assessment has been used to develop and refine the Master Plan development options and appraise the sustainability of the preferred options.
SA Methodology

2.27 Table 1 below outlines the approach and SA methodology followed. The approach has been based on Government guidance including Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents (OFPM1, 2005).

2.28 SA is an iterative process and the stages are interdependent. Consequently, an alteration in one stage, such as additional baseline data, may result in changes to the other stages.

Table 1: Stages of Sustainability Appraisal

<table>
<thead>
<tr>
<th>SA Stages</th>
<th>Tasks</th>
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| A Setting the context, establishing the baseline and deciding the scope of the SA | - Identify other relevant plans, programmes and environmental protection objectives 
- Collect baseline data 
- Identify sustainability issues and problems 
- Develop SA Objectives, indicators and targets |
| B Developing and refining options and assessing effects | - Test the Master Plan Objectives against the SA Objectives 
- Develop the Master Plan options 
- Predict the effects of the Master Plan 
- Evaluate the effects of the Master Plan 
- Consider ways of mitigating adverse effects and maximising beneficial effects 
- Propose measures to monitor the significant effects of implementing the Master Plan |
| C Preparing the SA Report | - Prepare SA Report |
| D Consultation on the SA report and appraisal of changes | - Public participation on the SA Report and the Master Plan 
- Assess significant changes to the Master Plan 
- Inform consultees when the SA is adopted and give reasons for decisions made |
| E Monitoring the significant effects of implementing the Master Plan | - Monitor significant effects 
- Respond to adverse effects through remedial action 
- Finalise aims and methods for monitoring |

Based on source: ODPM, 2005

2.29 Section 3 of this report describes the results of Stage A tasks and Section 4 describes the Stage B tasks.

1 The Office of the Deputy Prime Minister (ODPM) was replaced by the Department of Communities and Local Government (DCLG) in May 2006.
Stage A: Setting the Context, Establishing the Baseline and Deciding the Scope of the SA

2.30 Relevant policies, plans or programmes have been reviewed in order to identify sustainability objectives, indicators and targets against which the Master Plan would be appraised. Baseline data have been collected and are provided as Appendix 3 to this report.

Stakeholder Involvement

2.31 A draft Master Plan SA Scoping Report was produced to summarise Stage A, and was consulted upon with the following:

- Natural England;
- English Heritage;
- the Environment Agency;
- the Airport Transport Forum (ATF);
- RHADS Master Plan Steering Group; and
- the Airport Consultative Committee.

2.32 The Airport Consultative Committee comprises representatives of the local communities, local councils, airport user groups and airlines.

2.33 The members of the RHADS Master Plan Steering Group are listed in Table 2 below.

Table 2: Members of the RHADS Master Plan Steering Group

| Government Office for Yorkshire and the Humber | Rotherham Metropolitan Borough Council |
| Yorkshire Forward | Sheffield City Council |
| Renaissance South Yorkshire | Nottinghamshire County Council |
| East Midlands Development Agency | Bassetlaw District Council |
| Alliance Sub-regional Strategic Partnerships | Lincolnshire County Council |
| Highways Agency | North Lincolnshire Council |
| Network Rail | Yorkshire and Humber Regional Assembly |
| Doncaster Metropolitan Borough Council | East Midlands Regional Assembly |
| Barnsley Metropolitan Borough Council | South Yorkshire Passenger Transport Authority |
Stage B: Developing and Refining Options and Assessing Effects

2.34 A comparison of each of the Master Plan Objectives against each of the SA Objectives has been made using a matrix, presented as Appendix 4. This aims to measure how compatible the Master Plan Objectives are with SA Objectives.

2.35 A number of development options are being considered in the Master Plan to accommodate growth up to 2030. The SA assesses those developments for which multiple feasible options have been identified. Those developments are:

- car parking and internal circulation;
- control tower;
- cargo handling facilities;
- general and business aviation facilities;
- hotel development;
- residential development; and
- business parks development.

2.36 Each of these options has been compared against the option to ‘maintain existing facilities’ (i.e. no additional development) in order to demonstrate the extent to which they achieve sustainable development objectives.

2.37 The advantages and disadvantages of each development option (with consideration to the SA Framework) are presented as Appendix 5.

2.38 The options are discussed and the selected preferred options are identified. The reasons for each choice are also provided.

2.39 Other developments are described in the Master Plan but have only one option. These developments have not been appraised as part of the options assessment process in the SA. However, they are appraised as part of the assessment of the cumulative impacts of the Master Plan.

2.40 The appraisal of the predicted sustainability effects of the preferred options is then discussed. An evaluation of the significance of the effects is presented with consideration of the baseline conditions, the degree of likelihood/certainty, the positive or negative nature, and the reversibility and timescale of the effects, as advised by Government guidance. Potential cumulative, secondary or synergistic effects are documented. The justification for the evaluation of significance of the effects is given and any possible enhancement, mitigation or compensation measures for any significant adverse effects were identified in order to inform and improve the Master Plan. The results are presented in Table 3.

Stage C: The SA Report

2.41 This SA Report has been published to accompany the Master Plan. Both documents have been subject to public consultation; consultation on the SA is described in the subsection below.
Stage D: Consultation

2.42 The draft SA Report has been subject to consultation with the RHADS Master Plan Steering Group, the public and other interested parties and organisations in order to take account of the views of those with an interest in the growth of the Airport, including local communities, business interests, tourism and regeneration agencies and representatives of local and regional Government.

2.43 The draft SA was made available alongside the draft Master Plan on the RHADS website (www.robinhoodairport.com). Hard copies of the summary leaflet were available free of charge from the Airport Information Desk and Airport Administration offices, and a copy of the draft Master Plan document was available for inspection at the Airport Information Desk.

2.44 Additionally, leaflets have been distributed to local communities, and a series of consultation events were held at venues in the region and surrounding area.

2.45 Comments on the draft SA Report have been taken into account, and this final SA Report incorporates the changes as a result of consultation.

Stage E: Monitoring

2.46 This SA Report includes a list of indicators associated with each SA Objective (see Appendix 4). Additionally, as mitigation for certain potential adverse effects of the Master Plan, recommendations have been made to monitor certain indicators that would allow for early response to adverse effects through remedial action.

2.47 The indicators that will be monitored during implementation of the Master Plan are yet to be decided upon by Doncaster Sheffield Airport Limited.

Figure 7: Specialist Ecological Survey Work Being Undertaken at RHADS
3 Stage A Tasks

Task A1: Identifying Other Relevant Plans, Programmes and Environmental Protection Objectives

3.1 The emerging Airport Master Plan must take account of a wide range of other plans and programmes. These contain policy objectives or specific requirements that need to be addressed through the Master Plan. Identifying and reviewing these documents is an important element of the SA process, since it can help shape the objectives against which emerging proposals should be appraised, as well as highlighting particular issues and problems.

3.2 A considerable number of documents have been identified in Appendix 5 of the ODPM Guidance (2005) at the international, national, regional and local levels that may be applicable to the Master Plan. The review of documents as part of Stage A is set out in Appendix 2, including their relevance to, and implications for, the Master Plan and SA Report.

3.3 It should be noted that this review does not cover every individual document that might have some connection with the Master Plan. Rather, it focuses on the key plans and programmes that are relevant in setting the context for the Master Plan.

Task A2: Collecting Baseline Data

3.4 A wide range of baseline information is available for the Airport. A large amount of social, environmental and economic baseline information already exists for the Finningley area, collated through the production of the Environmental Statement (Scott Wilson, 1999) to support the planning application for the Airport. This information has been updated by specialist management plans and strategies produced to assist the operation of the Airport and discharge planning conditions.

3.5 The policies and plans identified in Task A1 also provide a range of baseline information. The baseline information collated as a result of review and further research is presented in Appendix 3.

3.6 While a large amount of social, environmental and economic baseline information already exists for the Doncaster area, some data is currently insufficient to enable all considerations within this report to be comprehensively addressed. Where such quantitative baseline data are not available, mitigation of potential impacts has been provided in the form of recommended monitoring and management plans.

Task A3: Identifying Key Sustainability Issues

3.7 There are a number of sustainability issues relevant to the further development of the Airport in accordance with the emerging Master Plan. The sustainability issues were derived using the baseline information presented as Appendix 3 to this report.

Social and Economic Issues

3.8 Many parts of the Main Impact Area (Doncaster, Rotherham, Sheffield, Barnsley, North Lincolnshire and Bassetlaw) experience relatively high unemployment and weak underlying economic performance relative to the UK average. Several locations within the Main Impact Area also experience acute deprivation, with the benefits of recent overall employment growth not felt by all communities equally.

3.9 Doncaster also suffers relatively high rates of crime, and indicators show relatively low rates of public participation in community activities and low voter turnout.
3.10 The Transform South Yorkshire Housing Aspirations Survey (Market Research UK Ltd, 2004) reports a high proportion of Council-rented accommodation in Doncaster, the highest reported in the South Yorkshire sub-region.

3.11 The Airport provides a strategic gateway into the Yorkshire and East Midlands regions for international and domestic tourists.

3.12 Future Airport growth is limited by the capacity of terminal facilities, apron and taxiway facilities, and the local transport infrastructure, therefore constraining opportunities for investment in the local and regional economy, and employment provision.

Environmental Issues

3.13 Within the Airport boundary there are valuable ecological habitats including ponds, damp-acid grassland and woodland. Artificial habitat such as bat roosts, owl and kestrel nesting boxes, and hibernacula for reptiles. In addition, there are a number of sites designated for nature conservation at a local level adjacent to or close to the Airport. Consideration of the potential noise, air quality and biodiversity impacts has been given in the development of the Master Plan.

3.14 The Rivers Torne and Idle receive surface water drainage from the Airport. The River Torne lies some 2 to 3 km to the north, and currently has a moderate ecological quality with regards to the Water Framework Directive (WFD) which is not predicted to change before 2015. The River Idle lies some 3 km to the south, and currently has a poor ecological quality with regards to the WFD which is not predicted to change before 2015.

3.15 In terms of landscape, current views of the Airport are limited due to the screening from pre-development areas of woodland, hedgerow and scrub or by the establishing bund planting to the eastern boundary. However, potentially sensitive views include Finningley, a historic village with the village core designated as a Conservation Area, isolated individual farmhouses and associated buildings, and public rights of way in the immediate area surrounding the Airport.

3.16 In terms of sustainable transport options and the impacts of transport, there are currently no quantitative data on the impacts made worse (e.g. air quality, noise or ecology) by the proportion of traffic attributed to residents travelling to the airports in the South East and Manchester. However, more air travel destinations supplied by airports in the North would logically reduce distances, and the probability of impacts. Also, there is a railway leading into Doncaster that passes through Hayfield Green / Auckley adjacent to the Airport. A new Airport Railway Station has been granted planning permission to the north of the Airport.

3.17 Waste is generated from a number of sources at the Airport, and as the Airport grows, the volume of waste generated within the Master Plan area is expected to increase proportionally. There is currently no renewable energy generation at the Airport, but two microturbines for wind power are currently being trialled at Liverpool John Lennon Airport, and will be installed at the Airport if the trials are successful.

3.18 The contribution of aviation to climate change is a key sustainability issue. Measures are being developed to manage the contribution of aviation to climate change at the national and international levels.
Task A4: Developing the SA Framework

3.19 The SA Objectives for the Airport Master Plan have been developed by integrating the SA Objectives applied to the Doncaster LDF and the Yorkshire and Humber RSS.

3.20 The Airport SA Objectives are:

1. to provide good-quality employment opportunities available to all;

2. to provide conditions to enable business success, economic growth and investment;

3. to provide education and training opportunities, building the skills and capacity of the population;

4. to provide safety and security for people and property;

5. to provide conditions and services engendering good health, including the minimisation/avoidance of dust, noise, light and air pollution;

6. to provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest;

7. to promote vibrant communities that participate in decision making;

8. to meet local needs locally;

9. to provide a transport network that maximises access whilst minimising detrimental impacts;

10. to promote efficient land use patterns, minimising travel and promoting balanced development;

11. to re-use previously developed sites and buildings;

12. to provide quality housing that is available to everyone;

13. to protect and enhance landscape character qualities;

14. to protect and enhance biodiversity, including biological resources, and internationally, nationally, regionally and locally designated sites of nature conservation and geological importance;

15. to conserve soils and mineral resources including prevention of soil pollution, sterilisation of minerals, and to limit loss of agricultural land;

16. to minimise greenhouse gas emissions and support a managed response to the effects of climate change;

17. to minimise flood risk;

18. to promote the prudent and efficient use of energy and natural resources, with minimal production of waste;

19. to conserve the quality and quantity of groundwater, ponds, lakes and water courses; and

20. to promote the efficient use of physical infrastructure.
Appendix 4 provides a list of indicators for each SA Objective. Consultation on the Master Plan SA Scoping Report led to the following changes:

- new indicators for SA Objective 4 on safety and security;
- SA Objective 13 originally covered both landscape and biodiversity, but was split into two objectives, one on each topic; and
- SA Objective 15 was amended to include limiting the loss of agricultural land.

It is important to note that SA is an iterative process. Further indicators may be adopted by the Airport Company either as a result of this SA and its recommendations, or as the Master Plan progresses and is implemented, and these may be associated with their relevant SA Objectives prior to publication of a final version of this SA Report, or in future iterations of SA associated with future Master Plan documents.

**Figure 8: 2030 Master Plan**
4 Stage B Tasks

Task B1: Test the Master Plan Objectives Against the SA Objectives

4.1 The Master Plan Objectives were developed while taking account of their compatibility with the SA Objectives developed out of Stage A. As part of Stage B, this compatibility was formally assessed, and it was considered that the Master Plan Objectives represented the necessary ‘tools’ to facilitate more sustainable development at the Airport.

4.2 It should be noted that compatibility is not the same as effect, as most importantly, even insignificant influences can be considered compatible, while in the actual sustainability appraisal, insignificant effects are typically ignored. Also, incompatibility is considered under a precautionary principle, and is identified based on knowledge of the existing environment and historic trends in the sustainability effects of development. Essentially, incompatibility is a warning that if certain issues are not looked into further, there could be adverse effects in the implementation of a plan as a result of how the plan was developed.

4.3 Sustainability issues that the Master Plan has looked into further in order to address potential incompatibilities and avoid/minimise adverse effects down the line include sustainable transport, pollution, natural resources, landscape and biodiversity. These issues are addressed within the Master Plan Objectives presented below.

4.4 The final set of Master Plan Objectives is as follows:

- to accommodate the predicted future growth in air passengers to maximise the potential of the Airport as an economic driver in support of the regeneration of Doncaster and the wider region;
- to provide an exceptional and high quality passenger experience for both the leisure and business traveller;
- to provide international long haul travel opportunities for Yorkshire and the East Midlands sub-regions, reducing the need for passengers to travel long distances to other airports, principally in the South East;
- to become a strategic transhipment hub for cargo with rail accessibility;
- to provide an Airport that is accessible to all through an integrated Airport Surface Access Strategy (ASAS), including the enhancement of public transport and the delivery of the Finningley and Rossington Regeneration Route Scheme, linking the Airport to communities in need of regeneration;
- to implement an Environmental Management Strategy to continually improve the Airport’s environmental performance, including addressing the potential effects of aviation on climate change;
- to protect and enhance the site for ecological and cultural benefit and to provide a framework for design and landscape quality;
- to use innovation to minimise noise and air quality impacts and to minimise pollution of the water environment;
- to provide new housing to meet local needs and associated community provision in the vicinity, particularly Hayfield Green / Auckley;
• to provide high quality business developments to boost the local economy and support local and regional supply chains;

• to encourage strong links with local communities, business and users through the Airport Consultative Committee;

• to attract inward investment to the area to create a variety of skilled and unskilled jobs, both directly and indirectly related to aviation and to work with partners, including Directions Finningley and the Aviation Academy, to enhance training opportunities in aviation skills;

• to maintain a vibrant and profitable business as a stable basis for ongoing investment in order that the continuing development of the Airport is feasible and can be funded;

• to uphold the highest possible safety standards in accordance with the Civil Aviation Authority requirements and maintain the security and safety of passengers and staff; and

• to set out the medium and long term growth plans of the Airport in order that these can be taken into account by Local Authorities in preparing their spatial, economic and transport plans.

Task B2: Develop the Master Plan Options

Comparison of ‘Airport Growth’ Against the ‘Do Nothing’ Option

4.5 The assessment of the Airport Master Plan is conducted through comparison against a ‘do nothing’ option that represents maintaining existing Airport facilities and infrastructure, and not expanding the Airport. In other words, the ‘do nothing’ option provides a scenario of no additional development at the Airport. The existing facilities at the Airport are detailed in the Master Plan.

4.6 Since there are certain developments that are inherent in the expansion of the Airport and have no alternatives at this masterplanning stage, a generic ‘Airport growth’ option (planning for the expansion of airport facilities) is compared against the ‘do nothing’ option. In the following appraisal, the numbers provided in brackets indicate the SA Objective(s) referred to by the appraisal.

4.7 The forecasts set out in Chapter 6 of the Master Plan anticipate strong growth of the Airport to reach around 6.6 million passengers per year (mppa) and 68,000 tonnes of cargo pa by 2016 and to about 10.8 mppa and 120,000 tonnes of cargo pa by 2030. Accommodating this level of activity will require expansion and upgrading of the Airport’s infrastructure.

4.8 The ‘do nothing’ option would fail to take advantage of this natural growth in demand, and although the Airport would continue to be a significant local employer in the short and medium term, failing to invest to support growth may eventually result in the decline of the Airport in the longer term. Infrastructure would fail to meet the demands of the airlines and passengers such that business may move elsewhere. As such, the ‘do nothing’ option could lead to the loss of jobs at the Airport and in related businesses in the deprived Doncaster Borough and elsewhere in the Main Impact Area (Doncaster, Rotherham, Sheffield, Barnsley, North Lincolnshire and Bassetlaw), which would represent a decline of the regional economy (SA objectives 1, 2 and 3). The ‘Airport growth’ option, however, would increase job and business opportunities (SA objectives 1, 2 and 3), and carries potential economic gains from international tourism and business that can be transferred to other regions. The ‘Airport growth’ option maximises opportunities to improve local accessibility, especially to domestic and international destinations, and maximises use of the existing airport (SA objectives 8, 9, 10 and 20).

4.9 Compared to the ‘do nothing’ option, without appropriate mitigation or appropriate selection of development options, the ‘Airport growth’ option theoretically has the disadvantages of potential increases in impacts on some environmental aspects (such as air, soil, water and biodiversity).
However, the Master Plan incorporates appropriate mitigation to avoid or reduce the potential adverse impacts of development, and the detailed appraisal presented in Table 3 of this report highlights that these have been avoided or reduced, with the only residual risks of adverse effects being to absolute levels of night-time noise (though residents will be protected through the Sound Insulation Grant Scheme (SIGS)), light pollution (although this will be minimised by design), biodiversity, agricultural soil and climate change.

4.10 The ‘Airport growth’ option is supported by the Yorkshire and Humber RSS, which is reaffirmed in The Future of Air Transport Progress Report (DfT, 2006). Airport growth would provide economic and social gains to an area of Yorkshire and the Humber experiencing widespread deprivation, including pockets of severe deprivation. A review of current policy and the Master Plan proposals suggests that:

- measures to combat climate change are being taken by the Airport Company, including involvement in the EU ETS and Peel Airports Limited’s carbon sequestration scheme ‘Last Call’;
- noise disturbance is predicted to have minimal impact, and where there is potential for noise disturbance to residential areas, mitigation measures are proposed, such as Sound Insulation Grants (SIGs) and continuation of the continued use of the Quiet Operation Policy, which includes a permanent monitoring system and a quota count system to limit the noise effects of aircraft during night time hours;
- it is unlikely that local air quality objective limits will be exceeded, and any increases may be offset by technological improvements that reduce emissions per movement;
- the Master Plan includes various measures for mitigating impacts on biodiversity/wildlife and habitat creation and enhancement. The Master Plan includes proposals to enhance grassland and trees, a heated and lit wildlife tunnel (to encourage use by reptiles) beneath the Airport Access Route (AAR), and a landscape buffer managed for wildlife benefit;
- to address impacts on the potential archaeological resource, a programme of archaeological works has been undertaken in relation to the initial phase of construction associated with the redevelopment of the former RAF airfield, and further works would be conducted should further development require archaeological evaluation;
- the majority of development at the Airport fits within the existing landscape structure of the area, and the Master Plan includes measures to screen and soften views of this development, including from buildings of historic significance;
- the Landscape Management and Habitat Creation Plan, habitat condition monitoring programme and various resource conservation measures (including a Waste Management Strategy, Building Energy Management System and various water conservation measures) are in place to further mitigate impacts; and
- other opportunities for enhancement, mitigation and compensation exist for adverse environmental effects.

4.11 Master Plan development that is not ‘permitted development’ will go through ‘screening’ (where appropriate) for the requirement to carry out an Environmental Impact assessment (EIA) under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, and EIA will be carried out where required.
‘Airport Growth’ Options

4.12 In considering infrastructure requirements to facilitate growth, account has been taken of the Airport Company’s vision for RHADS to be an international gateway to Yorkshire and the Humber and North Nottinghamshire, providing a global reach for leisure, business and freight customers with quality travel products at affordable, value-for-money prices. The Airport Company has devised a set of design parameters based upon ‘industry’ planning standards to guide the provision of the infrastructure needed to overcome existing constraints and accommodate the forecast growth of the Airport in accordance with the White Paper.

4.13 The period to 2016 will see the expansion of passenger facilities, improvement of operational infrastructure, enhancement of associated business development, cargo and maintenance facility. The Finningley And Rossington Regeneration Route Scheme (FARRRS) was previously anticipated to be completed within this period but it could not now be opened within this timescale due to delays to the statutory procedures that need to be followed. Consequently, FARRRS is unlikely to be open before the Airport has reached the upper limit of its existing planning consent. The Airport Company will, therefore, continue working with the highway authorities to ensure that the existing road network is capable of accommodating planning applications for expansion of the employment and other areas and the growth in passenger throughput.

4.14 Passenger numbers are expected to have risen to around 10.8 mppa and cargo activity to around 120,000 tonnes pa by 2030. Further development will, therefore, be required to accommodate the anticipated growth and this is shown in the outline Master Plan to 2030.

4.15 This subsection of the SA Report sets out the options to accommodate further growth. The Master Plan provides details of each option, which are summarised below.

4.16 Passenger Terminal and Integrated Passenger Transport Interchange: since the existing terminal building was designed to allow extension at the north and south ends (to accommodate the capacity requirements), and because both areas of extension are likely to be necessary to accommodate growth, this is the only option considered appropriate for this element of development. Therefore, this option is considered integral to the ‘airport growth’ option appraised in paragraphs 4.5 to 4.11, and is not re-appraised here.
4.17 **Car Parking and Internal Circulation:** additional short-stay parking, long-stay parking, employee parking and car hire parking would be required. Although there are different capacity requirements in the period running up to 2016 (10,928 total additional spaces) and between 2016 and 2030 (a further 4,732 spaces), the provision of car parking is considered to require a unified, cohesive set of options, rather than separate option sets. The options are (see Figure 9):

- Option CP1 – surface parking around the southern boundaries of the existing car park and apron (including area CP4);
- Option CP2 – surface parking to the south, outside Airport boundary;
- Option CP3 – multi-storey parking within the existing circulatory route;
- Option CP4 – surface parking to the south of the existing circulatory route;
- Option CP5 – multi-storey parking adjacent to Heyford House; and
- Option CP6 – off-site car parking (not included in Figure 6).

**Figure 9: Car Parking and Internal Circulation Options**

4.18 **Aircraft Apron and Stands:** the positioning and size of the aircraft apron and stands are largely determined by the existing passenger terminal, the adopted layout of aircraft piers (which is the most efficient achievable), and projected daily flight schedules. As such, this option is considered integral to the ‘airport growth’ option appraised in paragraphs 4.5 to 4.11, and is not re-appraised here.

4.19 **Runway and Taxiways:** the extension and widening of the taxiway system required to accommodate the predicted aircraft and minimise turnaround times is extremely limited by the existing configuration of the runway and taxiways, and the requirements of a taxiway. The only option considered is to widen and extend the existing system, as required. Therefore, these options are considered integral to the ‘airport growth’ option appraised in paragraphs 4.5 to 4.11, and are not re-appraised here.
4.20 Control Tower: because a new control tower with a larger visual control room and support facilities will be required as passenger numbers grow to 2030, the following options are considered (see Figure 10):

- Option CT1 - within the proposed southern extension of the terminal;
- Option CT2 - to the south of the proposed terminal expansion, within the airside village; and
- Option CT3 - to the south of the existing facility, on the eastern boundary of the Airport, close to the Rescue and Fire Fighting Services (RFFS) facility.

**Figure 10: Control Tower Options**
4.21 Cargo Handling Facilities: in seeking to realise the significant potential at the Airport for additional cargo handling and distribution facilities, the following options are considered (see Figure 11):

- Option C1 - within the existing boundary, north of the terminal;
- Option C2 - outside the existing operational boundary, to the south-east of the Airport; and
- Option C3 - outside the existing boundary, to the south-west of the Airport.

**Figure 11: Cargo Handling Facilities Options**
4.22 General and Business Aviation Facilities: given the current limited facility for General and Business Aviation (GBA) at the Airport, its importance as part of the aviation services provided at the Airport, and expected growth in GBA to 2030, the following options are considered (see Figure 12):

- Option BGA1 - continued conversion of Heyford House and use of existing apron areas;
- Option BGA2 - relocation to the east side; and
- Option BGA3 - relocation to the south-east corner.

**Figure 12: General and Business Aviation Facilities Options**
4.23 **Hotel Development:** given limited hotel provision in the vicinity of the Airport and increased demand resulting from Airport growth, the following options are considered (see Figure 13):

- H1 - opposite the terminal;
- H2 - to the east of the existing Ramada Encore Hotel;
- H3 - to the west of the existing car park;
- H4 - to the south of the existing car park; and
- H5 - as part of a golf course development to the west of the Airport.

**Figure 13: Hotel Development Options**
4.24 Business Parks Development: the following options for the siting of Business Parks have been considered (see Figure 14):

- TP1 – to the north of the AAR; and
- TP2 – to the south of the AAR.

**Figure 14: Business Parks Development Options**
4.25 **Residential Development:** since the development and expansion of an airport has a significant impact on both local employment opportunities and the demand for housing, the following options for a new residential development to meet local demand are considered (see Figure 15):

- R1 - to the north of the AAR, south of Hayfield Green/Auckley; and
- R2 - to the south of the AAR, north of Hurst Wood.

**Figure 15: Residential Development Options**
4.26 **Existing Facilities:** the Master Plan identifies that the following necessary development has already been constructed, with no further options necessary for consideration, including by the SA:

- RFFS facility;
- Engine Testing Area;
- Fire Training Area;
- Radar Installation;
- Instrument Landing System; and
- Aeronautical Ground Lighting System.

4.27 **Other Facilities:** the Master Plan also identifies the following potential future developments (or enhancement of existing facilities) where environmental constraints lead to no significant alternatives, or that are otherwise subject to future detailed planning or design at an appropriate stage:

- Fuel Farm;
- Approach Lighting System;
- Waste Water Treatment Works;
- Site Infrastructure - Statutory Undertakers;
- Runway Viewing Area;
- Aircraft Display Area;
- Office and Commercial Accommodation;
- External Circulation Links;
- Green Infrastructure; and
- Community Provision.

**Master Plan Options Appraisal**

4.28 A detailed appraisal of the options presented above is provided as Appendix 5, and the Preferred Options are discussed below.

4.29 The general ‘airport growth’ advantages and disadvantages have been addressed above, and, therefore, these generic advantages and disadvantages are not repeated in Appendix 5.
The Preferred Options

Car Parking and Internal Circulation

4.30 Options CP3 and CP5 (the two options for multi-storey car parking) are the preferred options for car parking, as they present the maximum sustainability advantages and minimum disadvantages, as well as having disadvantages that are reconcilable in terms of the longer-term operation and sustainability of the Airport. Combined, they would meet the parking demand for the long term, while maximising investment into the area in terms of infrastructure and jobs, minimising vehicle travel distance, and minimising pressures on the immediate environment such as on land, biodiversity and potentially landscape.

4.31 In addition, up to 2016, Option CP4 could be adopted in order ensure that capacity is met, and thus enhance the short-term profitability of the Airport and associated businesses. This may prove essential while multi-storey parking facilities are being constructed.

Control Tower

4.32 Option CT3 (a new facility to the south of the existing facility on the eastern boundary) is the preferred option, as it there are clear sustainability advantages, and the sustainability disadvantages will be routinely mitigated at the project level. Potential adverse impacts are limited to the potential for construction impacts.

Cargo Handling Facilities

4.33 Option C1 (north of the terminal) is the preferred option up to 2016, as it can accommodate the forecasted growth in cargo demand during this period, and it provides clear sustainability advantages with no significant disadvantages until passenger aprons begin to conflict with cargo handling operations.

4.34 From 2017 to 2030, Option C3 (outside of the existing operational boundary to the south-west) is the preferred option, as a result of long-term viability, a balance of sustainability advantages and disadvantages, and the fact that most potential adverse construction impacts can be mitigated at the project level.

General and Business Aviation Facilities

4.35 Option BGA1 (within the existing Building 419) is the preferred option up to 2016, as it provides clear sustainability advantages with no significant disadvantages until passenger aprons begin to conflict with GBA usage.

4.36 From 2017 to 2030, Option BGA3 (a new, dedicated facility to the south-east of the Airport) is the preferred option, as it provides the maximum sustainability advantages and has disadvantages that can be mitigated. Advantages include avoidance of impacts on Finningley village, ability to accommodate long-term GBA demand, and efficient use of airport infrastructure. Disadvantages including effects on biodiversity, landscape and light pollution can be mitigated through such measures as a suitable landscaping regime and appropriate lighting design (e.g. use of cut-off lanterns).

Hotel Development

4.37 Options H2 (to the east of the existing Ramada Encore Hotel) or H3 (to the west of the existing car park) together with H5 (as part of a golf course development) are the preferred options due to the number of sustainability advantages of both, and the avoidance of conflict with passenger parking. The disadvantages associated with Option H5 can be reduced or eliminated at the project level.
Business Parks Development

4.38 Option TP2 (south of the AAR) is the preferred option, given the number of sustainability advantages including good road links and avoidance of conflicting land use issues (such as with residential or recreational use of land). Also, the few disadvantages identified could be reduced or eliminated altogether at the project level.

Residential Development

4.39 Option R1 (north of the AAR) is preferred, as it has a number of sustainability advantages including existing woodland, which will provide a landscape buffer to the Airport, and its potential to integrate well into the existing built area of Hayfield Green and Auckley, with sustainable transport links and potential community facility provision.

Task B3 and B5: Predict the Effects of the Master Plan and Propose Mitigation

4.40 The effects of the preferred options for the Master Plan and proposals for mitigation are provided in Table 3 on the following pages.
### Table 3: Appraisal of the Master Plan (Preferred Options)

<table>
<thead>
<tr>
<th>SA Objective</th>
<th>Data Supporting the Appraisal</th>
<th>Effects</th>
<th>Justification for Assessment &amp; Proposed Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To provide good-quality employment opportunities available to all</td>
<td>Unemployment in Doncaster is relatively high, at 6.1% in 2006. The proportion of VAT registered businesses in Doncaster is much lower than the regional and England averages. Unemployment and general worklessness in the Main Impact Area (Doncaster, Rotherham, Sheffield, Barnsley, North Lincolnshire and Bassetlaw) are high on average. The Airport currently supplies some 1,100 jobs in 76 different firms, plus 320 indirect and induced jobs. 84% of employees are from the Main Impact Area and 54% of employees are from Doncaster.</td>
<td>• promote good-quality employment opportunities? • provide employment opportunities for those most in need in the area?</td>
<td>Significance: Major, positive. Timeframe: Long term, permanent. Cost: High. Certainty: High. Scope: Airport, local and regional (less significant on a national scale). Scale: Secondary positive and cumulative and semi-permanent.</td>
</tr>
<tr>
<td>2. To provide the conditions to enable business success, economic growth and investment</td>
<td>Doncaster experiences relatively high rates of benefit claimants, relatively low average weekly pay, and a relatively low economically active proportion of the population. The proportion of VAT registered businesses in Doncaster is significantly lower than the regional average, and the proportion of VAT registrations and deregistrations are both higher than regional and national averages.</td>
<td>• encourage inward investment? • support the growth of key businesses? • improve competitiveness and productivity of existing businesses?</td>
<td>Significance: Major, positive, and cumulative and secondary positive. Timeframe: Long term, permanent. Cost: Semi-permanent. Scale: Airport, local and regional (less significant on a national scale). Certainty: High. Scope: Primary, local and regional. Scale: Secondary positive and semi-permanent.</td>
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</tbody>
</table>

**Mitigation:** Work to continue to ensure unemployment opportunities are available to the local community, e.g. through Directions Finningley.
<table>
<thead>
<tr>
<th>SA Objective</th>
<th>Data Supporting the Appraisal</th>
<th>Effects</th>
<th>Justification for Assessment &amp; Proposed Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. To provide education and training opportunities, building the skills and</td>
<td>Doncaster shows lower levels of skills qualification than the regional and UK averages, with 35.7% of the working age population with NVQ level 3 (e.g. 2 or more A levels) or better, as compared to 41.4% regionally and 45.3% in the UK.</td>
<td><strong>Significance:</strong> Moderate positive, and cumulative and secondary positive</td>
<td>The Airport already accommodates and will continue to support Directions Finningley – including a commercial aviation training facility.</td>
</tr>
<tr>
<td>capacity of the population</td>
<td></td>
<td><strong>Scale:</strong> Airport, local, and regional</td>
<td>New businesses, and as a result of existing business expansion arising out of operational and aviation related activity, including the business park and freight handling development, are also likely to provide training opportunities.</td>
</tr>
<tr>
<td><strong>Will the Master Plan:</strong></td>
<td></td>
<td><strong>Certainty:</strong> High</td>
<td><strong>Mitigation:</strong> To increase benefits, continue to further develop and support local training and education initiatives through Directions Finningley.</td>
</tr>
<tr>
<td>• promote training schemes?</td>
<td></td>
<td><strong>Timescale:</strong> Long term</td>
<td></td>
</tr>
<tr>
<td>• encourage those most in need of training to take part in training schemes?</td>
<td></td>
<td><strong>Permanence:</strong> Permanent</td>
<td></td>
</tr>
</tbody>
</table>
Will the Master Plan:
• design-out crime?
• provide appropriate security systems?

In 2005/06, the rate of violent criminal offences in Doncaster was significantly higher than the England average. While most rates have been on the rise since 2001, theft from vehicles has declined. The rate of robbery was below the England average.

The Airport Company must maintain high levels of security in accordance with Civil Aviation Authority (CAA) and Department of Transport standards. A combination of measures will be employed by the Airport Company in co-ordination with the police and Multi Agency Threat and Risk Assessment (MATRA) on security issues.

Justification: Continue to liaise with the police and other agencies.

The economic prosperity brought by the Master Plan may reduce levels of crime. Without further research, it is envisaged that the influence of the Airport growth on regional crime levels may have been on the rise since 2001, indicating a very unhealthy baseline.

Security systems

- Design out crime

Mitigation:
- Continue to liaise with the police and Multi Agency Threat and Risk Assessment (MATRA) on security issues.
### SA Objective

5. To provide conditions and services engendering good health, including the minimisation/avoidance of dust, noise, light and air pollution

### Will the Master Plan:

- encourage walking and cycling?
- promote the development of local recreational facilities?

<table>
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</table>
| **Noise:** Future baseline – 214 dwellings exposed to low-annoyance day-time noise, 28 to moderate-annoyance day-time noise, 0 high-annoyance, and 150 exposed to night-time noise likely to disturb sleep (without mitigation). Noise complaints decreased from c.1,000 in 2006 to c. 900 in 2007, and are consistent with acclimatisation to a new Airport. | **Construction (noise, air, light):**  
Significance: Minor negative  
Scale: Local  
Certainty: Moderate  
Timescale: Short term  
Permanence: Temporary  
**Noise:**  
Significance: Minor negative (day-time), Minor negative (night-time)  
Scale: Local  
Certainty: High  
Timescale: Long term  
Permanence: Semi-permanent  
**Air Quality:**  
Significance: Negligible  
Scale: Local  
Certainty: Moderate  
Timescale: Long term  
Permanence: Semi-permanent  
**Light Pollution:**  
Significance: Minor negative  
Scale: Sub-regional  
Certainty: Low  
Timescale: Long term  
Permanence: Semi-permanent  
**Health and Fitness:**  
Significance: Moderate positive  
Scale: Local  
Certainty: Moderate  
Timescale: Long term  
Permanence: Semi-permanent  | **Noise:** Compared to the predicted future baseline for 2014, in 2016 there would be only 42 additional dwellings experiencing moderate-annoyance day-time noise and 426 additional dwellings experiencing low-annoyance day-time noise (without mitigation). Day-time increases are considered negligible using DfT criteria, but night-time increases are qualified as minor negative. Noise effects from road traffic will be limited, and in some places improved, by the AAR and proposed FARRRS Link.  
**Air Quality:** Predictions provide a worst-case nitrogen dioxide concentration at the receptor near to monitoring site F7 of 33 μg/m³, which is higher than current concentrations but remains well below the objective of 40 μg/m³. The impact should also be lower with the AAR now in place. The Master Plan will lead to an increase in traffic through the AQMA, both on the A638 and the M18. However, it is proposed that the AAR will link to the proposed FARRRS Link Road, which would reduce this impact.  
**Light Pollution:** The visual impact arising from the introduction of new lighting at the business park will be minimised by the used of downward direction lighting to limit light spill. There are possible impacts from additional Airport security lighting such as at the new cargo facility, and additional street lighting.  
**Health and Fitness:** The Master Plan includes upgrading a recreational space in Hayfield Green/Auckley into a new community recreational area with pitches/courts and associated buildings, a new high-quality golf course, and formal public access to Marr Flats Plantation with a network of footpaths. The Health Impact Group reviews the performance of the Airport in relation to the health of the local population.  
**Mitigation:** Recommendations already included incorporated into Master Plan - no further recommendations at this stage. |

### A638 and A614 previously upgraded to improve safety for pedestrians and cyclists. AAR includes safe pedestrian and cyclist provision.
To provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of cultural interest.

**Effects**

- Improve walking and cycling.
- Provide recreational and open spaces.
- Protect archaeology and built heritage.
- Enhance cultural heritage.

**Justification for Assessment & Proposed Mitigation**

The Master Plan will not adversely affect existing routes to or through the existing cultural heritage, and will lead to an increase in residents for whom access to these sites will be available. The Master Plan includes upgrades to the existing footpath network connecting to Marr Flats Plantation and Hurst Lane, and to the Public Rights of Way surrounding Hurst Wood SSSI. The Master Plan will not adversely affect walking and cycling, or access to the natural environment and sites of cultural interest.

**Proposed Mitigation**

- Upgrade informal paths within Marr Flats Plantation.
- Improve accessibility and connectivity to the Public Rights of Way.
- Upgrade the footpath network connecting Hurst Wood SSSI and Hayfield Lane.
- Provide additional open spaces.
- Install a runway viewing area for aeronautics enthusiasts.
<table>
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</table>
| 7. To promote vibrant communities that participate in decision making | Public participation in local community activities is lowest (sub-regionally) in Doncaster (7.1% in 2004, as compared to 8.5% in South Yorkshire and 11.7% in England). Voter turnout in Doncaster at the 1997 general election was 63.6%, falling to 51.3% in 2001, and only 52% in 2005. This has been below the England average (71%, 59% and 61% respectively), and was below the Yorkshire and Humber regional average in 2005 (59%). | Significance: Major positive  
Scale: Local and regional  
Certainty: Moderate  
Timescale: Short term  
Permanence: Temporary | The production of the Master Plan and this SA Report, and public consultation on the reports, presents an opportunity to increase public involvement in decision-making. The Airport Consultative Committee and Noise Monitoring Sub committee and Airport Transport Forum (ATF) provide opportunities for consultation. In order to maximise the magnitude and certainty of the effect, robust measures of engaging the public, including exhibitions, leaflet drops, use of internet and the media.  
**Mitigation:** Recommendations already incorporated into the Master Plan – no further recommendation at this stage. |

**Will the Master Plan:**  
• encourage community involvement in the creation of the Master Plan?
### Data Supporting the Appraisal

<table>
<thead>
<tr>
<th>Effects</th>
<th>Mitigation</th>
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</thead>
<tbody>
<tr>
<td>To meet local needs locally</td>
<td>Work with others to improve and attract a diverse of community facilities and services.</td>
</tr>
<tr>
<td>Promote choice in transport</td>
<td>Promote choice in transport through the local rail network.</td>
</tr>
<tr>
<td>Encourage cycling and walking</td>
<td>Promote cycling and walking through the local rail network.</td>
</tr>
<tr>
<td>Site new jobs/facilities in the most accessible areas</td>
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</tr>
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</table>

### Effects

#### SA Objective

**Data Supporting the Appraisal**

<table>
<thead>
<tr>
<th>Significance</th>
<th>Scale</th>
<th>Certainty</th>
<th>Timescale</th>
<th>Permanent</th>
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</thead>
<tbody>
<tr>
<td>Moderate</td>
<td>Local and regional</td>
<td>Moderate</td>
<td>Long term</td>
<td>Semi-permanent</td>
</tr>
</tbody>
</table>

**Mitigation**

- Work with others to improve and attract a diverse of community facilities and services.
- Promote choice in transport through the local rail network.
- Promote cycling and walking through the local rail network.
- Site new jobs/facilities in the most accessible areas.

**Justification**

- To meet local needs locally.
- Promote choice in transport.
- Encourage cycling and walking.
- Site new jobs/facilities in the most accessible areas.

**Significance:** Moderate

**Scale:** Local and regional

**Certainty:** Moderate

**Timescale:** Long term

**Permanence:** Semi-permanent
<table>
<thead>
<tr>
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<th>Justification for Assessment &amp; Proposed Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. To provide a transport network that maximises access whilst minimising detrimental impacts</td>
<td>Air: Both the Airports White Paper (DfT, 2003) and the Government report 'State of the English Cities' (ODPM 2006) acknowledge that there is still some way to go in achieving a balance between regional airports and those in the South East. <strong>Road:</strong> The existing road network can accommodate existing planning consents and has capacity for more development. The opening of the AAR has reduced the traffic impact in Hayfield Green / Auckley village. The A638 route that connects the Airport with Doncaster has become a Quality Bus Corridor, and the Airport is currently served by 9 bus routes (total). <strong>Rail:</strong> A railway leading into Doncaster passes through Hayfield Green / Auckley, however there is currently no station. <strong>Foot and Cycle:</strong> Residents of Hayfield Green / Auckley have limited foot and cycle access to neighbouring villages. To the west of Hurst Lane, Hayfield Lane has been made a Quiet Lane, which limits car usage and better accommodates pedestrians and cyclists. The AAR includes a cycle route.</td>
<td><strong>Air Travel:</strong>&lt;br&gt;<strong>Significance:</strong> Major positive&lt;br&gt;<strong>Scale:</strong> Regional and national&lt;br&gt;<strong>Certainty:</strong> High&lt;br&gt;<strong>Timescale:</strong> Long term&lt;br&gt;<strong>Permanence:</strong> Permanent</td>
<td>In terms of ‘minimising impacts’, it is felt that this SA Objective can only be assessed in the context of infrastructure capacity, as specific environmental topics are dealt with by other SA Objectives. In terms of air travel, the Master Plan will help transfer capacity pressure from airports in the South, and there are clear major accessibility benefits to residents of the English regions north of Greater London generally. The reduction in pressure on Southern Airports has a qualified significant benefit, although it must be recognised that specific impacts along transport corridors to those airports cannot be adequately assessed at this level. In summer 2008 planning permission was granted for a new railway station along the Doncaster – Lincoln Line which runs to the north of the Airport. This will both increase access for existing residents, and help accommodate new residential area and domestic travel more readily. Within the period of the Master Plan, FARRRS is anticipated to be constructed and opened and this will ensure adequate road capacity to accommodate Airport growth. The Master Plan includes formal public access to Marr Flats Plantation and other improvements to the footpath network.</td>
</tr>
</tbody>
</table>
Robin Hood Airport Doncaster Sheffield Airport Master Plan to 2030

**SA Objective**

**Data Supporting the Appraisal**

**Effects**

**Justification for Assessment & Proposed Mitigation**

### 10. To promote efficient land use patterns, minimising travel and promoting balanced development

- **Will the Master Plan:**
  - Promote efficient land use patterns, minimising travel and promoting balanced development?

  **Significance:** Moderate
  **Scope:** Local
  **Certainty:** High
  **Timescale:** Long term
  **Permanence:** Permanent

  **Effects**

  **Justification for Assessment & Proposed Mitigation**

  - The proposals of the Master Plan will also lead to the promotion of efficient land use patterns, minimising travel and promoting balanced development.

### 11. To re-use previously developed land

- **Will the Master Plan:**
  - Maximize the use of previously developed land and buildings?

  **Significance:** Moderate
  **Scope:** Local
  **Certainty:** High
  **Timescale:** Long term
  **Permanence:** Permanent

  **Effects**

  **Justification for Assessment & Proposed Mitigation**

  - The Master Plan area and vicinity includes a mixture of brownfield and greenfield land. The brownfield land is mainly situated to the north and greenfield land to the south. The proposals of the Master Plan will lead to the improvement of existing developed commercial area, providing a new railway station and the re-use of previously developed land. The Master Plan will also lead to the improvement of existing industrial sites and buildings.

  - While the proposals of the Master Plan will lead to the improvement of existing developed commercial area, providing a new railway station and the re-use of previously developed land, the proposals of the Master Plan will also lead to the promotion of efficient land use patterns, minimising travel and promoting balanced development.

  - The proposals of the Master Plan will also lead to the promotion of efficient land use patterns, minimising travel and promoting balanced development.
### SA Objective

12. To provide quality housing that is available to everyone

**Will the Master Plan:**
- provide a range of housing types, sizes, etc.?
- provide quality building design?
- promote sustainable construction?

<table>
<thead>
<tr>
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</table>
|              | There is a relatively healthy baseline. Of the 407 local authorities in the UK, Doncaster has the 47th lowest average house price in 2007, at £131,206 (versus a regional average of £157,916 and the UK average of £210,578). It follows that Doncaster has a relatively low house price-to-income ratio, at 3.11 in 2005, compared to 3.59 for the region and 4.20 for England. However, the Transform South Yorkshire Housing Aspirations Survey (Market Research UK Ltd, 2004) reports a high proportion of Council-rented accommodation in Doncaster (48%), the highest reported in the South Yorkshire sub-region. | **Significance:** Moderate positive  
**Scale:** Local  
**Certainty:** Moderate  
**Timescale:** Long term  
**Permanence:** Semi-permanent | The 750 additional dwellings proposed by the Master Plan, including affordable homes in accordance with prevailing Development Plan policy, will make a significant contribution to housing in the Borough. They will be well linked in with recreation and community facilities, employment opportunities and the public transport network, as well as a limited range of local shops. They would be of a high-quality design and layout. Certainty is moderate, as the effect could be more or less significant, depending on the detailed housing market and how well the distribution of housing types and sizes meets the overall need.  
**Mitigation:** To guarantee certainty of assessment, ensure any particular local housing needs are accommodated. |
This stage: into the Master Plan – no further recommendations at this stage.

Recommmendations already incorporated:

- The train station and parking area.
- The significant views of the new development.
- The existing woodland and hedgerows around the new development.
- The new development.

Justification for Assessment & Proposed Mitigation:

1.3 To protect and enhance quality landscape character; employing high-quality building design and planning.

Supporting SA Objective 13.

The Master Plan includes substantial tree-planting and vegetative screening surrounding the residential area, screening views from relevant receptors. It also includes bunding and tree planting surrounding the new residential area.

Given existing woodland and hedgerows the only views likely to experience significant changes are views to the new residential area from the north-east and west, and from the existing woodland.

Significance: Negligible.

Effects: Negligible.

Recommmendations already incorporated: no further recommendations at this stage.

Current views of the Airport are public rights of way in the immediate wider area. These are a number of associated buildings across the Hayfield Green / Auckley adjacent to a Conservation Area containing a number of Listed Buildings. Hayfield Green is adjacent to the Hayfield Green / Auckley adjacent to a Conservation Area containing a number of Listed Buildings. Hayfield Green is adjacent to the Hayfield Green / Auckley adjacent to a Conservation Area containing a number of Listed Buildings.

Significance: Negligible.

Effects: Negligible.

Recommmendations already incorporated: no further recommendations at this stage.

Given existing woodland and hedgerows the only views likely to experience significant changes are views to the new residential area from the north-east and west, and existing developing area from the north and east.

Significance: Negligible.

Effects: Negligible.

Recommmendations already incorporated: no further recommendations at this stage.

Given existing woodland and hedgerows the only views likely to experience significant changes are views to the new residential area from the north-east and west, and existing developing area from the north and east.

Significance: Negligible.

Effects: Negligible.

Recommmendations already incorporated: no further recommendations at this stage.

Given existing woodland and hedgerows the only views likely to experience significant changes are views to the new residential area from the north-east and west, and existing developing area from the north and east.

Significance: Negligible.

Effects: Negligible.

Recommmendations already incorporated: no further recommendations at this stage.

Given existing woodland and hedgerows the only views likely to experience significant changes are views to the new residential area from the north-east and west, and existing developing area from the north and east.

Significance: Negligible.

Effects: Negligible.

Recommmendations already incorporated: no further recommendations at this stage.

Given existing woodland and hedgerows the only views likely to experience significant changes are views to the new residential area from the north-east and west, and existing developing area from the north and east.

Significance: Negligible.

Effects: Negligible.
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| 14. To protect and enhance biodiversity, including biological resources, and internationally, nationally, regionally and locally designated sites of nature conservation and geological importance | SSIs in the immediate vicinity of the Airport include Finningley Big Wood, Hurst Wood, Hurst Plantation and Tinker's Pond. Hatfield Moors Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC), and Thorne and Hatfield Moors Special Protection Area (SPA) are located approximately 5 km north of the Airport. The River Idle Washlands and the Potteric Carr Nature Reserve are approximately 3-6 km to the south of the Airport, and provide valuable mixed habitat environments. Habitats around the proposed business park and train station include grassland and some oak and willow trees. Around the proposed residential area and business park, they include generally species-poor hedgerow and a small woodland copse. Habitats around the proposed commercial area west of the existing car park include species-poor improved grassland and occasional scrub and trees. Those around the proposed BGA and commercial sites are mainly grassland (managed and unmanaged), arable fields and species-poor hedges. | **Significance:** Minor negative (direct, long-term), Moderate negative (short and medium term), Negative (cumulative and secondary)  
**Scale:** Local  
**Certainty:** Low  
**Timescale:** Short, Medium and Long term (see above)  
**Permanence:** Temporary and semi-permanent | Due to construction and site clearance, the Master Plan will lead to the loss of the habitats associated with the proposals identified, mainly semi-improved grassland, small amounts of woodland, some mature and sapling trees not a part of woodland, hedgerow (mostly species-poor) and arable fields. There may also be areas of temporary construction landtake.  
However, the Master Plan includes for protection of breeding birds, continued ecological survey, extensive tree planting, enhancement of the Habitat Corridor, a Landscape Management and Habitat Creation Plan, a Water Resources Management Plan and planting integrated into all new developments using native species. The layout planned for the residential site includes a very permeable site with extensive tree planting in the periphery, as well as roadside and other trees. The Master Plan includes for a golf course that would maintain the existing woodland, but which could potentially have secondary implications on local fauna, such as through pesticide usage on greens. There are also ponds in the golf course area that could potentially be affected.  
There are negative implications of airport growth on biodiversity more generally, such as through climate change emissions. But more visibly, the future requirement for additional road or other transport infrastructure could lead to additional loss of habitat or other secondary implications on biodiversity.  
**Mitigation:** To increase the certainty of assessment, adopt ecologically friendly management practices for the golf course. To increase benefits, work with Local Biodiversity Action Plan (BAP) partners to increase/enhance locally important habitats and species. |
To conserve soils and mineral resources including prevention of soil pollution, sterilization of minerals, and to limit loss of agricultural land.

| 15. To conserve soils and |
| Total. These soils containing 4% or more of Subgrade 3a, which is reversible. |
| | 
| Significance: Moderate |
| Type: Agricultural land, Subgrade 3a. |
| Scale: Local |
| Performance: Semi-permanent |
| Timescale: Long-term |

If the golf course is proposed to be on land with Subgrade 3a agricultural land, the loss could be limited to about 13 ha, and thus the effect could be only minor negative.

Significance: Moderate

Certainty: Moderate.

The actual loss could be limited to about 13 ha, as such the total loss of Subgrade 3a agricultural land can be assumed to be about 17 ha. The assessment is based partly on significance criteria for loss of agricultural land developed by experienced project-level environmental assessors and agricultural experts, based on previously published guidance, and successfully used on other large-scale projects. Generally, loss of 15 ha or more of Subgrade 3a agricultural land is proposed to be on land with Subgrade 3a agricultural land, is known through agricultural assessments, and is not limited to Subgrade 3a agricultural land. Additionally, it is known through agricultural assessments that 13 ha of Subgrade 3a is proposed to be on land where Subgrade 3a agricultural land is located. As such, the total loss of Subgrade 3a agricultural land can be assumed to be about 17 ha. The actual loss could be limited to about 13 ha, and thus the effect could be only minor negative.

Certainty is moderate, as it depends upon lower-grade soils containing 4% or more of Subgrade 3a. Additionally, soils, including that which is Subgrade 3a, would not be lost, but rather re-used as topsoil as proposed. Also, soils, including that which is Subgrade 3a, and thus the effect could be only minor negative.

The actual loss could be limited to about 13 ha, and thus the effect could be only minor negative.

The assessment is based on the landscape planning regime, which is reversible. As such, the total loss of Subgrade 3a agricultural land can be assumed to be about 17 ha. The actual loss could be limited to about 13 ha, and thus the effect could be only minor negative.

The assessment is based partly on significance criteria for loss of agricultural land developed by experienced project-level environmental assessors and agricultural experts, based on previously published guidance, and successfully used on other large-scale projects. Generally, loss of 15 ha or more of Subgrade 3a agricultural land is proposed to be on land with Subgrade 3a agricultural land, is known through agricultural assessments, and is not limited to Subgrade 3a agricultural land. Additionally, it is known through agricultural assessments that 13 ha of Subgrade 3a is proposed to be on land where Subgrade 3a agricultural land is located. As such, the total loss of Subgrade 3a agricultural land can be assumed to be about 17 ha. The actual loss could be limited to about 13 ha, and thus the effect could be only minor negative.

Certainty is moderate, as it depends upon lower-grade soils containing 4% or more of Subgrade 3a. Additionally, soils, including that which is Subgrade 3a, would not be lost, but rather re-used as topsoil as proposed. Also, soils, including that which is Subgrade 3a, and thus the effect could be only minor negative.

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| 16. To minimise greenhouse gas emissions and support a managed response to the effects of climate change | **Air:** Between 1990 and 2005, emissions from international aviation fuel use more than doubled, from about 4.3 million tonnes CO₂ to about 9.6. This is approximately 1.7% of estimated total UK emissions (556 million tonnes in 2005). Between 2004 and 2005, emissions from domestic aviation increased by 7.1 percent, and those from international aviation increased by 5.7 percent.  
**Road:** Almost 45% of passengers using the Airport are from within South Yorkshire. Overall, South Yorkshire has a lower rate of road transport emissions than the region, at about 2.5 tonnes per capita (versus 2.7 for the Yorkshire and the Humber region). | **Air Travel:**  
*Significance:* Minor negative  
*Scale:* National (negligible adverse at global scale)  
*Certainty:* Moderate  
*Timescale:* Long term  
*Permanence:* Permanent | Climate change is a global issue, towards which most of the developed world is a contributor; the European Commission has recently approved the Directive through which aviation will be included in the EU Emissions Trading Scheme – an approach supported by Sustainable Aviation, of which the Airport is a signatory.  
The growth in air traffic at the Airport is likely to indirectly lead to a net growth in aircraft emissions, considered minor adverse at a national level.  
The additional commercial and residential development will lead to increased road traffic, however this would be partially offset by increased public transport provision to/from the Airport, including the new rail station. Emissions from electricity and gas usage will increase as a result of development.  
Increasing capacity at the Airport is likely to deter passengers from travelling to more distant airports in the South East – depending on the modal split currently experienced versus the new modal split, this might reduce emissions as a result of these passengers, but this is not considered to reduce emissions significantly overall.  
Peel Airports is piloting microgeneration and energy efficiency initiatives at Liverpool John Lennon Airport for rolling out at all Peel airports to reduce use of carbon fuels.  
**Mitigation:** Continue to support Sustainable Aviation and local action on reducing contribution towards climate change. Ensure that the physical requirements and the marketing needs of ‘Last Call!’ are met in proportion with the degree of expansion of the terminal. Contribute towards the wider body of research into the potential for sustainable flight through new technologies. |
| Will the Master Plan:  
• minimise greenhouse gas emissions?  
• mitigate the effects of air pollution? | | | |
| Effects | Mitigation: Promote Sustainable Drainage Systems (SUDS) | Mitigation: Continue to review the situation and provide any necessary flood prevention measures as an ongoing commitment to improve drainage and reduce the likelihood of flooding. | Mitigation: Continue to improve drainage and reduce the likelihood of flooding. 
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</table>
### SA Objective

18. To promote the prudent and efficient use of energy and natural resources, with minimal production of waste

**Will the Master Plan:**
- encourage renewable energy use?
- promote the waste hierarchy (reduce, re-use, recycle and dispose)?
- reduce hazardous waste?
- reduce the number of vacant buildings and the amount of derelict, degraded and underused land?

### Data Supporting the Appraisal

There is currently no renewable energy generation at the Airport. Waste is generated from a number of sources at the Airport, and as the Airport grows, the volume of waste generated within the Master Plan area is expected to increase proportionally.

### Effects

<table>
<thead>
<tr>
<th>Significance</th>
<th>Scale</th>
<th>Certainty</th>
<th>Timescale</th>
<th>Permanence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate positive</td>
<td>Local and regional</td>
<td>Moderate</td>
<td>Long term</td>
<td>Temporary, ongoing (subject renewal of management practices)</td>
</tr>
</tbody>
</table>

### Justification for Assessment & Proposed Mitigation

(Note: surface transport is dealt with under SA Objectives 5, 6, 8 and 9)

The Master Plan makes use of all existing built areas on the site, maximising land use efficiency. The Master Plan highlights that the Airport Terminal is equipped with a sophisticated Building Energy Management System (BEMS), which enables the monitoring and minimisation of emissions from the power and heat generation plant. Peel Airports is piloting microgeneration and energy efficiency initiatives at Liverpool John Lennon for rolling out at all Peel airports to reduce use of carbon fuels.

The Airport operates a Waste Management Strategy that aims to drive waste up the hierarchy (reduce, re-use, recycle, recover, dispose), as well as the promotion of a waste exchange scheme for the entire Airport community and initiatives for waste segregation and recycling (now promoting one for waste from aircraft).

The large scale of construction required overall, though occurring in phases, will require significant amounts of materials. Locally sourced, renewable or recycled materials should be used in construction wherever possible.

**Mitigation:** Require the usage of locally sourced, renewable and/or recycled materials in construction at the Airport.
19. To conserve the quality and quantity of groundwater, ponds, lakes and water courses, the following water resource protection measures are recommended for incorporation into the Master Plan:

- **Effect:***
  - The Master Plan contains an integrated approach to water resources protection, including the following measures:
  - Groundwater: The groundwater regime is protected by the implementation of sustainable drainage systems (SuDS) to infiltrate surface water and reduce runoff.
  - Surface water: The River Torne is protected through the implementation of SuDS to infiltrate surface water and reduce runoff near the river.
  - Airports: The Master Plan includes plans for the protection of ground and surface water resources at the airport.

- **Mitigation:**
  - Recommendations already incorporated into the Master Plan – no further recommendation at this stage.
<table>
<thead>
<tr>
<th>SA Objective</th>
<th>Data Supporting the Appraisal</th>
<th>Effects</th>
<th>Justification for Assessment &amp; Proposed Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. To promote the efficient use of physical infrastructure</td>
<td>The existing commercial area in the north of the Airport is slightly underused and in need of improvement. The existing road network can accommodate the existing planning consents and has capacity for more development. The opening of the AAR has reduced the traffic impact in Hayfield Green / Auckley village. The A638 route that connects the Airport with Doncaster has become a Quality Bus Corridor, and the Airport is currently served by 9 bus routes (total). A railway leading into Doncaster passes through Hayfield Green / Auckley, however there is currently no station. Residents of Hayfield Green / Auckley have limited foot and cycle access to neighbouring villages. To the west of Hurst Lane, Hayfield Lane has been made a Quiet Lane, which limits car usage and better accommodates pedestrians and cyclists. The AAR includes a cycle route.</td>
<td>Significance: Major positive Scale: Local and regional Certainty: High Timescale: Long term Permanence: Permanent</td>
<td>The Master Plan will lead to the improvement and partial redevelopment of existing developed commercial area, better take advantage of the existing railway and bus routes, develop a new train station and associated parking, and provide new and upgraded foot and cycle paths in Hayfield Green / Auckley for both new and existing residents. In addition, housing in the area could prove an attraction for new or improved local businesses and retail, of which there are relatively few in the immediate surrounding villages. There are 16 cycle stores for use by passengers and staff on site. Mitigation: Further to that stated for SA Objective 9, the Master Plan could ensure that cycle lanes form a complete link between new residential area and the new train station.</td>
</tr>
</tbody>
</table>
Tasks B4 and B5: Evaluate the Effects of the Master Plan and Recommend Mitigation

4.41 The assessment and evaluation of the Master Plan against SA Objectives are presented in Table 3 and the findings summarised below. Recommended mitigation measures can also be found in Table 3.

Achieving Environmental Objectives

4.42 The Master Plan has some significant positive environmental effects, including increasing the efficiency of development patterns and infrastructure locally and regionally, potentially reducing the impacts of surface transport, maximising usage of previously developed land, improving the quality of residential areas and providing a new high-quality residential area, as well as measures to improve energy efficiency and driving waste up the waste hierarchy (reduce, re-use, recycle and dispose).

4.43 However, the Master Plan is likely to have some significant negative environmental effects without project-level mitigation, since it promotes new development on greenfield land and growth of aviation services. This is unavoidable given the nature of the proposals, which are related to the growth of the Airport.

4.44 There are potential temporary negative effects with regard to the construction of development proposals, particularly in terms of noise, air quality, light pollution and water quality, but these can be avoided or reduced by using good site practice. There could also be residual semi-permanent adverse effects to biodiversity, absolute noise levels (residents being protected by Sound Insulation Grants), light pollution, increased greenhouse gas emissions and loss of agricultural land. Locally, there would be increased fossil fuel and energy usage (absolute levels) and increased waste production, however there is also the effect of offsetting some of the resources used and waste produced at airports in the South East and for longer-distance surface travel to/from those airports. There are a number of possible mitigation measures to eliminate or minimise potential negative effects as outlined in Table 3, mostly in terms of what the Master Plan can attempt to address at this early stage prior to the onset of development.

4.45 Effects on landscape, flood risk and water quality are expected to be neutral/negligible in the long term.

4.46 In terms of the potential negative effects associated with any greenhouse gas emissions that may be created as a result of the Airport’s expansion, the White Paper (DfT, 2003) highlights that climate change is a global issue that should be addressed through international measures. However the White Paper also supports significant growth at airports in the North of England, and the Future of Air Transport Progress Report (DfT, 2006) reaffirms this support. Climate change is an issue that must be tackled at the national and international level, and is not considered in detail within the Master Plan and Master Plan SA. However, the Airport is a signatory to ‘Sustainable Aviation’ and is committed to the EU ETS and its Local Carbon Sequestration Scheme ‘Last Call’, which are measures to compensate for and control the levels of greenhouse gas emissions at the local level.

Achieving Social Objectives

4.47 Coupled with positive effects on economic growth and employment opportunities (see below), the Master Plan would lead to an increase in training opportunities at the Airport and possibly elsewhere, either directly through supporting Directions Finningley and the Aviation Academy (commercial aviation training), or secondarily through businesses or education/training initiatives associated with growth of the Airport. The Master Plan would increase leisure and outdoor recreational opportunities in the area, alongside meeting local housing needs, and increasing the number of residents for which these opportunities are accessible. These include access to local
cultural heritage features and locally designated nature conservation sites. The conservation sites will be suitably managed to ensure there are no adverse recreation impacts.

4.48 The Master Plan represents a major contribution towards public involvement in decision-making, given both future consultation on the Master Plan document itself and this SA Report, and its commitment to local involvement through the Airport Consultative Committee, Noise Monitoring Sub-Committee and ATF (amongst others). It is also expected to have a moderate positive effect on opportunities to improve health and fitness and meeting local needs locally, due to increased and improved links between residents and employment opportunities, improved open space, a new train station, and an expanded local foot and cycle path network connecting community facilities already in place and recently improved as part of previous Airport proposals.

4.49 In terms of the implications of noise and pollution on human health, there are not expected to be any significant adverse effects (see the environment section for absolute effects). Health impacts are monitored by the Health Impact Group set up for the Airport. Security measures (including CCTV), monitoring and response measures are in place according to the strict Airport security requirement and, the effect of the Master Plan on safety and security objectives would be negligible.

Achieving Economic Objectives

4.50 The Master Plan will have cumulative major positive effects on levels of employment, and on business success, economic growth and investment. Such economic development is supported by national, regional and local policy.

The Sustainability of the Master Plan

4.51 Achieving sustainability is to achieve a balance between environmental, social and economic effects. The Master Plan has some significant positive and negative environmental effects, although opportunities for mitigation and enhancement are possible and the Airport is committed to minimising its environmental effects where practicable. However, the Master Plan achieves the majority of sustainability objectives as a result of the overriding social and economic benefits that it will bring to a an area of widespread deprivation.

Task B6: Propose Measures to Monitor the Significant Effects of Implementing the Master Plan

4.52 The purpose of a monitoring strategy is to ensure that unforeseen adverse effects are identified as early as possible in order for effective and appropriate remedial action to be taken. It is necessary to monitor any aspects that have potentially significant effects. Any proposed mitigation measures should also be monitored to ensure their efficacy. Monitoring data can be collated from existing sources such as National Statistics Census information.

4.53 The results of the monitoring will be documented in an annual sustainability report.

Environmental Effects

Noise

4.54 The Airport Company employs a Noise Monitoring System (NMS) that records the levels of noise generated by departing and arriving aircraft; this is information used to minimise potential impacts and respond to complaints. An environment team produces monthly reports on the noise performance. Information on complaints is logged and reported to both the Airport Consultative Committee and its Noise Monitoring Sub-Committee.

4.55 The Airport Company is commissioning a Track Keeping System that records the paths of arriving and departing aircraft. When fully operational, this will be linked to the NMS resulting in a
Noise Monitoring and Track Keeping System (NM&TKS) that will provide further information towards minimising the noise impact of the airport in line with UK best practice.

**Greenhouse Gas Emissions**

4.56 A variety of sources within and around an airport generate greenhouse gases. These include airside vehicles, airborne and ground level activity, as well as vehicles travelling to and from the airport. Increases in these activities will lead to additional greenhouse gas emissions.

4.57 The Air Quality Action Plan will continue work with airlines and service agents to reduce CO₂ emissions and other gases that contribute towards climate change from aircraft and ground handling operations, such as minimising the use of Auxiliary Power Units in favour of Ground Power Units and investigating the feasibility of using alternative fuels for both the airfield vehicle fleet and pool cars.

**Air Quality**

4.58 The Airport Company monitors nitrogen dioxide continuously using an automatic analyser at a location near to the Airport control tower, which is representative of nearby housing to the east of the Airport. Nitrogen dioxide concentrations at 7 locations around the Airport are also monitored on a monthly basis, in partnership with DMBC. The Airport started monitoring in November 2004, 6 months prior to opening in April 2005. In addition, DMBC measures nitrogen dioxide at locations alongside Hurst Lane and Hayfield Lane.

4.59 Neither the Airport Company nor any other party monitors potentially harmful dust (PM₁₀) in the vicinity of the Airport. However DMBC carries out monitoring at four sites in the borough, and even at these worst-case locations, both the annual mean and 24-hour PM₁₀ objectives are being achieved.

**Biodiversity**

4.60 The Airport Company has an annual habitat condition monitoring programme, which feeds back into the management regime, as part of the Landscape Management and Habitat Creation Plan for the Airport. Monitoring and management procedures are set out for each type of habitat within the Airport site to ensure valuable (or potentially valuable) habitats are protected and enhanced. The Plan is reviewed annually as part of the annual habitat condition monitoring work, and will be updated as new areas identified in the Master Plan are developed.

4.61 Also related to ecology, the Water Resources Management Plan for the Airport sets out the ongoing monitoring programme for ground and surface water.

**Landscape**

4.62 Landscape proposals will accompany planning applications for developments, where appropriate. These will be a source of information regarding the quantity of trees planted and the creation of recreational spaces.

**Cultural Heritage**

4.63 The effects of each development proposal on cultural heritage either have been, or will be, considered and/or assessed at the project level. This will be a source of information on the management of the cultural heritage resources in the Master Plan area.

**Water Resources Management**

4.64 As stated above, the Water Resources Management Plan for the Airport sets out the ongoing monitoring programme for ground and surface water.
The Airport Company and the Environment Agency routinely take water quality samples at the discharge points from the airfield site in order to check compliance with discharge consent requirements. This is more intense during the winter months, when de-icants are present in airside runoff. Levels within the WWTW are monitored in order to gauge the volume available for treatment in the plant. A number of monitoring wells are used to monitor the effects of construction in the Master Plan area and operation of the Airport on groundwater.

Waste Management

Supporting the Waste Management Strategy, the Airport Company will regularly monitor waste produced at in order to assess whether it is meeting the objectives of the Airport’s upcoming waste management plan. The long-term aim is to reduce the volume of waste per passenger by 10%, five years after the first anniversary of the Airport’s opening.

Energy and Energy Efficiency

The Airport Terminal is equipped with a sophisticated BEMS, which enables the monitoring and minimisation of emissions from the power and heat generation plant.

If trials at Liverpool John Lennon Airport are successful, microturbines will be installed at the Airport to generate renewable electricity on site.

Social and Economic Effects

Surface Access

The ATF monitors progress towards the achievement of the ASAS. The ASAS is consistent with the Master Plan and is a “living document”, which is updated regularly and “rolled forward”.

The ASAS commits to monitoring its targets and actions (which are not all necessarily quantitative measures), which currently include:

- passenger numbers, origin by postcode and modal share (sustainable transport) and target increases in bus, coach and rail patronage, as well as walking and cycling;

- analysis of the CAA passenger survey data to identify corridors of unfulfilled demand for consideration of possible new bus routes;

- existing employee numbers, employee modal share and average car occupancy of employees’ journeys to/from work (and related data) with target increases in public transport usage and car occupancy;

- real-time bus information at the Airport, and real-time flight information at the railway station;

- bus operator appreciation of the importance of reliability and punctuality, essential for onward travel;

- developing relationships with regional and national coach operators for links to the Airport, where practicable;

- working with transport providers, airlines and tour operators to develop and promote integrated ticketing;

- developing plans and working with bus operators to promote Parrots Corner as a transport interchange for services connecting to the Airport;
• using promotional materials and media to promote public transport services to the Airport and participating in joint marketing campaigns with transport providers;

• working further to raise passenger awareness of public transport options available, throughout the life of the new ASAS;

• moving forward with partners to deliver the Airport rail station;

• providing sufficient road/taxi access arrangements to the terminal, car parks, hotel and the Airport Business Parks, to a level necessary to accommodate envisaged growth in private car trips to the Airport without compromising the ease of accessibility to local destinations; and

• progress and changes with regard to the Car Parking Strategy, which controls the supply of spaces for employees and passengers and incorporates the gradual reduction in the ratio of spaces to demand, as the latter increases.

4.71 The Airport and ATF are also working closely with bus and rail operators to find solutions to enhancing any existing and future services and to solve problems as they arise.

4.72 Targets on modal split will be monitored and reviewed annually by the ATF, and will be changed as necessary to reflect better understanding and opportunities. The Travel Plan shall be kept under review by the ATF, and may be modified from time to time provided that the written approval of the Council is obtained before any modifications are implemented.

**Crime**

4.73 The Airport Company will be aware of the security provisions on the Master Plan site, but monitoring of crime is the responsibility of South Yorkshire Police.

**Employment and Training**

4.74 A regular questionnaire on employment provision is sent to all on-site companies. Statistics on national and local levels of employment will be obtained from this questionnaire, National Statistics and other groups.

**Business**

4.75 The CAA carries out regular surveys that include numbers of business passengers.

**Public Participation**

4.76 The public have been able to comment on the Master Plan proposals and on this SA report. The measure of public participation will be the number of comments received from the public.
5  **Stages C and D**

5.1 Following the completion of Stage B tasks for the Draft Master Plan, a Draft SA Report was prepared and the Draft Master Plan and Draft SA Report were consulted upon.

5.2 Consultation responses were received from a wide range of stakeholders, and these have been reviewed and appraised in the preparation of the final Master Plan and SA Report.

5.3 Stage B tasks have been reviewed and the Draft SA Report prepared at Stage C has been updated. No changes have been made to the development options as a result of the consultation, so there have been no changes to the conclusions of the SA.
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Abbreviations

AAR  Airport Access Route
ACC  Airport Consultative Committee
AQMA Air Quality Management Area
ALC Agricultural Land Classification
AOD Above Ordnance Datum
ASAS Airport Surface Access Strategy
ATF  Airport Transport Forum
BAP  Biodiversity Action Plan
BEMS Building Energy Management System
BGA General and Business Aviation
BPEO best practicable environmental option
CAA  Civil Aviation Authority
CCTV Closed-circuit television
Defra Department for Environment, Food and Rural Affairs
DETR Department of the Environment, Transport and the Regions
DT Department for Transport
DMBC Doncaster Metropolitan Borough Council
DPD Development Plan Document
DTI Department for Trade and Industry
EIA Environmental Impact Assessment
ELFAA European Low Fares Airline Association
ETS Emissions Trading Scheme
EU  European Union
FARRRS Finningley And Rossington Regeneration Route Study
GBA General and Business Aviation
GOYH Government Office for Yorkshire and the Humber
GQA General Quality Assessment
IDBs Internal Drainage Boards
LDF Local Development Framework
LDS Local Development Scheme
MAFF Ministry of Agriculture, Fisheries and Food
MATRA Multi Agency Threats and Risk Assessment
mppa million passengers per annum
NM&TKS Noise Monitoring and Track Keeping System
NMS Noise Monitoring System
NVQ National Vocational Qualification
ODPM Office of the Deputy Prime Minister
<table>
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<th>Acronym</th>
<th>Full Form</th>
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<td>PPG</td>
<td>Planning Policy Guidance</td>
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<tr>
<td>PPS</td>
<td>Planning Policy Statement</td>
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<td>PROW</td>
<td>Public Rights of Way</td>
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<td>RAF</td>
<td>Royal Air Force</td>
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<tr>
<td>RCHME</td>
<td>Royal Commission on the Historic Monuments and Buildings of England</td>
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<tr>
<td>RFFS</td>
<td>Rescue and Fire Fighting Services</td>
</tr>
<tr>
<td>RHADS</td>
<td>Robin Hood Airport Doncaster Sheffield</td>
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<tr>
<td>RSS</td>
<td>Regional Spatial Strategy</td>
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<td>SA</td>
<td>Sustainability Appraisal</td>
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<td>SAC</td>
<td>Special Area of Conservation</td>
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<tr>
<td>SCI</td>
<td>Statement of Community Involvement</td>
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<td>SEA</td>
<td>Strategic Environmental Assessment</td>
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<td>SIG</td>
<td>Sound Insulation Grant</td>
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<tr>
<td>SIGS</td>
<td>Sound Insulation Grant Scheme</td>
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<tr>
<td>SPA</td>
<td>Special Protection Area</td>
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<tr>
<td>SPD</td>
<td>Supplementary Planning Document</td>
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<td>SPZ</td>
<td>Source Protection Zones</td>
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<tr>
<td>SSG</td>
<td>Sherwood Sandstone Group</td>
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<tr>
<td>SSI</td>
<td>Site of Scientific Interest (local designation)</td>
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<tr>
<td>SSSI</td>
<td>Site of Special Scientific Interest (national designation)</td>
</tr>
<tr>
<td>SUDS</td>
<td>Sustainable Drainage System</td>
</tr>
<tr>
<td>SYPTE</td>
<td>South Yorkshire Passenger Transport Executive’s</td>
</tr>
<tr>
<td>UDP</td>
<td>Unitary Development Plan</td>
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<tr>
<td>WWTW</td>
<td>Waste Water Treatment Works</td>
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Appendix 1
Sustainable Aviation Summary
Appendix 2
Relevant Policies, Plans and Programmes
## International Context


- The essential objective of all provisions relating to waste disposal must be the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste and the recovery of waste and the use of recovered materials should be encouraged in order to conserve natural resources.
- Consideration should be given to encourage the efficient use of resources, the minimisation of waste and the methods of disposal within the Waste Management Plan.

- Reduce use of products which might be a source of technical difficulties as regards disposal or lead to excessive disposal costs
- The reduction in the quantities of certain waste, the treatment of waste for its recycling and re-use
- The recovery of raw materials and/or the production of energy from certain waste
- The use of certain natural resources, including energy resources, in applications where they may be replaced by recovered materials
- Disposal without nuisance, pollution or adverse environmental effects

### The Groundwater Directive (2006/118/EC)

- Outlines substances that must be prevented from entering groundwater and substances that must be controlled to prevent pollution of groundwater
- Prevents the pollution of groundwater by substances belonging to the families and groups of substances in lists I or II in the Annex or eliminate the consequences of pollution which has already occurred
- Consideration should be given to decontamination of land
- Consideration should be given to pollution prevention measures


- Sets out procedure that must be followed for certain types of development before they are granted development consent
- Requires the compilation of an Environmental Statement (ES) describing the likely significant impacts of the development and the proposed mitigation measures
- Consideration should be given to previous ES and to the need for ES for future development through the screening process

### EU Directive on the assessment of the effects of certain plans and programmes on the environment (2001/42/EC)

- Requires a formal environmental assessment of certain plans and programmes which are likely to have significant effects on the environment
- Requires strategic environmental assessment (SEA) of plans and programmes
- The Master Plan should be in line with the principles of sustainable development
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<tr>
<th>Key Objectives to LDF and SA</th>
<th>How this might inform the Master Plan</th>
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<td>Kyoto Agreement</td>
<td>1992 agreed at Rio de Janeiro Earth summit in June</td>
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<td></td>
<td>Commitment to sustainable development principles.</td>
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<td>The principles of sustainable development.</td>
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<td>Safeguarding Zone agreements and the risk within the</td>
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<td>maintenance of the Aeronautical Area.</td>
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<td></td>
<td>Consideration should be given to the spatial planning of the Master Plan.</td>
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<tr>
<td>European Directive 79/409/EEC on the conservation of wild birds</td>
<td>Consideration should be given to the impacts of the Master Plan on those habitats and species listed in the Directive.</td>
</tr>
<tr>
<td></td>
<td>To provide a high level of protection for the habitats that support the bird population.</td>
</tr>
<tr>
<td>European Directive 92/43/EEC as amended by 97/62/EC and 2006/105/EC</td>
<td>The main aim of this Directive is to promote the high level of protection for the habitats of all species of birds.</td>
</tr>
<tr>
<td></td>
<td>To ensure that biodiversity, taking into account the economic, social, cultural and regional requirements, is protected.</td>
</tr>
<tr>
<td>European Directive 79/409/EEC on the conservation of wild birds</td>
<td>Preservation, maintenance and restoration of habitats and species, ensuring the economic, social, cultural and regional requirements are met.</td>
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<td></td>
<td>Consideration should be given to the impacts of the Master Plan on those habitats and species listed in the Directive.</td>
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<td>maintenance of the Aeronautical Area.</td>
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<td>Consideration should be given to the spatial planning of the Master Plan.</td>
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<tr>
<td>Key Objectives to LDF and SA</td>
<td>How this might inform the Master Plan</td>
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<td></td>
<td>Kyoto Agreement.</td>
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<tr>
<td></td>
<td>Reduction of net greenhouse gas emissions.</td>
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<tr>
<td></td>
<td>Aim to reduce and/or limit greenhouse gas emissions.</td>
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<tr>
<td></td>
<td>Gathering and sharing information on greenhouse gas emissions.</td>
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<tr>
<td>Key Objectives to LDF and SA</td>
<td>Key Targets and indicators relevant to Master Plan and SA</td>
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<td>------------------------------------------------------------------------------------------------</td>
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<tr>
<td><strong>European Regional Development Programme</strong></td>
<td>South Yorkshire Objective One:</td>
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<tr>
<td>The Fund aims to promote economic and social cohesion by correcting the main regional imbalances and participating in the development and conversion of regions, while ensuring synergy with assistance from the other Structural Funds</td>
<td>Targeting new and high technology business sectors</td>
</tr>
<tr>
<td>Objective 1: to promote the development and structural adjustment of regions whose development is lagging behind;</td>
<td>Modernising existing businesses</td>
</tr>
<tr>
<td>Objective 2: to support the economic and social conversion of areas experiencing structural difficulties;</td>
<td>Building a world-leading learning region</td>
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<tr>
<td>Objective 3: to support the adaptation and modernisation of education, training and employment policies and systems in regions not eligible under Objective 1.</td>
<td>Providing economic opportunities for targeted communities</td>
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<td></td>
<td>Funding for strategic sites and urban centres</td>
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<td></td>
<td>Addressing financial and transport constraints to economic growth</td>
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<td></td>
<td>Yorkshire and the Humber Objective Two:</td>
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<tr>
<td></td>
<td>Funding physical developments that promote economic development</td>
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</tbody>
</table>

| National Context                                                                                                           |                                                                                                                               |                                                                                                                                                                                      |
| **Sustainable Development Waste Strategy (2000)**                                                                        | Minimise waste production, breaking the link between economic growth and increased waste. Re-using, recycling, composting and recovering energy | Consider targets in waste management plan                                                                                                                                         |
| Change the way we manage waste and resources to improving our quality of life                                             | Municipal Waste:                                                                                                             |                                                                                                                                                                                      |
|                                                                                                                               | Recycled compost at least 25% by 2005, 30% by 2010, 33% by 2015                                                            |                                                                                                                                                                                      |

### Planning Policy Guidance Note 13 – Transport

- **Objectives:**
  - Integrate planning and transport at the national, regional, strategic and local level.
  - Promote sustainable travel options for people and for moving freight.
  - Promote accessibility to jobs, shopping, leisure, healthcare and services.
  - Minimise impact on noise sensitive receptors.

- **Key Strategies:**
  - Consideration of provision of transport linkages and open space within the Master Plan.
  - Strategic and local level planning and transport policies at the national, regional, local and site level.

- **Policy Plan:**
  - How this might inform the Master Plan and SA

<table>
<thead>
<tr>
<th>Key Objectives to LDF and SA</th>
<th>Key Targets and Indicators Relevant to Master Plan and SA</th>
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<td>Key Targets and indicators relevant to Master Plan and SA</td>
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</tr>
<tr>
<td><strong>Planning Policy Statement 1 – Delivering Sustainable Development</strong></td>
<td></td>
</tr>
<tr>
<td>To ensure an integrated approach to sustainable development, and contribute to global sustainability, addressing the causes and impacts of climate change</td>
<td>Plans to be drawn up over appropriate timescales, to realise both long and short-term, and positive and negative local impacts. Reduce energy use and lower greenhouse gas emissions, protect groundwater, minimise levels of noise, air, and light pollution</td>
</tr>
<tr>
<td>To promote high quality design</td>
<td>Conserve and enhance local biodiversity. Efficient use and re-use of existing resources through creation of energy efficient buildings, sustainable water use and efficient use of land</td>
</tr>
<tr>
<td>To promote community involvement</td>
<td>Manage waste in a way that protects human health</td>
</tr>
<tr>
<td>To create open spaces, promoting health and physical activity</td>
<td>Preserve and enhance cultural heritage</td>
</tr>
<tr>
<td>To promote economic benefits, and recognise economic development can deliver environmental and social benefits</td>
<td>Consider the benefits of regional, sub-regional and national impacts alongside adverse local impacts</td>
</tr>
<tr>
<td></td>
<td>Provide infrastructure and services to support new economic development and housing, improve access for all to local amenity and community facilities, and promote health through provision of open spaces</td>
</tr>
</tbody>
</table>

<p>| <strong>Planning Policy Statement: Planning and Climate Change – Supplement to Planning Policy Statement 1</strong> | | |
| To encourage new development with the highest viable resource and energy efficiency, and that is resilient to climate change | Reduce energy use and lower greenhouse gas emissions, avoid flood risk areas and contributions to flood risk, pursue renewable energy opportunities | The SA of the Master Plan will consider the pattern of development, sustainable transport opportunities and flood risk considerations. At a strategic level, it will also consider energy efficiency |
| To deliver land use patterns that maximise sustainable transport opportunities, and to harness those opportunities | Conserve and enhance local biodiversity | |
| To promote low-carbon energy generation and renewable energy | Efficient use and reuse of existing resources through creation of energy efficient buildings | |
| To conserve biodiversity, recognising that habitats and wildlife will be affected by climate change | | |</p>
<table>
<thead>
<tr>
<th>Planning Policy Statement 3 – Housing</th>
<th>Planning Policy Statement 7 – Sustainable Development in Rural Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to public transport and public transport opportunities</td>
<td>To raise the quality of life and the environment in rural areas</td>
</tr>
<tr>
<td>Consider the provision of good public transport links in sustainable locations</td>
<td>Consideration of designated heritage resources</td>
</tr>
<tr>
<td>Promote regional employment opportunities</td>
<td>Conservation of designated heritage resources</td>
</tr>
<tr>
<td>Sustainable public transport links and accessible housing</td>
<td>Consideration of the potential uses of historic buildings at the site</td>
</tr>
<tr>
<td>Promote mixed choice in housing (including affordable housing and good public transport links)</td>
<td>GIS of planning policies on the conservation of the historic environment</td>
</tr>
<tr>
<td>How this might inform the Master Plan</td>
<td></td>
</tr>
<tr>
<td>Key Targets and Indicators Relevant to Master Plan and SA</td>
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</tbody>
</table>

Policy Planning Statement 3 – Housing

- How this might inform the Master Plan
- Key Targets and Indicators Relevant to Master Plan and SA
### Key Objectives to LDF and SA | Key Targets and indicators relevant to Master Plan and SA | How this might inform the Master Plan
---|---|---
**Planning Policy Statement 9 – Biodiversity and Geological Conservation**
The main aim is to ensure that the potential impacts of planning decisions on biodiversity and geological conservation are fully considered.
To ensure that biodiversity is conserved and enhanced within the context of sustainable development.
To promote the conservation, enhancement and restoration of the diversity of England’s wildlife and geology.
To identify suitable indicators for monitoring biodiversity.
To indicate the location of designated sites of importance for biodiversity.
To identify any areas or sites for the restoration or creation of new priority habitats, which contribute to regional targets.
---
Consideration should be given to those sites designated for their importance for biodiversity. The Master Plan should include provision for habitat restoration and enhancement, where appropriate, and for the enhancement and maintenance of existing biodiversity levels.

**Planning Policy Statement 10 – Planning for Sustainable Waste Management**
Help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for;
Help secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations;
Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business.
---
Ensure the design and layout of new development supports sustainable waste management.
Consideration should be given to encourage the efficient use of resources, the minimisation of waste and the methods of disposal within the Waste Management Plan.
Planning Policy Statement 12 – Local Development Frameworks

- **Social progress** which recognises the needs of everyone.
- **Effective protection of the environment.**
- **Prudent use of natural resources.**
- **Maintenance of high and stable levels of economic growth.**

The Master Plan should support the principles behind the DMBC LDF.

Planning Policy Statement 22 – Renewable Energy

- **Promote positive planning that facilitates renewable energy developments.**

The Government has already set a target to generate 10% of UK electricity from renewable energy sources by 2010. The White Paper set out the Government’s aspiration to double that figure to 20% by 2020. Consideration should be given to Building Research Establishment Environmental Assessment Method (BREEAM) or similar methods of sustainable construction assessment to ensure energy efficiency of new buildings and the efficiency of existing buildings. The Master Plan should support the application of these methods.

Planning Policy Statement 23 – Planning and Pollution Control

- **To prevent pollution.**
- **To encourage close consultation and prevent unnecessary duplication and conflict of interest between planning and pollution control authorities in order to protect the environment from the potential harm caused by development and operations.**

Pollution issues should be taken into account as appropriate in decision-making. Consideration should be given to the potential sources of pollution, the level of pollution risk, and the pollution risk implications of the Master Plan. New developments should be designed and located to avoid and reduce the impacts of pollution.

Planning Policy Statement 25: Development and Flood Risk

- **To appraise, manage and reduce flood risk.**
- **To protect the environment from the potential risk of flood.**
- **To prevent inappropriate development in areas at high risk of flooding.**

Recognising the need for flood reduction measures may not always be straightforward in areas already emerging or providing important wildlife habitats and adding flood risk. The Master Plan should include consideration of such areas. Where possible and managed responsibly, applying the precautionary principle to decision-making so that risk is avoided where possible and managed elsewhere. Consideration should be given to the flood risk implications of the Master Plan, including consideration of surface water drainage.
<table>
<thead>
<tr>
<th>Key Objectives to LDF and SA</th>
<th>Key Targets and indicators relevant to Master Plan and SA</th>
<th>How this might inform the Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK Biodiversity Action Plan</strong></td>
<td>Developed in response to the Convention on Biological Diversity, 1992 for the development and enforcement of national strategies and associated action plans to identify, conserve and protect existing biological diversity, and to enhance it wherever possible. Local Biological Action Plans have been developed to achieve these objectives at an individual county level.</td>
<td>Consideration should be given to the impacts of the Master Plan on UK and Local BAP species and habitats, and mitigation and biodiversity enhancement where practicable.</td>
</tr>
<tr>
<td><strong>BREEAM</strong></td>
<td>For over a decade, BREEAM has been used to assess the environmental performance of both new and existing buildings with consideration of management, energy use, health and well-being, pollution, transport, land use, ecology, materials, and water.</td>
<td>The Airport company supports the principles of sustainable development and the application of BREEAM for new buildings. Consideration will be given to BREEAM or similar methods of sustainable construction assessment.</td>
</tr>
<tr>
<td><strong>Securing the Future: The UK Government Sustainable Development Strategy</strong></td>
<td>Sets out the Government’s commitment to Sustainable Development. Has four key objectives: social progress which recognises the needs for everyone; effective protection of the environment; prudent use of natural resources; maintenance of high and stable levels of economic growth.</td>
<td>The principles of sustainable development should be applied to the Master Plan.</td>
</tr>
<tr>
<td><strong>Town and Country Planning Act 1990</strong></td>
<td>Sets out procedures for the preparation, approval and adoption of Development Plans and for the control of development.</td>
<td>Consideration should be given to the need for planning approvals.</td>
</tr>
</tbody>
</table>
### Key Objectives to LDF and SA

- **Open Space**
  - Provision of open space and the provision of play areas for housing.
  - Key objectives should be given to the

- **Neighbourhoods**
  - What support we provide to community organisations and how we manage
  - Environment
  - How much energy we use and what impact our demands make on the
  - Sustainability
  - How we plan and design where we live, at what density, and with how

### The Future of Air Transport – White Paper

Provides a strategic framework for the development of airport capacity in the United Kingdom over the next 30 years, against the wider context of the air transport sector.

- Aims to:
  - Recognise the importance of providing additional airport capacity to support economic development;
  - Reflect the increasing desire for air travel;
  - Minimise and reduce the impacts of airports on people and the environment;
  - Ensure that the price of air travel reflects its environmental and social impacts;
  - Make best use of existing airport facilities;
  - Provide greater certainty for all concerned in the planning of future airport capacity.

Significant growth at airports in the North of England is anticipated and supported.

No specific reference to Robin Hood Airport, which was not open at the time of the White Paper publication.

### Sustainable Communities Plan

- **Sustainable objectives**
  - Social inclusive, and economic growth

### The Future of Air Transport Progress Report (December 2006)

Reports on progress made in implementing the policies and proposals in the Air Transport White Paper.

The Government’s commitment to the development of the aviation sector across the UK is reaffirmed.

To make the best use of existing capacity and to make the most of existing capacity, and to make the best use of existing capacity across the UK is reaffirmed.

### How we plan – Airport Master Plan to 2030

**Appendix 2-10 April 2011**

Robin Hood Airport, Doncaster Sheffield
### Key Objectives to LDF and SA

<table>
<thead>
<tr>
<th>Key Targets and indicators relevant to Master Plan and SA</th>
<th>How this might inform the Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK Air Quality Strategy</strong></td>
<td></td>
</tr>
<tr>
<td>To improve and protect ambient air quality in the UK in the medium term</td>
<td>Target levels have been set for benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, ozone, particles (PM$_{10}$) and sulphur dioxide</td>
</tr>
<tr>
<td>To protect people's health and the environment without imposing unacceptable economic and social costs</td>
<td></td>
</tr>
<tr>
<td><strong>Air Pollution – Action in a Changing Climate</strong></td>
<td></td>
</tr>
<tr>
<td>Summarises the main issues concerning air pollution and outlines the ways in which we can make the most of the interconnections between measures to address air pollution and climate change. It does not replace the UK Air Quality Strategy but it is intended to outline a wider vision for how we can link the two drivers for action more closely together. It also sets out the progress we are making on delivering our short-term air quality targets.</td>
<td>The Master Plan should address air quality issues including the encouragement of investment in cleaner technologies</td>
</tr>
<tr>
<td><strong>Regional Context – we note the abolishment of Regional Spatial Strategies (RSS) in 2010, but the following documents have been used in the preparation of this SA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Advancing Together – The Vision and Strategic Framework for Yorkshire and Humber</strong></td>
<td>The Master Plan should provide infrastructure, training and governance to meet a range of needs at all levels</td>
</tr>
<tr>
<td>A world class, prosperous and sustainable economy for Yorkshire and Humber. A physical infrastructure and communications that meet the needs of people, businesses, places and the environment. High quality natural and man-made environments. Exceptional education and training. A socially cohesive and inclusive region. Highest levels of governance in all sectors, at all levels</td>
<td>Baseline data are provided</td>
</tr>
</tbody>
</table>
### Key Objectives to LDF and SA

**Sustainable Communities in Yorkshire and the Humber (part of the Sustainable Communities Plan)**

- To meet the demands for new households
- To help communities become places where people want to live
- To provide affordable and decent housing
- To make better use of brownfield sites
- To improve planning efficiency
- To decrease congestion and make public transport more attractive
- To support the regeneration of local communities
- To improve access (particularly public transport) to airport facilities and services
- To support the regeneration of local communities through funding
- To make better use of brownfield sites
- To improve planning efficiency
- To decrease congestion and make public transport more attractive
- To support the regeneration of local communities through funding

### Regional Economic Strategy for the Yorkshire and Humber 2006-2015

- Provides framework of common priorities for businesses, public agencies, voluntary groups and communities.
- Economic growth and regional economy
- Access to key economic assets
- Improve access (particularly public transport) to airport facilities and services
- Contribution to the local and regional economy
- Contribution to the local and regional economy
- Development of sustainable public transport
- Increase in the provision of housing, which in turn helps the regeneration of local communities

### The Yorkshire and Humber Plan – Regional Spatial Strategy to 2026

- Provides framework of common priorities for businesses, public agencies, voluntary groups and communities.
- Economic growth and regional economy
- Access to key economic assets
- Improve access (particularly public transport) to airport facilities and services
- Contribution to the local and regional economy
- Contribution to the local and regional economy
- Development of sustainable public transport
- Increase in the provision of housing, which in turn helps the regeneration of local communities

### Regional Spatial Strategy

- Provides framework of common priorities for businesses, public agencies, voluntary groups and communities.
- Economic growth and regional economy
- Access to key economic assets
- Improve access (particularly public transport) to airport facilities and services
- Contribution to the local and regional economy
- Contribution to the local and regional economy
- Development of sustainable public transport
- Increase in the provision of housing, which in turn helps the regeneration of local communities
### Key Objectives to LDF and SA

<table>
<thead>
<tr>
<th>The Regional Freight Strategy</th>
<th>Key Targets and indicators relevant to Master Plan and SA</th>
<th>How this might inform the Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail and road safety</td>
<td>Monitor air quality and noise</td>
<td>Consideration should be given within</td>
</tr>
<tr>
<td>Promotes integrated transport systems. Enhance rail networks wherever possible including new kinds of rail freight terminals</td>
<td>Promote and support freight services</td>
<td>the Surface Access Strategy as part of</td>
</tr>
<tr>
<td>Air quality and noise to be dealt with appropriately</td>
<td></td>
<td>the Master Plan</td>
</tr>
<tr>
<td>Promote and support Airports for freight services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sub Regional Context

<table>
<thead>
<tr>
<th>The Second South Yorkshire Local Transport Plan (LPT2)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>To address congestion</td>
<td>To cap growth in area-wide road traffic mileage by 2010/11 at 13.5%</td>
</tr>
<tr>
<td>To improve accessibility to public transport</td>
<td>Patronage of Public Transport 142.8 million passengers per annum by 2010/11 (up from 138.4 million in 2003/04)</td>
</tr>
<tr>
<td>To improve safety</td>
<td>Increase cycling by 10% on 2003/04 levels by 2010/11 Cycling</td>
</tr>
<tr>
<td>To tackle air quality and other quality of life issues</td>
<td>NO$_2$ concentrations reduced by 1 $\mu$g/m$^3$ per annum to 40 $\mu$g/m$^3$ by 2010</td>
</tr>
<tr>
<td>To manage and maintain the transport asset</td>
<td>Consideration should be given within the Surface Access Strategy as part of the Master Plan</td>
</tr>
</tbody>
</table>

### Local Context

<table>
<thead>
<tr>
<th>Doncaster’s Greenspace Strategy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sets out any shortfalls that Doncaster has with regards to the provision of green space. Introduces measures to protect playing fields and areas of open green space. Promote the health and well being through provision of green space</td>
<td>Consideration of provision of recreational facilities and green space within Master Plan</td>
</tr>
<tr>
<td>Doncaster Biodiversity Action Plan</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Objective</strong>: To develop sustainable local partnerships to help deliver programmes for biodiversity conservation, education and environmental stewardship.</td>
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</tbody>
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<table>
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<tr>
<th>Doncaster Air Quality Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong>: To ensure that air quality objectives contained in the Air Quality (England) Regulations 2000 are met.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doncaster Zero Waste Strategy</th>
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<tbody>
<tr>
<td><strong>Objective</strong>: Reduce waste and enhance biodiversity within Doncaster.</td>
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</table>

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<th>Key Targets and Indicators Relevant to Master Plan and SA</th>
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<tr>
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<thead>
<tr>
<th>Indicators Relevant to Master Plan and SA</th>
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</tbody>
</table>
### Key Objectives to LDF and SA

<table>
<thead>
<tr>
<th>Doncaster Unitary Development Plan (adopted 1998)</th>
<th>Key Targets and indicators relevant to Master Plan and SA</th>
<th>How this might inform the Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies include ensuring an adequate supply of development land in appropriate locations to cater for the needs of existing, expanding and new business, protecting key employment areas from other forms of development, encouraging tourism, taking advantage of the county’s historical cultural heritage, good communications and major recreational and retail facilities, seeking to foster economic growth and revitalise built-up areas, whilst conserving the countryside and urban heritage and ensuring that new development makes a positive contribution to the environment in which it occurs</td>
<td>To promote economic prosperity and the achievement of a competitive position in national and international markets To promote development of a range of tourism facilities To promote job creation and diversification To ensure that transportation proposals contribute to environmental improvement</td>
<td>The Master Plan will ensure continued economic growth, and the SA will help to ensure that development and growth are sustainable</td>
</tr>
<tr>
<td>Saved Policy T36 makes reference to the possible future use of the former RAF airbase at Finningley and supplementary guidance for the site</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Finningley Airbase Planning Brief (June 1999)

<table>
<thead>
<tr>
<th>Adopted following public consultation and intended to guide the future re-use of the former RAF airbase The Airport is divided into a number of zones with preferred uses identified for each, including areas for housing and woodlands, and provision of landscaping and buffer zones</th>
<th>Development of the Airport in accordance with the adopted Planning Brief</th>
<th>The Master Plan will refer to the Planning Brief and adhere to its requirements for different zones within the Airport</th>
</tr>
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</tbody>
</table>
### Doncaster Economic Strategy

The Draft Core Strategy Preferred Revised Options (July 2010)

Identifies 7 themes, prosperous place, skills and lifelong learning, healthy and caring, safer cleaner greener, improving neighbourhoods together, equality of opportunity and protecting the environment

Policy 6 supports the development of Robin Hood Airport in accordance with a set of principles

Policy 9 provides travel choice which recognises the importance of FARRRS route and the railway station at the Airport.

Ensure environmental impacts are considered during the preparation of the Master Plan

Improve surface access to the Airport, particularly public transport links

The Master Plan seeks to improve rail infrastructure

### Doncaster Sustainability Appraisal of Core Strategy Preferred Options (July 2010)

Identifies key sustainability issues for the local area

- pockets of deprivation
- lack of housing choice and affordability
- lack of local community facilities
- lack of integrated public transport
- pressure on designated sites and biodiversity
- threat from noise and air pollution
- lack of a diverse economy and local jobs
- limited opportunities for development of brownfield land

Identifies 22 SA objectives based on the 15 objectives identified in the SA for the RSS with others added following consultation (see Appendix 3)

Appendix 3 details the many targets and indicators that will be used to monitor the sustainability effects of the Core Strategy including types of employment, levels in inward investment, housing quality and affordability, availability of sport and recreation opportunities, accessibility and levels of public transport services, cycle and pedestrian facilities, take-up of brownfield land, condition of biodiversity resources, levels of water consumption and recycling, air quality and greenhouse gas emissions

The Master Plan SA should incorporate relevant SA objectives, targets and indicators

### Doncaster LDF Core Strategy Preferred Preferred Options (Draft July 2010)

**Key Objectives to LDF and SA**

- **Key Targets and indicators relevant to Master Plan and SA**

  - **To promote job creation**
    - Contribution to the local economy
  - **To improve surface access**
    - Public transport links
    - Road infrastructure
  - **To improve the quality of life**
    - Environment and sustainability
    - Health and wellbeing
  - **To support economic growth**
    - Employment and business development
  - **To support housing growth**
    - Affordable housing
  - **To support community cohesion**
    - Cultural and social diversity
  - **To support environmental sustainability**
    - Biodiversity and nature conservation
  - **To support physical infrastructure development**
    - Transport and communications

The Master Plan should consider the impacts of the Airport on economic growth, and job creation within Doncaster.
Appendix 3
Baseline Data
The Airport Site History

The Airport began in 1915 as an airfield, built on a site known as Bancroft Farm in Finningley, that accommodated the temporary relocation of the Royal Flying Corps from RAF Doncaster. In 1936, the airfield was established as RAF Finningley, and was or had expanded to 433 acres of land to the south west of Finningley village.

Within 2 years of opening (1938), over 400 personnel were housed at the site. Throughout the Second World War, the site was continuously upgraded to improve its operational capability, and by the end of the war, around 10,000 personnel were on-site, operating a range of aircraft including Heyfords, Lysanders, Wellingsons, Lancasters and Spitfires.

In the mid-1950s, the airfield was upgraded, the main runway expanded to its current length (2893 x 61m) and atomic weapons stores were constructed in response to the escalating Cold War crisis. The base re-opened in 1957 and became the home of the Avro Vulcan bomber; with a squadron of Vickers Valliant’s becoming operational a year later. RAF Finningley became known as the home of the V bombers, as Handley Page Victors were stationed there in the 1960s.

The site became the largest training base in the RAF and, in the 1970s, all RAF navigators studied at Finningley’s Air Navigation School (ANS). Towards the end of its life, the level of training carried out meant that the airfield was the second busiest in the UK for Air Transport Movements.

Over the course of almost 50 years, RAF Finningley became one of the largest international air shows, with the first air show held on the site in September 1945. For twenty years, the site was home to the Battle of Britain Air display, the largest one-day air show in the UK.

Despite significant investment in the site again in the late 1980s, including a resurfacing of the runway, it was announced that as part of the First Line defence cuts in 1994, RAF Finningley would close. The station flag was lowered two years later in 1996 and the base decommissioned.

In 1999, Peel Airports Limited was named as the new owner of the airfield, with plans to develop the site as a commercial airport. Planning approval for the development of a regional airport at Finningley was obtained on 3 April 2003. Construction began in 2004, and the airfield was transformed into a facility for commercial aviation. In that same year, it was renamed Robin Hood Airport Doncaster Sheffield (RHADS). The Airport opened on 28 April 2005.

Current Airport Operations

The existing terminal building at the Airport was designed to accommodate 2.33 million passengers per annum (mppa). Passenger movements in 2006/07 were around 1.1 mppa.

The main scheduled airlines operating from the Airport include Thomson Airways, easyJet, Aer Lingus, Ryanair, Flybe, and Wizz Air. The main charter airlines operating from the Airport include Thomson Airways, Thomas Cook Airways, Onur Air, Pegasus Airlines, Air Europa, Nouvelair and BH Air. The Airport also has Fly Cruise departures to the Caribbean to serve cruises for Fred, Olsen Cruise Lines, Princess Cruises and P&O Cruise Lines, with flights typically operated by Thomsonfly or Monarch.

The destinations available from the Airport in Spring 2010 are summarised in Table A3.1.

Although the Airport has yet to establish scheduled freight services, the Airport has been successful in the ad-hoc market and to date has handled over 60 specialist operations with cargo as diverse as racehorses, pharmaceutical and oil rig equipment. In its first year of operation the Airport also attracted the prestigious Beaujolais Run, operated by British Airways World Cargo.
Table A3.1: Destinations Served by RHADS in 2010

<table>
<thead>
<tr>
<th>Flight Type</th>
<th>Destinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled Flights</td>
<td>- Alicante</td>
</tr>
<tr>
<td></td>
<td>- Amsterdam</td>
</tr>
<tr>
<td></td>
<td>- Barcelona (Girona)</td>
</tr>
<tr>
<td></td>
<td>- Belfast City</td>
</tr>
<tr>
<td></td>
<td>- Dublin</td>
</tr>
<tr>
<td></td>
<td>- Faro</td>
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<tr>
<td></td>
<td>- Gdansk</td>
</tr>
<tr>
<td></td>
<td>- Ibiza</td>
</tr>
<tr>
<td></td>
<td>- Jersey</td>
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<td>- Katowice (Kracow)</td>
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<td>- Wroclaw</td>
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<td>Chartered Flights</td>
<td>- Alicante</td>
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<td>- Arrecife</td>
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<td>- Bodrum</td>
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<td>- Bourgas</td>
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<td>- Corfu</td>
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<td>- Dalaman</td>
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<td>- Heraklion</td>
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<td>Fly Cruise Flights</td>
<td>- Barbados</td>
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<td>- Fort Lauderdale</td>
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<td>- Miami</td>
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<td></td>
<td>- Montego Bay</td>
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<td></td>
<td>- New Orleans</td>
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</tbody>
</table>

The Airport currently caters for executive jet business (allied to business aviation), test and training activity, and specialist military business. Whilst there is the ability to serve the Aero Club sector, this has not been pursued to date to any great extent.

Future Airport Operations

Forecasts indicate that, assuming capacity matches natural growth in demand, the Airport will handle about 6.6 mppa by 2016, rising to 10.8 mppa by 2030. Executive jet business (allied to business aviation), test and training activity, and specialist military business will all see future growth.

Market projections, including those upon which the White Paper is based, indicate global growth in, and increasing importance of, airfreight. With strong marketing on the back of the provision of enhanced cargo facilities, air freight is expected to grow to around 68,000 tonnes per annum (pa) by 2016 and 120,000 tonnes pa by 2030.
Noise

Related SA Objectives:

- **SA Objective 5:** to provide conditions and services engendering good health, including the minimisation / avoidance of dust, noise, light and air pollution; and
- **SA Objective 9:** to provide a transport network that maximises access whilst minimising detrimental impacts.

Noise impacts associated with the Airport can be separated into air noise (noise from aircraft in the air or during landing/take-off) and ground noise (noise from aircraft on the ground, including engine testing, road traffic to and from the Airport, road traffic within the Airport, and construction noise).

The airborne aircraft noise baseline is 2007. In that year:

- no residential properties were within the noise contour representing high community annoyance;
- no residential properties were within the noise contour representing moderate community annoyance; and
- approximately 50 residential properties and 140 people were within the noise contour representing low community annoyance, mostly in Finningley and Blaxton.

The future baseline as a result of predicted growth in demand for flights (based on existing capacity at the Airport as determined by the 1999 Environmental Statement for the Airport’s construction) is that in 2014:

- no residential properties will experience high community annoyance;
- approximately 28 residential properties and 80 people will experience moderate community annoyance; and
- approximately 214 residential properties and 630 people will experience low community annoyance.

The correct forecast future situation as a result of predicted growth in demand for flights based on the proposed increased capacity at the Airport is that in 2016:

- no residential properties will experience high community annoyance;
- approximately 70 residential properties and 190 people will experience moderate community annoyance; and
- approximately 640 residential properties and 1,560 people will experience low community annoyance.

There are areas, such as most of Bawtry and all of Austerfield that are outside of the current and future noise contours, but which are exposed to a number of noticeable noise events from individual aircraft movements. Although noticeable, the cumulative exposure from these events is currently significantly below, and will remain below, the levels recognised in Government guidance set out in PPG24: Noise. However, this does not mean that from time to time individuals will not notice aircraft arriving or departing the Airport. In fact the RHADS Sound Insulation Grants Scheme (SIGS) eligibility criteria take into the account the occurrence of such individual events when they occur at night.
In terms of night-time noise levels, in 2007, approximately 5 residential properties in Blaxton experienced airborne aircraft noise levels that would not avoid sleep disturbance for most people assuming windows remain left open (55 dB $L_{A_{eq,8h}}$, as concluded by the Independent Inspector at the airport Inquiries). The future baseline at existing capacity at the Airport (based on the 1999 Environmental Statement) is that in 2014, approximately 150 dwellings will be exposed to such levels of night-time noise. The now forecast future situation with the proposed increased capacity at the airport is that in 2016 approximately 210 dwellings will be exposed to such levels of night-time noise.

The Airport received less than 900 noise complaints during 2007. During 2006, the rate of complaint was higher despite reduced movements, with just less than 1,000 complaints. Such a reduction is consistent with the acclimatisation of the local population to the new Airport. Generally, individual households did not make repeat complaints, and complainants were all well outside the 57 dB $L_{A_{eq,16h}}$ noise contour, which is regarded by the Government as the onset of significant community annoyance.

For 2006, where a detailed analysis has been undertaken, the majority of noise complaints related to aircraft arriving from the south despite the fact that over 75% of the arrivals are from the north. This is explained by the fact that arrivals from the south fly over parts of Bawtry, while those from the north fly over part of Blaxton, which has a much lower population. This effect was anticipated, and is one of the reasons for the airport operating a preferential runway policy that has resulted in the large majority of arrivals not flying over Bawtry.

In terms of ground noise, the Airport has developed and implemented measures to ensure that ground operations are carried out as quietly as practicable to minimise impact. These include:

- encouraging the minimum use of reverse thrust by aircraft on landing, consistent with safety constraints, particularly at night;
- minimising the use of auxiliary power units; and
- having all engine testing take place in the screened engine test bay (except in emergencies) and prohibition of aircraft testing at night.

There is currently a purpose-built noise bund and barrier (landscaped screen) over 4 m in height, and of considerable length, between the aprons and the housing in Finningley village.

The Airport has implemented a Quiet Operation Policy, which includes a range of measures to minimise and mitigate noise. These range from physical measures such as the SIGS, where grants are made available for secondary and acoustic double glazing for those exposed to the highest levels of airborne aircraft noise; to operational control measures such as the design and regulation of arrival and departure routes, preferential runway usage, limits on the noisiest aircraft types at night, a night noise budget (Quota Count System), and minimisation of the use of reverse thrust on landing.

The success of the operational restrictions is regularly monitored by the Airport’s Noise Monitoring Sub-Committee and reported in an Annual Noise Report, which is submitted to the Airport Consultative Committee and Local Authority for approval. This monitoring has found that the current night-time activity is well within the noise budget.

Access to the Airport is achieved primarily by road traffic. Until recently, all the Airport traffic used either Hayfield Lane or Gatehouse Lane, and then on-site access roads. This meant that the majority of airport traffic followed a path from Hayfield Lane to Hurst Lane, and then onto the A638 Great North Road. In December 2007, this changed with the construction of the AAR. This route leads traffic directly between Hurst Lane and the centre of the Airport site, and so takes the traffic away from Hayfield Green/Auckley. In fact, there is only one isolated property near this road, which is Poplars Farm, and mitigation measures have been included in the construction of the road to reduce noise levels for this property.
Air Quality

Related SA Objectives:

- SA Objective 5: to provide conditions and services engendering good health, including the minimisation/avoidance of dust, noise, light and air pollution; and
- SA Objective 9: to provide a transport network that maximises access whilst minimising detrimental impacts.

Doncaster Metropolitan Borough Council (DMBC) has investigated air quality in its area as part of its local air quality management responsibilities. Four locations near to busy roads have been identified where the annual mean air quality objective for nitrogen dioxide is likely to be exceeded. These have subsequently been declared Air Quality Management Areas (AQMAs). Only AQMA 4 is close to the study area. This AQMA covers 60.6 ha, and is mostly housing next to the M18 between Bawtry Road (A638) and Warning Tongue Lane, approximately 4 km to the west of the Airport.

No exceedences of the air quality objectives are expected at or near to the Airport. Nitrogen dioxide concentrations have been measured near to the Airport on a monthly basis by the Airport in partnership with DMBC since November 2004. Measurements have been made at seven locations, which are shown in Figure A1 on the following page. Sites F4, F6, F7 and F8 are representative of sensitive receptors in the vicinity of the Airport, whereas sites F12 and F13 have been selected to monitor concentrations at Hatfield Moor. Site F14 is approximately 8 km to the north of the Airport and thus unlikely to be affected by aircraft emissions. However, it is representative of receptors in Hatfield Woodhouse that could be affected by traffic travelling to and from the Airport from the north.

The results for these sites, along with those for the continuous monitoring site, are presented in Table A3.2. These results can be compared to the nitrogen dioxide annual mean objective for 2005 of 40 μg/m³. They show that nitrogen dioxide concentrations at all locations in the study area are well below the objective. The highest measured concentration at a site near to the Airport is 24 μg/m³. Measured concentrations at F14 are slightly higher, at 28 μg/m³. However, this is due to its close proximity to the A614, emissions from which are not solely related to the Airport. The measured concentrations at the DMBC sites are higher than those at the Airport monitoring sites. However, these sites are all closer to the road and not representative of relevant exposure.
Figure A3.1: Air Quality Monitoring Locations

(red = the Airport monitoring sites, green = Doncaster MBC monitoring sites)

No PM$_{10}$ monitoring has been carried out in the vicinity of the Airport. DMBC carry out monitoring at four sites in the Borough. Even at these worst-case locations, both the annual mean and 24-hour PM$_{10}$ objectives are being achieved. It is therefore likely that these objectives are also being achieved in the vicinity of the Airport. This is consistent with DMBC's findings.
Table A3.2: Summary of Measured Existing Annual Mean Nitrogen Dioxide Concentrations in 2007

<table>
<thead>
<tr>
<th>Location</th>
<th>Type of Site</th>
<th>Concentration (μg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Measurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport – near control tower</td>
<td>Airport</td>
<td>18</td>
</tr>
<tr>
<td>Airport Diffusion Tube Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F4 Hayfield Lane</td>
<td>Roadside</td>
<td>18</td>
</tr>
<tr>
<td>F6 Gate House Lane</td>
<td>Roadside</td>
<td>20</td>
</tr>
<tr>
<td>F7 Mosham Road</td>
<td>Roadside</td>
<td>19</td>
</tr>
<tr>
<td>F8 Rose Cottage</td>
<td>Roadside</td>
<td>21</td>
</tr>
<tr>
<td>F12 Hatfield Moors</td>
<td>Background</td>
<td>15</td>
</tr>
<tr>
<td>F13 Hollinbridge Lane</td>
<td>Background</td>
<td>17</td>
</tr>
<tr>
<td>F14 Hatfield Woodhouse</td>
<td>Roadside</td>
<td>25</td>
</tr>
<tr>
<td>DMBC Diffusion Tube Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Sheep Bridge Lane</td>
<td>Kerbside</td>
<td>36</td>
</tr>
<tr>
<td>8 Hayfield Lane</td>
<td>Kerbside</td>
<td>26</td>
</tr>
<tr>
<td>9 Hurst Lane</td>
<td>Kerbside</td>
<td>30</td>
</tr>
<tr>
<td>10 Hayfield Lane / Hurst Lane</td>
<td>Roadside</td>
<td>26</td>
</tr>
<tr>
<td><strong>Objective for 2005:</strong></td>
<td></td>
<td>40</td>
</tr>
<tr>
<td><strong>EU Limit Value for 2010:</strong></td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

Background nitrogen dioxide and PM₁₀ concentrations are expected to reduce in future years due to improved control technologies being applied to vehicles and industrial sources. However, it is difficult to predict with any precision what impact these improvements may have on concentrations in 2016 and 2030. Estimated future baseline concentrations in 2016 with 2.3 mppa (if the Master Plan proposals did not go ahead) are estimated to range from 10 to 19μg/m³. These are based on nationally predicted trends, with concentrations steadily reducing until around 2016. Estimates of concentrations in 2030 are even more uncertain, although it is reasonable to assume that they are likely to be similar to 2016 levels. Future baseline levels will thus be even further below the objectives than they are now.

The Airport investigates and records all complaints received. There has been very few complaints received in relation to odour or air quality since the Airport opened in April 2005.

**Light Pollution**

*Related SA Objectives:*

- **SA Objective 5:** to provide conditions and services engendering good health, including the minimisation/avoidance of dust, noise, light and air pollution; and
- **SA Objective 9:** to provide a transport network that maximises access whilst minimising detrimental impacts.

Light pollution, often treated as a component of landscape, is gaining emphasis in environmental research, policy and planning. In April 2006, the Clean Neighbourhoods and Environment Act 2005 came into force, making certain types of light pollution a statutory nuisance under certain conditions. In a Government response to an online petition on light pollution, the Prime Minister’s Office wrote “the night sky over England is more brightly lit than any other European country, with the exception only of the Netherlands. This is certainly reducing our ability to view and enjoy the night sky, and this has implications for astronomers, stargazers and wildlife alike. The wasted energy from unnecessary lighting is also contributing to dangerous climate change” (Prime Minister’s Office, 2007). The Government response goes on to describe how planning encourages for, and aims to improve, ‘good practice’ lighting of minimal light pollution. It is
important to note that, as the Campaign to Protect Rural England (CPRE) writes, the problem with light pollution “isn’t all lighting, just lights that waste energy by beaming some or all of their light upwards” (CPRE, 2003).

There is only limited data on light pollution, the most specific being at the regional level (i.e. Yorkshire and the Humber). These CPRE light pollution maps are accurate to the square kilometre, and categorise light pollution using a five-point scale. This scale is described below:

- 1: Very Dark
- 2: Dark
- 3: Moderate
- 4: Bright
- 5: Saturated

It can be seen from the regional map for Yorkshire and the Humber that the Airport falls within a region of ‘Moderate’ light pollution, just beyond the edge of a ‘Bright’ area (CPRE, 2003).

The map provides regional and sub-regional trends, showing that light pollution has increased in Yorkshire and the Humber between 1993 and 2000. The percentage of ‘Very Dark’ night sky has declined from 19% to 11%, and the percentage ‘Dark’ from 31% to 25%. In South Yorkshire, the proportion of ‘Very Dark’ night sky was a constant 0%, and the proportion of ‘Dark’ night sky dropped from 8% in 1993, to 0% in 2000.

**Greenhouse Gas Emissions**

*Related SA Objectives:*

- **SA Objective 9:** to provide a transport network that maximises access whilst minimising detrimental impacts;
- **SA Objective 16:** to minimise greenhouse gas emissions and support a managed response to the effects of climate change; and
- **SA Objective 18:** to promote the prudent and efficient use of energy and natural resources, with minimal production of waste.

There are currently no available data for the greenhouse gas emissions associated with operations at the Airport. The two sources of emissions most significant and relevant to the Master Plan are those from the aircraft themselves, and those from passenger transport to and from the Airport. The greenhouse effect of high-altitude aviation is known to be greater than that of carbon dioxide alone, but this is not reflected in current data available.

On a national scale, it is estimated that between 1990 and 2005, emissions from international aviation fuel use more than doubled, from about 4.3 million tonnes CO₂ to about 9.6. This is approximately 1.7% of estimated total UK emissions (556 million tonnes in 2005). Defra reports that “between 2004 and 2005, CO₂ emissions from domestic aviation increased by 7.1 per cent whilst international aviation emissions increased by 5.7 per cent due to an increased number of flights” (Defra, 2007).

The White Paper recognises that the contribution to climate change of greenhouse gas emissions from aircraft is a cause for concern. It acknowledges that this is a matter that can only be tackled effectively on an international basis.

In adopting the White Paper proposals, the UK Government is committed to seeking to develop new solutions and stronger actions on the causes of climate change through European and
International bodies. The Government undertook to use international forums to press for new international regimes that can address the issue and, in particular, to ensure that over time, aviation meets its external costs, through measures including a system of emissions trading. European Commission has recently approved the Directive through which aviation will be included in the EU Emissions Trading Scheme – an approach supported by Sustainable Aviation, of which the Airport is a signatory (discussed below).

The Airport Company supports the Government’s approach to climate change and is committed to playing its part in minimising the environmental impact of the airport. To this end the Peel Airports Group, which owns RHADS, Durham Tees Valley Airport and Liverpool John Lennon Airport, is a signatory of *A Strategy Towards Sustainable Development of UK Aviation*. This document was prepared by an alliance of airport operators, aircraft manufacturers and airlines and commits them to a long term plan for limiting aviation’s contribution to climate change and addressing other environmental challenges.

In addition to these commitments, the Airport will continue to take action at the local level to minimise and manage its impact on the environment.

In terms of road transport, there are two major groups to consider: staff at the Airport and passengers using the Airport. The Airport carried out an employee travel survey in 2005, giving the modal split shown in Table A3.3.

*Table A3.3: 2005 Employee Modal Split*

<table>
<thead>
<tr>
<th>Mode</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Driver</td>
<td>82</td>
</tr>
<tr>
<td>Car Passenger</td>
<td>6</td>
</tr>
<tr>
<td>Bus</td>
<td>5</td>
</tr>
<tr>
<td>Walk</td>
<td>3</td>
</tr>
<tr>
<td>Cycle</td>
<td>2</td>
</tr>
<tr>
<td>Taxi</td>
<td>2</td>
</tr>
</tbody>
</table>

Almost 45% of passengers using the airport are from within South Yorkshire, and significant numbers of passengers are also drawn from Humberside, North, East & West Yorkshire, Lincolnshire and Nottinghamshire. Overall, South Yorkshire has a lower rate of road transport emissions than the region, at about 2.5 tonnes per capita (versus 2.7 for the Yorkshire and the Humber region). With an estimated population of 1.3 million in 2004/05, South Yorkshire has a high rate of bus and light rail passenger journeys per population, at over 101 journeys per person, versus over 76 for the region and over 83 for the UK (South Yorkshire LTP figures). Its rate of rail patronage is reported to be 9.16 journeys (to/from/within the county) per person, versus 8.20 for the region and 17.78 for the UK (Office of Rail Regulation figures).

The South Yorkshire Local Transport Plan (LTP) has targets to increase the numbers of journeys on buses, light rail and rail, with prediction of increases to 121,000, 15,000 and 6,400,000 (boardings in South Yorkshire) journeys, respectively, by 2010/11.

**Surface Access**

*Related SA Objectives:*

- **SA Objective 6:** to provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest;

- **SA Objective 9:** to provide a transport network that maximises access whilst minimising detrimental impacts;
• **SA Objective 10:** to promote efficient land use patterns, minimising travel and promoting balanced development; and

• **SA Objective 20:** to promote the efficient use of physical infrastructure.

### Road Access

The Airport is located in close proximity to the motorway network and is connected to it by the A638 and A614, both (in part) Primary Routes. These provide access to within around 3 km of the Airport, with the final connections involving local roads that have been improved as part of the Airport’s planning consent, both for traffic capacity and for pedestrian and cyclist safety.

Also as part of the obligations of the planning consent, further improvements were identified for the A638 to the west, and the A614 to the northeast. The A638 runs between the A1 to the south of Bawtry up to central Doncaster. The A614 connects the Airport with the M180/M18, via the A18, near Hatfield Woodhouse. Improvements to junctions on these routes are agreed, but are only to be implemented when required, on the basis of a permanent monitoring procedure agreed with the local highway authority, DMBC.

In 2008 the Highways Agency completed a major improvement to the Blyth roundabout junction, to the south of the Airport, which connects the A638 route (via the southern section of the A614) with the A1(T) and A1(M). This was part of a comprehensive set of improvements to the A1(T) in the East Midlands and involved grade-separation at Blyth.

In 2006, the Airport received planning consent for an additional access route to serve the terminal and main employment areas within the site. This AAR was opened in December 2007 and provides a dual carriageway, plus segregated pedestrian and cyclist routes, between Hurst Lane and the terminal car park perimeter road.

Hurst Lane connects the Airport with the A638 and is the signposted approach route from:

- the A1 in the south;
- central Doncaster and its radial connections; and
- the M18 to the south of Doncaster.

The results of traffic counter monitoring and future forecasts, undertaken as part of the submitted justification for the AAR, indicate that between 65% and 78% of the traffic demand will benefit from this additional access. The AAR also enables the car-borne air passengers and employees to avoid passing through the Hayfield Green / Auckley Village area.

The AAR is located on the line chosen by DMBC for a proposed road connection linking the Airport directly with the M18 at Junction 3 (FARRRS). This part of a wider regeneration initiative and multi-model access strategy being led by DMBC.

The Airport has funded a comprehensive route signage scheme to direct air passengers along the most appropriate routes. However, the Airport and the Airport Transport Forum (ATF) believe that additional motorway signage, particularly in the vicinity of the M1/M18 interchange near Sheffield, should be introduced. The Airport continues to work with the Highways Agency and lobby for such a scheme through the ATF. As the Airport has now opened and feedback from Airport users can be assessed, further reviews of the signage scheme are being undertaken.
**Traffic Flows**

The following are the calculated daily passenger trips to and from the Airport in 2006:

- Cars (car park): 1,380;
- Cars (pick up / drop off): 2,190;
- Hire cars: 90;
- Taxi / mini cabs: 390;
- TOTAL: 4,050.

Employees generated 580 2-way car trips per day in 2006.

Observation, and the data available from the widespread permanent traffic counter network installed for the Airport’s opening, shows that the traffic forecasts in the planning application broadly reflect what is actually occurring and the forecasts could indeed be high. This, in turn, supports the conclusions of the traffic capacity analyses and the actions defined in the consent to cater for them.

The existing road network can accommodate the full consent and has capacity for more development. Furthermore, the opening of the AAR has reduced the traffic impact in Hayfield Green / Auckley village substantially.

As part of wider regeneration initiatives, DMBC is also currently progressing FARRRS, a major accessibility strategy for the Southern Doncaster area, incorporating a major road scheme, connecting the Airport and the Rossington regeneration areas directly with Junction 3 of the M18. It is supported by the Airport, which has committed a major financial contribution towards it, as conditionally, has Yorkshire Forward.

**Public Transport Access**

The Airport is also close to Doncaster railway station and a Quality Bus Corridor has recently been opened along Bawtry Road, which provides a direct bus link between the Airport and Transport Interchange in Doncaster. Doncaster Railway Station is a key node in the national rail network, being on the intersection of the East Coast Mainline with several local and regional lines. It is therefore of national, regional and local strategic importance. The Doncaster – Lincoln railway line forms the northern boundary of the consented development area.

In Summer 2008, the Airport obtained planning permission for an Airport Railway Station along the Doncaster – Lincoln Line which runs to the north of the Airport. Planning permission was granted for a single platform station on the south side of the line. Direct access is provided to the station from Auckley to the north and there is a direct pedestrian route from the village to the Airport on new dedicated footpath links. The rail bridge includes the provision of ramps for disabled persons’ access.

Both the Airport’s and South Yorkshire Passenger Transport Executive’s (SYPTE) rail consultants have investigated options for potential train services stopping at the Station, and have had discussions with train operators. They have demonstrated that the existing service can stop at the station without detriment to the existing timetable and that there is scope for additional stopping services, for which options and alterations have been identified. Once construction commences, these discussions will be re-opened, with the objective of securing services.

A recently completed South Yorkshire Rail Study by SYPTE puts a train connection between Doncaster and the Airport as a “short term priority”. A potential Barnsley-Doncaster-Airport route is not feasible at the moment, but is a “medium/long term objective”. SYPTE has a priority commitment in its current Rail Study to research improved rail accessibility to the Airport for towns in South Yorkshire, although the conclusions of the study suggest this can only be categorised as “medium/long” term.
The Quality Bus Corridor that now links the Airport with Doncaster Station extends southwards from the town centre to Parrots Corner, where the scheme includes a Park & Ride car park and facilities. This includes bus priority measures along the A638, together with enhanced quality of bus services and Real Time information. This A638 QBC is the main strategic public transport artery serving the Airport, linking as it does with both major rail and bus stations. This ensures both rail-bus and bus-bus integration, with the objective of increasing the frequency of the Airport connection along it, and the gradual greater integration of multi-modal ticketing and price packaging.

In central Doncaster, work was completed on its new Transport Interchange, which introduced a centralised single, bus station adjacent to the railway station as part of a major town centre development. The Airport's branded shuttle bus, the ‘Airport Arrow’ uses stand A1 in the bus station, which is the closest to the railway station and connected via a covered walkway. This stand is also used by the other bus routes serving the Airport. The opening of Doncaster Interchange generated a significant increase in bus usage by Airport passengers, from 3% of all passengers in 2005 to 6% in 2006.

In addition to the Airport Arrow, SYPTE and DMBC secured additional funding from Objective 1 for bus services connecting it directly with other areas of South Yorkshire. These include the X19 (which connects the Airport with Barnsley), which dovetails with the Airport Arrow to give a half hourly service between the town centre (Interchange) and the Airport.

DMBC and SYPTE secured grant funding for two further local bus routes at opening, serving Thorne and Armthorpe to the north and Balby and Conisborough to the west. However, these may not be supported in the longer term, as funding is ‘time-limited’ and passenger numbers may not be sufficient for long-term route sustainability.

The First Bus Group has a service between Doncaster and the Airport on a different route, passing through local settlements off of the A638. Several bus routes pass along the A638, connecting towns in northern Nottinghamshire (Retford, Worksop, Harmworth), and also Bawtry, which is just in South Yorkshire, with Doncaster. These pass Parrots Corner, and the intention is to create a bus-bus interchange for the Airport at the Park and Ride site, connected by the Airport Arrow and X19.

In addition, Nottinghamshire County Council has successfully promoted the introduction of two new bus services that, from the end of May 2007, connect the Airport directly with the main centres of the population in the north of the County. These have been achieved by introducing more buses onto existing Nottinghamshire-Doncaster bus routes that stop at the Airport without detriment to the services.

The AAR (discussed under ‘Road Access’ above) has shortened and quickened the bus services serving the Airport that now divert along it.

**Walking and Cycling**

There is one Public Right of Way within the Master Plan area, and this is a footpath to the west of the Airport that is being diverted as part of the AAR works, and upgraded to a combined foot and cycle path along the section that parallels the AAR. The footpath does not connect any particular communities or facilities, but does link in to other pedestrian and cycle routes in the wider area.

The AAR extends the airport cycleway route developed from Bessacarr. The AAR also includes segregated footways that increase the local pedestrian accessibility for the Airport employees and those in the consented and proposed employment areas.

All of the local highways improvements have included safe pedestrian and cyclist crossing facilities.
Cultural Heritage

Related SA Objectives:

- **SA Objective 6**: to provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest.

The area covered by the Master Plan has several Scheduled Ancient Monuments of national importance on its periphery including Rossington Roman Fort at just under 1 km to the north-west and Roman Potteries close to Rossington Bridge about 1.8 km to the north-west.

There are no Listed buildings within the Master Plan area but some of the surrounding villages do contain Listed buildings, including Finningley, Austerfield, Auckley and Hatfield Woodhouse. The historic market town of Bawtry, with Listed buildings and a Conservation Area also lies to the south. Finningley village, situated to the east of the airport also contains a Conservation Area.

There have been a number of prehistoric finds within the Master Plan area. Mesolithic artefacts associated with, or in close proximity to, rivers and streams appear to be the earliest human activity in the wider landscape (outside the Master Plan area) and suggest exploitation of these resources in this period.

There is some evidence for Neolithic and Bronze Age activity from the recovery of a number of isolated finds, including Neolithic stone axes and Bronze Age metalwork. Growth of the wetland mires in the wider area, as a result of climatic deterioration in the later Bronze Age, may have resulted in the area being less intensively exploited.

By the late Iron Age, a series of dispersed farmsteads had been established situated within a brick field system to the west and south of the Airport. Study of aerial photographs has revealed a regionally important brick field system, which intrudes into the southwest corner of the Airport. The brick field system consists of a series of small enclosures and pottery scatters indicative of settlement. This field system may be more extensive than recorded by aerial photographic analysis and extend further into the Airport.

Stray finds of Iron Age/ Romano-British pottery and jewellery have also been recovered just to the west of the AAR and associated business and residential developments, to west of Hurst Lane.

The Romans exploited this already-established agricultural landscape from the mid-1st century AD, and a scheduled vexillation fort lies approximately 1 km to the northwest of the Master Plan area. Other evidence close to the northern edge of the Master Plan area, close to Mosham Road, includes a number of Roman pottery kilns. These are part of a regional group with other examples located at Cantley, Branton, West Bessacarr, Blaxton and scheduled examples at Rossington Bridge, about 1.5 km to the west.

There is also some evidence to suggest the presence of Roman military activity, with a possible Roman camp located to the west of the western taxiway and the Engine Test Bay, just outside the Master Plan area. It should also be noted that this camp has also been interpreted as a medieval moated site.

The Great North Road lies to the southwest of the Airport. This has Roman origins linking the major Roman military and commercial centres of Doncaster, York and Lincoln.

There is no evidence for early medieval activity within the Master Plan area. However, some of the villages situated close by may have early medieval origins, including the villages of Finningley and Austerfield. Austerfield is mentioned as the place used for the holding of a church synod in 702 AD, whilst both villages are mentioned in the Domesday Book of 1086.

Much of the Master Plan area also lies within a large medieval deer park and remnants of the Park Pale (ditch/bank or hedge) may survive.
During the post-medieval period, the Master Plan area was part of Finningley Hall Park. The land was enclosed for agricultural purposes in 1778. The sites of several post-medieval lodges and other agricultural buildings are known within the Master Plan area.

In the 19th and 20th centuries, agricultural land improvements were made prior to the establishment of the former RAF airfield during the 1930s. The RAF used the Airport throughout World War II and during the Cold War. It continued in use as a military airfield until 1996 when it was decommissioned.

The northern side of the Master Plan area has also been extensively exploited for gravel extraction throughout the 20th century.

The Airport houses numerous buildings surviving from the former RAF airfield dating from the 1930s through to the 1990s, including hangars, offices, various storage buildings and residential accommodation. A survey was undertaken by the Royal Commission on the Historic Monuments and Buildings of England (RCHME). None of the buildings were noted as worthy of being listed.

**Soil / Land Use**

Related SA Objectives:

- SA Objective 10: to promote efficient land use patterns, minimising travel and promoting balanced development;
- SA Objective 11: to reuse previously developed sites and buildings;
- SA Objective 15: to conserve soils and mineral resources including prevention of soil pollution, sterilisation of minerals, and to limit loss of agricultural land; and
- SA Objective 20: to promote the efficient use of physical infrastructure.

Large areas of agricultural land are present in the vicinity of the Airport, including arable and pasture. A land use survey of the Airport environs was undertaken prior to the opening of the Airport, and data stored in a Geographical Information System. This will be updated at least once every five years as part of the safeguarding of the Airport.

Areas of agricultural land are also present within the Master Plan area, to the north and south of the AAR, north of the rail line, and to the southwest and south-east of the Airport. Table A3.4 summarises the current status of particular areas of land where the Master Plan proposes new development. The land areas and Agricultural Land Classification (ALC) Grades vary in accuracy according to currently available data and per the description of this information below. However, the land areas roughly match the Master Plan’s estimate that 201 ha of agricultural land would be affected by such new development.

ALC Grades 1, 2 and 3a are considered ‘best and most versatile’ and afford greater protection than Grades 4, 5 and 6.

ALC information available on Magic (www.magic.gov.uk) dates back to Ministry of Agriculture, Fisheries and Food (MAFF) surveys conducted in 1977, before ALC Grade 3 was split into Subgrades 3a and 3b. This shows that all agricultural areas within the Master Plan area is of Grade 3.

MAFF surveyed the west of the Airfield in August 1990 and found only 4% of agricultural land in ALC Subgrade 3a (‘best and most versatile’). It is assumed that this proportion would be similar for areas north and east of the Airport. The principal reason for the restricted quality of the agricultural land is considered to be ‘droughtiness’. Background information for the study area indicates a reasonably uniform soil type, characterised by being somewhat sandy, variably stony over gravel, easy to work, but dry.
A detailed ALC survey of the land proposed for the golf course, business park Phase 3 and residential development Phases 2/3 was undertaken in November 2007. The results of the survey are that the majority of the agricultural land within the survey area is predominantly lower-quality land in Subgrade 3b, with small pockets of higher-quality land in Subgrade 3a.

Table A3.4: Agricultural Soil Baseline Relevant to the Master Plan

<table>
<thead>
<tr>
<th>Broad Location</th>
<th>Proposed Use</th>
<th>Area (ha)</th>
<th>Current Use</th>
<th>ALC Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>North of the AAR</td>
<td>Housing</td>
<td>18.6</td>
<td>Agriculture</td>
<td>Predominantly 3b</td>
</tr>
<tr>
<td>South of the AAR</td>
<td>Business park</td>
<td>c.10</td>
<td>Agriculture</td>
<td>Predominantly 3b</td>
</tr>
<tr>
<td>North of the rail line</td>
<td>Train station</td>
<td>c.0.5</td>
<td>Agriculture</td>
<td>Predominantly 3b</td>
</tr>
<tr>
<td>Southwest of the Airport</td>
<td>Golf course</td>
<td>94</td>
<td>Predominantly arable</td>
<td>13ha Grade 3a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>81ha Grade 3b</td>
</tr>
<tr>
<td>Southwest of the Airport</td>
<td>Cargo facility</td>
<td>c.40</td>
<td>Arable</td>
<td>Predominantly 3b</td>
</tr>
<tr>
<td>South-east of the Airport</td>
<td>BGA Centre</td>
<td>c.40</td>
<td>Set-aside</td>
<td>Predominantly 3b</td>
</tr>
</tbody>
</table>

Landscape

Related SA Objectives:

- **SA Objective 6**: to provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest; and

- **SA Objective 13**: to protect and enhance landscape character qualities.

The Airport lies on gently undulating low-lying land adjacent to Finningley village to the south-east of Doncaster. To the north, the Airport is bounded by the Doncaster to Lincoln railway line and Walker’s Nursery, which immediately adjoins the B1396 Mosham Road between Blaxton and Auckley villages. Beyond this, extending northwards and to the east, is open farmland punctuated by woodland, disused workings and scattered small settlements. The landscape character has ‘urban fringe’ characteristics, being situated in a transitional area between Doncaster and the rural landscape to the east and south.

To the north-east, the Airport is bounded by Finningley village which extends southwards towards a partly restored quarry that accommodates a skip repair yard, a waste disposal site, a motorsport area and former sand and gravel pits used previously as farmland. Beyond the quarry, an area of woodland and plantation extends to the A614 Bawtry Road, beyond which open farmland extends eastwards.

To the south, the Airport is bounded by High Common Lane. A golf course is situated to the south-east, Austerfield and Bawtry villages lie to the south, and Bawtry Forest is located on a low ridge approximately 2 km to the south-west.

To the west, the Airport is bounded by a mixture of relatively large woodlands and plantations (Marr Flats Plantation, Hurst Wood, Hag Plantation and Finningley Big Wood), sand and gravel pits and agricultural farmland. The A638 Great North Road and Hurst Lane link other villages, including Rossington to the south-east of Doncaster (which lies approximately 5 km to the north-west of the Airport).
Other notable features include Hayfield Green / Auckley immediately to the northwest of the Airport, other housing areas within Hayfield Village (presently being developed by private house builder/developers) and isolated individual farmhouses and associated buildings, which occur across the wider area.

Major areas of mature woodland and plantation enclose the site to the east and west. To the west of the Airport, a block of woodland (Marr Flats Plantation, Hurst Wood and Finningley Big Wood), together with mature field boundary vegetation and hedgerows, enclose the western half of the Airport and provide a densely vegetated backdrop and skyline when viewed from the east and from within the site. To the east of the Airport, a block of mixed coniferous plantation and deciduous woodland (Spen Close Plantation, Great Wood and Crow Wood) extends from the Higgins Works south-east to the A614 Bawtry Road. From the A638 and Hurst Lane looking west, smaller copses and woodland are scattered between adjoining fields, giving the impression of a well-wooded landscape to those passing through the area, largely screening the Airport from view. A planted bund is located on the north-east boundary of the Airport incorporating acoustic fencing and tree planting.

Surrounding fields are bounded by mature hawthorn hedgerows (up to 4-5 m high) with occasional field and hedgerow trees. Hawthorn hedgerows along roads are more formally maintained (up to 3-4 m high).

A number of the disused pit areas and former agricultural fields to the east have reverted to scrub whilst hedgerows have become overgrown. Land currently in agricultural use is mainly given over to pig farming and the cultivation of cereal crops and vegetables.

The villages of Finningley to the east, Blaxton to the north and Hayfield to the west contain trees along their road corridors and within public spaces and private gardens. Many residential properties adjacent to the Airport have well-established gardens that include mature hedges.

Finningley is a historic village, with the village core designated as a Conservation Area containing a number of Listed buildings. More recent residential development is located in the eastern part of the settlement although other new development has occurred on other infill sites.

Hayfield Village and Green comprise two areas of former married quarters associated with former RAF airbase. To the south, dwellings are typified by large houses set in mature grounds. To the north, the dwellings are typified by semidetached and terraced properties with small gardens.

Blaxton is primarily located to the east of the A614 comprising a range of new build and older properties. There are no protective designations associated with the village.

A number of public rights of way exist in the immediate area surrounding the Airport including Station Road, Finningley, Church Lane, Finningley and Hurst Lane to Hurst Wood.

Biodiversity and Geodiversity

Related SA Objectives:

- SA Objective 6: to provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest;

- SA Objective 14: to protect and enhance biodiversity including biological resources, and internationally, nationally, regionally and locally designated sites of nature conservation and geological importance; and

- SA Objective 15: to conserve soils and mineral resources including prevention of soil pollution, sterilisation of minerals, and to limit loss of agricultural land.
The Airport is located on the western edge of the Humberhead Levels, a flat, low-lying landscape, with much of the land used for agriculture since the second half of the 20th century. The original heath and woodland has been lost to intensive agriculture and more recently gravel extraction.

A proportion of the remaining woodlands and wetlands in the immediate vicinity of the Airport (including Finningley Big Wood, Hurst Wood, Hurst Plantation and Tinker’s Pond) have been locally designated as SSIs. Slightly further afield are a number of nationally designated SSSIs including Hatfield Moors and Thorne, Crowle and Goole Moors both areas of peat moorland. Together, these SSSIs form the Humberhead Peatlands National Nature Reserve and Special Area of Conservation (SAC). The River Idle Washlands and the Potteric Carr Nature Reserve are further still from the Airport, yet provide valuable mixed habitat environments.

The Airport site itself comprises a range of habitat types around the built developments and hardstanding areas. A suite of ecological surveys were undertaken for the Environmental Statement in 1999 and have been updated as redevelopment of the Airport has progressed, including:

- Phase 1 habitat survey to identify plant communities and habitats following the standard methodology (JNCC, 2003);
- assessment of habitats for their suitability to support protected species;
- National Vegetation Classification surveys for selected habitats following Rodwell et seq. (1991 – 2000);
- assessment of hedges as required through the Hedgerow Regulations, 1997;
- amphibian surveys on waterbodies following the standard guidelines (English Nature, 2001);
- aquatic invertebrate surveys of waterbodies;
- survey for badgers following standard methodology (Harris, Cresswell and Jefferies, 1989);
- survey for water voles in appropriate watercourses (Strachan, 2000);
- surveys for bats (to identify foraging habitat and roosting habitat (buildings) following standard methodologies (Mitchell-Jones and McLeish, 2004);
- surveys on agricultural areas for over wintering birds (between November 1998 and March 1999); and
- surveys for reptiles following the guidelines within Gent and Gibson (1998).

To the east and west of First Avenue, existing buildings are surrounded by amenity grassland with occasional trees.

Marr Flats Plantation is primarily a broad-leaved plantation. Some areas support mature trees, but the majority of the woodland comprises young stands. In the northern part of the woodland, pedunculate oak and alder (Alnus glutinosa) are dominant. Silver birch (Betula pendula), hazel (Corylus avellana) and sycamore (Acer pseudoplatanus) are widely scattered throughout the woodland. The southern section of the woodland supports a mixed canopy including alder, sycamore, beech (Fagus sylvatica) and larch (Larix decidua) with a scattered elder (Sambucus nigra) understorey. Scattered areas of scrub are present throughout the woodland, although large areas of the woodland have no understorey due to the even and closed canopy of the woodland.

To the north and south of the AAR, to the west of the landscape buffer area, are agricultural fields, which to the north are bounded and separated by a combination of defunct hedges and hedgerows with semi-mature trees. The hedgerows are generally species poor, although provide habitat suitable for breeding and foraging birds. A small woodland copse with a mixture of tree and scrub species, mainly birch (Betula spp.) bramble and bracken is also located within this area.
To the north and south of the AAR between the landscape buffer area and the terminal car park, habitats comprise species-poor improved grassland with occasional trees and scrub and areas of hardstanding.

The landscape buffer area itself includes areas of damp acid grassland, some of which was translocated out of the business development area during the redevelopment of the Airport. This provides valuable ecological habitat for reptiles and invertebrates. Two ponds were also created in this area to provide habitat suitable for amphibians.

The area to the south of the terminal car park is currently mainly hardstanding with no ecological value.

Grass in the airside areas around the runway is managed under the Long Grass Policy to ensure a uniform sward that is not attractive to nesting birds, to minimise the risk of bird strike. Bird control measures, including patrols by bird scarers, are also in operation in this area.

To the south-east of the runway, a small area outside the Long Grass Policy comprises unmanaged semi-improved grassland. Neutral grassland and native sapling trees are present to the east of the runway, including the bund area that was planted when the Airport was redeveloped.

Land to the south-west of the runway, north of High Common Lane, surrounds Hag Plantation, where a new golf course will be created. Currently, this is an area of predominantly arable fields bounded by species poor hedges. There are blocks of mature broad-leaved secondary woodland and scattered ephemeral water bodies. Finally there are two large permanent ponds possibly left from sand/gravel extraction.

**Water Management**

*Related SA Objectives:*

- **SA Objective 17:** to minimise flood risk; and
- **SA Objective 19:** to conserve the quality and quantity of groundwater, ponds, lakes and water courses.

**The Hydrogeology of the Airport and Surrounding Area**

The Airport area lies on a set of complex Surficial deposits, which overlie Permo-Triassic and Carboniferous Deposits, with a range of aquifers underlying the site. The shallow deposits are classified as a minor aquifer. The Triassic Sherwood Sandstone Group (SSG), however, is a major aquifer of strategic regional importance. The Permian Upper Magnesian Limestone, which underlies the SSG, also forms a major aquifer. Throughout the Finningley area, this major aquifer lies below shallow Surficial deposits or thin soil cover that is classified as highly vulnerable to pollution.

Within a 3.5 km radius of the Airport, there are five licensed public water supply sources abstracting from a total of eleven boreholes from the major aquifer.

**Surface Water and General Drainage**

The Airport lies within an area of very gentle topographic relief on the western flank of the drainage basin of the Lower River Trent. The site lies at an elevation approximately 10 m Above Ordnance Datum (AOD), and straddles the catchment divide of two sub-catchment areas, the River Torne and the River Idle, both of which eventually discharge north-east into the Lower River Trent. To drain agricultural land in the vicinity of the Airport, there is an extensive pumped land drainage system operated by two Internal Drainage Boards (IDBs), Finningley and Hatfield Chase. Various drains, ditches and ponds have been identified within or close to the site boundary, as follows:
1. Mosham Drain which has its origin at the north end of the site, at the combined outfall of both the Anglian Water STW, the on-site WWTW and the balancing lagoon to the north of the runway. It falls in a general north-easterly direction before being pumped into the River Torne;

2. Nursery Cottage Drain runs from a penstock chamber and a balancing lagoon half way down the eastern runway to Deeps Drain. This joins the Snow Sewer Pump Drain before being pumped into the Warping Drain at Park Drain Pumping Station;

3. A small drainage ditch/stream runs along the west boundary of the site between woodland and rough grassland. This flows northwards, eventually reaching the River Torne to the south-west of Auckley;

4. Rakes Dale runs from a culvert beneath the southern tip of the runway and is pumped either north into the Nursery Cottage Drain and the River Torne or south via the Rugged Carr/ New Drain system to the River Idle, depending on demand. The culvert is fed by Old Parks Drain to the west of the site;

5. Several soakaways located in the north-west part of the site taking uncontaminated landside surface water;

6. Mitigation and enhancement ponds within the Airport; and

7. Several ponds located to the south of the outside of the Master Plan area.

Surface water drainage from the Airport leaves the site either by soakaway or by consented discharges via attenuation lagoons and the onsite WWTW into drains that mostly fall under the auspices of the two IDBs, and is subsequently pumped into the River Torne, some 2 to 3 km to the north, or the River Idle some 3 km to the south. The River Torne currently has a moderate ecological quality with regards to the WFD which is not predicted to change before 2015, and the River Idle currently has a poor ecological quality with regards to the WFD which is not predicted to change before 2015. No Environment Agency water quality data are available for the minor IDB drains near the Airport.

The two main watercourses that receive surface water drainage from the Airport are Mosham Drain and Nursery Cottage Drain. These have been monitored for biological quality before, during and after construction of the Airport to monitor any effects. The fauna within Mosham Drain indicate that it is lightly polluted and disturbed by regular dredging. In comparison, the fauna within Nursery Cottage Drain is very poor and despite the additional drainage from the Airport, it still runs dry for considerable periods, probably due to influent conditions pertaining to the underlying permeable soil conditions.

At present, the drainage system within the Airport site is divided into two separate systems – landside and airside. The landside drainage system manages runoff from surfaces associated with the passenger terminal, car parks and approach roads. Airside drainage deals with runoff from surfaces associated with runways, aprons, taxiways, the control tower, the fire station, the engine testing and fire training areas, helicopter pad and other operational areas. There are currently five points of consented discharge from the Airport into drains managed by the IDB, although only three are currently in use. Where possible infiltration rates will be maintained as close to greenfield rates as possible, to ensure the aquifer is recharged.

A proportion of the Master Plan area falls within the designated Source Protection Zones (SPZs) of Finningley and Austerfield public water supply boreholes.

**Foul Water**

Foul water drainage from the terminal and associated buildings is treated at the onsite WWTW, which is designed to accept domestic sewage from the terminal and other units within the Airport, aircraft toilet waste and contaminated runway and apron runoff that may contain de-icants. A two-stage biological treatment process (secondary and tertiary) has been implemented in the
treatment plant in order to achieve the high degree of treatment required, allowing the effluent to discharge to Mosham Drain.

**Flood Risk**

The Master Plan area is located within Flood Zone 1 of the Environment Agency Flood Zone Maps. Land within Flood Zone 1 is land where the chance of flooding each year from rivers is 0.1% (1 in 1000) or less – 'little or no flood risk', as defined in the current planning guidance Planning Policy Statement 25 (PPS25). Nevertheless, any predicted changes in sea levels and the potential requirement for flood defence measures will be considered at the detailed planning stage of each development. The low-lying ground associated with Nursery Cottage Drain, east of the A614, is shown to be at risk from coastal flooding with a 1 in 200 year return period, but this area lies at least 500 m away from the site, generally coincident with ground elevations of 5 m AOD or less (compared to 10 m AOD on the Airport site). The Strategic Flood Risk Assessment for Doncaster MBC states that priority in the allocation of permitting sites for development should be given in ascending order from Flood Zone 1 to Flood Zone 3.

**Waste Management**

*Related SA Objectives:*

- SA Objective 18: to promote the prudent and efficient use of energy and natural resources, with minimal production of waste.

The Airport has developed a Waste Management Strategy, which is implemented by the Airport and encouraged to be adopted by members of the Airport Community (including retailers, caterers, freight forwarders and associated businesses). The Strategy is based on the Government’s three principles of waste management – the waste management hierarchy (reduce, re-use, recycle, dispose), best practicable environmental option (BPEO) and the proximity principle.

Waste is generated from a number of sources at the Airport and, as the Airport grows, the volume of waste generated within the Master Plan area is expected to increase proportionally. However, the Airport’s aim is to decouple the growth in the amount of waste generated from the future growth in passenger numbers and to ensure, where practical, that waste growth rates are lower than passenger growth rates. The long-term aim is to reduce the volume of waste per passenger by 10% five years after the Airport’s first anniversary of opening.

The Airport implements a number of policies to reduce waste including:

- ordering procedures to ensure waste reduction is considered in the supply of goods and services;
- annual audits of suppliers’ performance including environmental indicators and accordance with the Waste Strategy; and
- a regular Waste Forum of representatives from the Airport Community to review waste management costs and performance.

To promote re-use, the Airport has committed to setting up a waste exchange scheme with a website or intranet for the Airport Community.

The Airport promotes the segregation of wastes at-source. Recycling initiatives will be actively supported and encouraged, promoting the initiatives across the wider Airport Community via the Waste Forum and through regular staff training and refresher courses. Segregation bins are currently available for glass, cardboard, office paper, green waste and general waste.
Economy and Employment

Related SA Objectives:

- **SA Objective 1:** to provide good quality employment opportunities available to all;
- **SA Objective 2:** to provide conditions to enable business success, economic growth and investment;
- **SA Objective 3:** to provide education and training opportunities, building the skills and capacity of the population; and
- **SA Objective 20:** to promote the efficient use of physical infrastructure.

**Doncaster**

The Airport is located directly within Doncaster Metropolitan Borough. In May 2007, 18.7% of the working age population of Doncaster was claiming a key benefit, as compared to 14.9% for the Yorkshire and Humber region and 14.2% for the UK. In 2006, the average gross weekly pay was £399.3, below the regional (£414.7) and UK (£449.6) averages. The economically active proportion of the population of Doncaster is 75.5% (2006), as compared to 78.1% for the region and 78.6% for the UK. Unemployment in Doncaster is relatively high, at 6.1% in 2006 (as compared to 5.5% regionally and 5.3% for Great Britain).

The RSS for Yorkshire and the Humber (2008), reports that Doncaster supplied 111,540 jobs in 2006, and that it has the potential to provide an additional 1,550 per year. This prediction is broken down by land use: 60 through office use, 90 through retail and leisure, 780 through industry, 70 through storage and distribution, 210 through health and education, a loss of 30 per year in other public services, and 360 through other areas including primary / utilities and some construction, transport, communications and other services.

Data from 2004 (as reported in *Progress in South Yorkshire 2006*) shows that the Airport is located directly adjacent to a worklessness ‘hotspot’.

The number of VAT registered businesses in Doncaster in 2007 was 5,045. Expressed as a rate, this is 17.4 per one-thousand population, which is significantly lower than the regional (23.2) and England (27.5) averages. There was a decrease between 2005 and 2006, and a slight increase between 2006 and 2007, indicating general fluctuation, but not enough data to establish a long-term trend. VAT registrations in 2006 were 9.8% of total stock, higher than the regional and national averages. However, VAT deregistrations (7.7%) were also higher than regional and national averages.

Doncaster shows lower levels of skills qualification than the regional and UK averages, with 35.7% of the working age population with National Vocational Qualification (NVQ) level 3 (e.g. 2 or more A levels) or better, as compared to 41.4% regionally and 45.3% in the UK.

On a typical busy day, the Airport currently generates over 4,600 vehicles. Approximately 65% of the Airport-related traffic currently travels on either the M18 or the A638. Also, the traffic forecasts for consented employment and residential development are 10,300 vehicles per day (two-way totals).

In terms of efficient use of road infrastructure, the nearest comparators available are for the M18 between Rotherham and Goole, and the M180 / A180 between the M18 and Grimsby. The DfT reports that the average delay on the 10% worst journeys along this section of the M18 is 2.3 minutes per 10 vehicle miles, which is rated as ‘moderate traffic’, and is much lower than the average for all strategic roads, which is 3.7. The average delay on the 10% worst journeys along the M180 / A180 is 1.05 minutes per 10 vehicle miles, which is rated as ‘moderate traffic’.
Main Impact Area – Doncaster, Rotherham, Sheffield, Barnsley, North Lincolnshire and Bassetlaw

These six districts, where the large majority of staff employed by the Airport live, are defined as the Main Impact Area of the Airport. The area around the Airport has generally seen positive growth in employment in recent years. Overall, growth in the Main Impact Area has increased by 11.3% or 67,500 between 1998 and 2005. As set out in Table A3.5, this rate of growth is slightly above the average for the Yorkshire and Humber region (10.4%) or Great Britain (8.8%) over the same period. Employment growth in Doncaster, where the majority of employees live, has been more modest at 8.1% or 8,500 jobs.

However, employment growth comes after decades of economic weakness and associated decline in many parts of the main impact area, including Doncaster. As a result of poor economic performance throughout the 1970s, 1980s and early parts of the 1990s, much of it linked to the decline of mining, steel and other traditional heavy industries, the area around the Airport still faces some fundamental challenges. In particular:

- deeply embedded levels of economic inactivity and high levels of unemployment;
- acute deprivation in several locations, with the benefits of employment growth not felt by all communities equally; and
- weak underlying economic performance, relative to the UK.

Worklessness remains a significant issue in the area around the Airport. Employment, as a percentage of working age population, is significantly lower than nationally. Only 70.3% of the working age population of the six districts that make up the Main Impact Area of the Airport are in employment, compared to 74.3% for Great Britain and 73.7% for Yorkshire and Humber. Doncaster has an employment rate of 70.7% - equivalent to 6,500 fewer people in employment than if employment rates in the district matched the national average. Closing the gap between the employment rate in the Main Impact Area and the national average would mean bringing an additional 30,000 residents into work. High worklessness results in a relatively high level of unemployment (6.9% of working age population are seeking work in the Main Impact Area, compared to 5.5% for Great Britain) as well as high rates of benefit dependency.

Table A3.5: Employment in the RHADS Main Impact Area and Comparators, 1998 and 2005

<table>
<thead>
<tr>
<th>Area</th>
<th>Employment (000s)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1998</td>
<td>2005</td>
</tr>
<tr>
<td>Main Impact Area</td>
<td>597.4</td>
<td>664.9</td>
</tr>
<tr>
<td>Doncaster</td>
<td>105.7</td>
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<td>Rotherham</td>
<td>81.1</td>
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<td>Sheffield</td>
<td>224.0</td>
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<td>Barnsley</td>
<td>71.8</td>
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<td>North Lincolnshire</td>
<td>69.5</td>
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<tr>
<td>Bassetlaw</td>
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<td>South Yorkshire</td>
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<td>Northern East Midlands</td>
<td>251.0</td>
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<tr>
<td>Yorkshire and the Humber</td>
<td>2,050</td>
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<tr>
<td>East Midlands</td>
<td>1,752</td>
<td>1,858</td>
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<tr>
<td>Great Britain</td>
<td>24,355</td>
<td>26,503</td>
</tr>
</tbody>
</table>

Source: Annual Business Inquiry
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Employment at the Airport

The Airport’s latest survey of on-site employment identifies around 1,100 jobs at RHADS (both in the Airport and a range of other companies based on-site), or around 1,000 on a full-time equivalent basis. These were employed in the 76 different firms based at the Airport in January 2007.

There are 715 jobs located within the Airport itself or adjacent employment premises. In addition to this, Directions Finningley, a leading airport and aviation academy, provides training for personnel across the Airport and aviation sector. Directions Finningley estimates that it has assisted over 600 people obtain employment in the aviation sector. There is some seasonal variation in employment at the Airport, as passenger throughput in January falls to almost half the peak summer level, which means that this is a low-end estimate of employment.

There are around 355 people employed at the Robin Hood Airport Business Park. There has been significant development on this Business Park of late. Employment is likely to increase significantly in the near future as these developments are taken up.

In addition to the direct employment effects, there are wider consequences for the economy of activity at the Airport via the creation of indirect jobs (jobs generated in supply chains by purchases made by businesses located at the Airport) and induced jobs (jobs supported either by the spending of those individuals employed at the Airport or through the supply chain). These two types of ‘multiplier effect’ are often merged into a single category, to give what is known as a combined indirect/induced employment multiplier. A conservative estimate of the combined multiplier for the main impact area around Robin Hood Airport would be 0.3 (i.e. for every 100 jobs at Robin Hood Airport, there are likely to be a further 30 supported elsewhere in the Main Impact Area defined below). The 1,070 jobs at the Airport and Airport Business Park can be expected to rise by a further 320 once these effects have been taken into account. This gives a total employment impact of 1,390 jobs related to the Airport.

A high proportion of staff employed by the Airport is drawn from relatively deprived communities within the Main Impact Area. A comprehensive survey of employees at the Airport in January 2007 found that 54% of employees were from Doncaster and 84% were from the local authority districts of Doncaster, North Lincolnshire, Bassetlaw, Rotherham, Sheffield and Barnsley. There is a large proportion of workers living in areas within the 40% most deprived Super Output Areas (SOAs) in England and significant numbers in areas within the most deprived 20%.

Social Inclusion, Human Health and Safety/Security

Related SA Objectives:

- SA Objective 4: to provide safety and security for people and property;
- SA Objective 5: to provide conditions and services engendering good health, including the minimisation/avoidance of dust, noise, light and air pollution;
- SA Objective 6: to provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest;
- SA Objective 7: to promote vibrant communities that participate in decision making;
- SA Objective 8: to meet local needs locally; and
- SA Objective 12: to provide quality housing that is available to everyone.

The population of Doncaster Metropolitan Borough was 286,866 and had declined by 1.4% since 1981 in contrast with the national and regional picture, which has displayed steady growth since the 1990s. However, this was a significantly smaller fall than that for the rest of South Yorkshire, and mid-year estimates for the years 2002-2004 have shown a steady if modest level of growth;
the 2007 estimate was 290,900, and the 2029 estimate stands at 305,400. The RSS places a requirement for Doncaster to increase the amount of housing by 855 dwellings per year up to 2008, and 1230 dwellings per year between 2008 and 2026.

The Index of Multiple Deprivation is a calculation and ranking of areas using seven domains that relate to income deprivation, employment deprivation, health deprivation and disability, education, skills and training deprivation, barriers to housing and services, living environment deprivation and crime. Doncaster is ranked the 40th most deprived local authority in England, with the 32nd greatest extent of deprivation based on proportion of its population living in the most deprived areas.

The rate of violent criminal offences in Doncaster was significantly higher than the England average at 34.1 per 1,000 population in 2005/06 (as compared with 19.7 for England), and the rate for other types of crime was typically higher than the England average, with theft of vehicles at 6.1 (versus 4.0 for England) and theft from vehicles at 12.0 (versus 9.5), indicating a very unhealthy baseline. The rate of robbery was below the England average. While most rates have been on the rise since 2001, theft from a vehicle has declined.

The rate of casualties from road accidents is lower in Doncaster than the national average, at 0.52 (versus 0.64), and this association is preserved in the sub-categories of casualty type.

As measured in the 2001 census, the following statistics summarise the way people feel about their health in Doncaster:

- 64.54% ‘good’
- 23.50% ‘fairly good’
- 11.96% ‘not good’
- 22.93% have a limiting long-term illness.

This compares with 68.76%, 22.21%, 9.03% and 17.93%, respectively, for England, indicating that a lower proportion of people in Doncaster feel ‘good’ than the national average, but a slightly higher proportion ‘fairly good’ or ‘not good’. Doncaster reports a significantly higher proportion of people with a limiting long-term illness.

The RHADS Health Impact Group was established under the terms of the Section 106 Agreement as an independent group, chaired by the Director of Public Health on behalf of the Doncaster Primary Care Trusts. The aim of the Health Impact Group is to take health-related issues forward, so as to maximise the benefits and reduce the negative impacts of the operation of the Airport.

To achieve these aims, the following work-streams have been identified by the Group:

- review the performance of the Airport in relation to the health of the local population;
- advise the Airport on best practice in the field of health impacts;
- introduce systems for monitor the health of local populations in relation to the impact of the Airport;
- review and report health status to appropriate bodies and the general public as deemed necessary;
- review emergency planning arrangements; and
- review Airport Health arrangements.
The Group is the first of its kind in the country and will continue to work with the Airport Consultative Committee (ACC), to which it reports and the Airport Company in order to ensure that the Airport contributes positively to the health and well being of local people.

Within the Master Plan area, a number of recreational and leisure opportunities to the north of Hayfield Lane are currently being progressed by the Airport Company, including a recreation area with playing fields and courts, a sports hall, community hall and squash courts. In the vicinity of the Airport south of Hayfield Lane, both east and west of Hurst Lane, there are two SSIs accessible from the road and PROW networks: Hurst Wood and Hurst Plantation. As part of the AAR, the footpath to Hurst Wood has been extended to run around the entire site up to Finningley Big Wood SSI.

The key shops in Hayfield Green / Auckley include a small Nisa supermarket, post office / news agent and fish-and-chips shop along Hayfield Lane, as well as a small Spar grocer/convenience store within the Airport terminal building. Other types of shops are generally only accessible by car or bus, such as in Doncaster to the west, Epworth to the northeast, or the historic village of Bawtry to the south. A railway leading into Doncaster passes through Hayfield Green / Auckley, and planning permission has been granted for a new Airport Railway Station.

As would be expected in a metropolitan area, there is a higher density of households in Doncaster than the average for the region or nation, the 2001 census showing about 2.1 households per hectare (versus 1.3 for Yorkshire and the Humber, and 1.6 for England). Of the 118,699 households in Doncaster in 2001, 30.66% had no car or van, 44.82% had only one car or van, 20.35% had two, 3.27% had three and 0.90% had four or more. The proportion with no car or van is significantly higher than the England average, but similar to the regional average.

The Transform South Yorkshire Housing Aspirations Survey (2004) reports that Doncaster has one of the highest proportions of residents that perceive that their neighbourhood has having deteriorated over the past three years.

The South Yorkshire Partnership report *Progress in South Yorkshire 2006* references a national study that indicates that public participation in local community activities is lowest (sub-regionally) in Doncaster (7.1% in 2004). This compares with the South Yorkshire average of 8.5%, the Yorkshire and Humber regional average of 9.9%, and the England average of 11.7%.

As another indication of the degree of public involvement in Doncaster, voter turnout at the general election in 1997 was 63.6%. By the 2001 general election, this had fallen to 51.3%, and was about 52% in the 2005 general election. In all years, this has been below the England average (71%, 59% and 61% respectively), and was below the Yorkshire and Humber regional average in 2005 (59%).

Of the 407 local authorities in the UK, Doncaster has the 47th lowest average house price in 2007, at £131,206 (versus a regional average of £157,916 and the UK average of £210,578). It follows that Doncaster has a relatively low house price-to-income ratio, at 3.11 in 2005, compared to 3.59 for the region and 4.20 for England. However, the Transform South Yorkshire Housing Aspirations Survey (2004) reports a high proportion of Council-rented accommodation in Doncaster (48%), the highest reported in the South Yorkshire sub-region.
Appendix 4
SA Objectives and Indicators
### Sources of Headline Indicators as numbered in the Table:

1. UK Government Sustainable Strategy Indicators (www.sustainable-development.gov.uk)
2. Yorkshire and Humber Regional Priority Indicators (www.sustainable-development.gov.uk)
3. DTI Business Competitiveness Indicators for Yorkshire and the Humber (www.dtistats.net)

### Economic

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<tr>
<td>4. To provide safety and security for people and property</td>
<td>Community Cohesion and Involvement (1) Community Safety (1) Crime (2)</td>
<td>Design-out crime. Provide appropriate security systems and lighting</td>
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<td>5. To provide conditions and services engendering good health, including the minimisation/avoidance of dust, noise, light and air pollution</td>
<td>Health and Social Wellbeing (1) Environment (1) Healthy Life Expectancy (2) Health Inequality (2) Local Environment Quality (2)</td>
<td>Encourage walking and cycling Promote the development of local recreational facilities Monitor and control noise and emissions to air</td>
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<td>6. To provide culture, heritage, leisure and recreation opportunities that are available to all, with access to the natural environment and sites of nature conservation interest</td>
<td>People and Place (1) Culture and Leisure (1) Health and Social Wellbeing (1) Mobility (walking/cycling/public transport) (2)</td>
<td>Protect archaeology and built heritage Provide recreational and open spaces Encourage walking and cycling</td>
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<td>7. To promote vibrant communities that participate in decision making</td>
<td>Active Community Participation (2)</td>
<td>Encourage community involvement in the creation of the Master Plan</td>
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<td>8. To meet local needs locally</td>
<td>Community Cohesion and Involvement (1) Transport and Access (1) Mobility (walking/cycling/public transport) (2)</td>
<td>Promote choice in transport Encourage cycling and walking Site new jobs/facilities in the most accessible areas</td>
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<td>9. To provide a transport network that minimises access whilst mitigating the impacts of transport</td>
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<tr>
<td>10. To promote efficient land use</td>
<td>Develop green space and encourage walking and cycling</td>
<td>Minimise distances travelled to other airports and promote the use of previously developed land and buildings</td>
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<td>11. To reuse previously developed land and buildings</td>
<td>Minimise the use of previously developed land and buildings</td>
<td>Mix of land uses present in development and promoting balanced patterns, minimising travel</td>
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<td>12. To provide quality housing that is available to everyone</td>
<td>Measure of quality building design used</td>
<td>Mix of land uses present in development and promoting balanced patterns, minimising travel</td>
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| 13. To protect and enhance landscape character qualities                      | Local environment quality (1, 2)          | Provide quality building design. Avoid and then minimise any potential adverse effects to landscape character, employing high-quality landscaping | Measures of quality building design used  
Implementation of the Landscape and Habitat Management Plan |
| 14. To protect and enhance biodiversity, including biological resources, and internationally, nationally, regionally and locally designated sites of nature conservation and geological importance | Environment (1)  
People and Place (1)  
Culture and Leisure (1) | Afford protection to endangered species. Protect and enhance diversity of habitats within the Master Plan area  
Mitigate detrimental effects on ecological and geological features |  
Maintenance and creation of semi-natural habitat  
Contribution to meeting Local Biodiversity Action Plan (BAP) objectives  
Tree planting and access to woodland  
Implementation of Landscape and Habitat Management Plan |
| 15. To conserve soils and mineral resources including prevention of soil pollution, sterilisation of minerals, and to limit loss of agricultural land | Environment (1)                            | Reduce amount of contaminated land  
Reduce runoff containing pollutants. |  
Land use change  
Use of previously developed land  
Remediation of contamination land |
| 16. To minimise greenhouse gas emissions and support a managed response to the effects of climate change | Carbon Dioxide Emissions by End User (2)  | Minimise greenhouse gas emissions. Mitigate the effects of air pollution | Application of new technologies  
Implementation of ‘Last Call’ scheme (carbon sequestration scheme with South Yorkshire Forest)  
Use of microturbines |
| 17. To minimise flood risk                                                   | Environment (1)                            | Promote sustainable drainage. Minimise flood risk                   | Application of Sustainable Drainage Systems (SUDS)  
Flooding events in the vicinity of the Airport |
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<td><strong>18. To promote the prudent and efficient use of energy and natural resources, with minimal production of waste</strong></td>
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<td><strong>19. To conserve the quality and quantity of groundwater, ponds, lakes and water courses</strong></td>
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<td><strong>Use of SUDS (Surface Water Management Plan) and Water Resource Use and Pollution Control Monitoring Results</strong></td>
<td><strong>Energy consumption by buildings and the amount of derelict, degraded and unused land</strong></td>
<td><strong>Surface water and groundwater monitoring results</strong></td>
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**SA Objective**

**Headline Indicator**

**What Should The Master Plan Do?**

- Encourage renewable energy use
- Promote the waste hierarchy (reduce, re-use, recycle and dispose)
- Reduce hazardous waste
- Reduce the number of vacant buildings and the amount of derelict, degraded and unused land
- Promote the improvement of existing physical infrastructure
- Use of previously developed land and buildings

**Objective**

- To promote the efficient use of physical infrastructure
- To promote the efficient use of physical infrastructure
- To conserve the quality and quantity of groundwater, ponds, lakes and water courses

**Indicator**

- Environment (1)
- Carbon Dioxide Emissions by End User (2)
- Household Waste (2)
- Housing (1)
- River Quality (2)
- Environmental (1)
- Waste (2)

**Provisional Detailed Indicator**

- Use of SUDS (Surface Water Management Plan) and Water Resource Use and Pollution Control Monitoring Results
- Energy consumption by buildings and the amount of derelict, degraded and unused land
- Encourage renewable energy use
- Promote the improvement of existing physical infrastructure
- Use of previously developed land and buildings
- Promote the competence of existing physical infrastructure

**SA Final Appendix 4-5 September 2010**
Appendix 5
Appraisal of the Advantages and Disadvantages of the Options for Airport Growth
### Options to 2015

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<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>CP1 – South of Existing Car Parking</td>
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<tr>
<td>CP2 – South of Airport Boundary</td>
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**Future**

* Economic uses of the land around the airport into the long-term
  - Although not affecting the business park, could affect other economic uses of the land, including business park (1, 2)
  - Increases emissions (6, 9, 16)
  - Increases access to the terminal and the efficiency of land use
  - Which decreases car parking from the terminal, leading to additional driving
  - A smaller project than multi-storey parking, providing less employment opportunities in construction and knock-on economic benefits (1, 2)
  - Less land use efficiency could lead to conflicts with other potential demands on the land (6, 9, 16)
  - Landscaping and biodiversity impacts on the land (6, 9, 16)
  - Smaller and cheaper to construct, minimizing cost and success of the airport, with knock-on benefits (2)
  - Simpler and cheaper to construct, minimizing cost and success of the airport, with knock-on benefits (2)
| | | |

**Car Parking and Internal Circulation**

* As for CP1, plus below
  - As for CP1
  - As for CP1, plus below
  - Isolates car parking from the terminal, leading to additional driving
  - Less land use efficiency could lead to conflicts with other potential demands on the land (6, 9, 16)
  - Landscaping and biodiversity impacts on the land (6, 9, 16)
  - Smaller and cheaper to construct, minimizing cost and success of the airport, with knock-on benefits (2)
  - Simpler and cheaper to construct, minimizing cost and success of the airport, with knock-on benefits (2)
<table>
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<tr>
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</tr>
</thead>
</table>
| CP3 – Multi-Storey Car Park At Existing Parking Site | • Would meet most of the demand for additional car parking, and thus contribute towards the business success of the Airport, with knock-on benefits (2)  
• A larger project than surface parking, providing more employment opportunities in construction, and knock-on economic benefits (1, 2)  
• Consolidates car parking, leading to minimal additional driving distance/time, which:  
  - provides relatively direct access to the terminal and makes most efficient use of land and infrastructure (9, 10, 20)  
  - minimises emissions (5, 9, 16)  
• Greater land use efficiency than surface parking, maintaining the current demand for land, and thus avoiding the potential for adverse impacts on the land (e.g. agriculture), landscape and biodiversity (6, 13, 14, 15)  
• Greater land use efficiency avoids conflicts with other potential economic uses of the land (1, 2)  
• Maintains the current amount of impermeable surface / ‘hard standing’ (i.e. paving), which avoids any potential increase in surface runoff and associated flood risk (17, 19) | • More complex and expensive to construct (2)  
• Requires the loss of use of parts of the existing car park during construction (2) |
| CP4 – South of Access Road    | • As for CP1, plus below  
• Provides a more short-term solution to car parking provision, helping to sustain or increase the short-term profitability of the Airport and associated businesses (2) | • As for CP1, plus below  
• Fails to provide a significant proportion of the demand for additional car parking, requiring additional investment into and consideration of options (2) |
<p>| CP5 – Multi-Storey at Heyford House | • As for CP3, although not including the first advantage (meeting most of the demand), as it would only provide an additional 200 spaces | • As for CP3 |</p>
<table>
<thead>
<tr>
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<th>Disadvantages</th>
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</table>
| CP6 – Off-site Parking | • Would be constructed and managed by other parties, with no cost to the Airport Company and thus potentially increasing the short-term profitability of Airport growth (2)  
• May provide more employment through additional businesses managing car parks (1)  
• Isolates car parking from the terminal, leading to additional driving distance/time (including as a result of a potential bus facility), which:  
  - reduces access to the terminal and the efficiency of land use  
  - increases emissions (5, 16)  
  - increases material inputs (18)  
- remoteness from the ASAS Control Tower facility (4)  
- difficulty of attaining adequate views of aprons, which could:  
  - reduce the amount of impermeable surface / ‘hard standing’ (i.e. paving), which could increase the extent of potential water quality and flood risk impacts as a result of rain water runoff without mitigation (17, 19)  
- not in accordance with the ASAS Control Tower facility (17, 19) | • As a landside facility, which makes the operation easier  
• Allows for wider access when required, but can operate as a landside facility, which makes the operation easier  
• Neighbours the ASAS Control Tower facility (4)  
• The option’s streamlining operation (7, 9)  
• Articulation of increased efficiency of RFFS access (2)  
• Potential additional construction impacts on flights and access (5, 9, 16)  
- remoteness from the ASAS Control Tower facility (4)  
- difficulty of attaining adequate views of aprons, which could:  
  - reduce the amount of impermeable surface / ‘hard standing’ (i.e. paving, which could increase the extent of potential water quality and flood risk impacts as a result of rain water runoff without mitigation (17, 19)  
- not in accordance with the ASAS Control Tower facility (17, 19) |
| CT1 – Within Terminal Extension | • Avoids potential additional construction impacts on flights and access (5, 9)  
• Cost-effective, which in turn implies:  
  - better medium-term profitability of the Airport (2)  
  - lower construction material inputs, and thus conservation of non-renewable resources (18)  
• Neighbours the RFFS facility (4)  
• Difficulty of providing the necessary security and the separation (4)  
• Difficulty of providing the necessary security and the separation (4) | • Potential additional construction impacts, rather than just a single construction process, rather than (i.e. a landside facility)  
• Remoteness from the ASAS Control Tower facility (4)  
• Neighbours the RFFS facility (4)  
• Difficulty of attaining adequate views of aprons, which could:  
  - reduce the amount of impermeable surface / ‘hard standing’ (i.e. paving, which could increase the extent of potential water quality and flood risk impacts as a result of rain water runoff without mitigation (17, 19)  
- not in accordance with the ASAS Control Tower facility (17, 19) |
| CT2 – South of Terminal Extension | • Avoids potential additional construction impacts on flights and access (5, 9)  
• Difficulty of attaining adequate views of aprons, which could:  
  - reduce the amount of impermeable surface / ‘hard standing’ (i.e. paving, which could increase the extent of potential water quality and flood risk impacts as a result of rain water runoff without mitigation (17, 19)  
- not in accordance with the ASAS Control Tower facility (17, 19) | • Potential additional construction impacts, rather than just a single construction process, rather than (i.e. a landside facility)  
• Remoteness from the ASAS Control Tower facility (4)  
• Neighbours the RFFS facility (4)  
• Difficulty of attaining adequate views of aprons, which could:  
  - reduce the amount of impermeable surface / ‘hard standing’ (i.e. paving, which could increase the extent of potential water quality and flood risk impacts as a result of rain water runoff without mitigation (17, 19)  
- not in accordance with the ASAS Control Tower facility (17, 19) |
| CT3 – South of Existing Tower | • Avoids potential additional construction impacts on flights and access (5, 9)  
• Neighbours the RFFS facility (4)  
• Allows for wide access to the aprons, leading to additional driving distance/time (including as a result of a potential bus facility), which:  
  - reduces access to the terminal and the efficiency of land use  
  - increases emissions (5, 16)  
  - increases material inputs (18)  
- remoteness from the ASAS Control Tower facility (4)  
- difficulty of attaining adequate views of aprons, which could:  
  - reduce the amount of impermeable surface / ‘hard standing’ (i.e. paving, which could increase the extent of potential water quality and flood risk impacts as a result of rain water runoff without mitigation (17, 19)  
- not in accordance with the ASAS Control Tower facility (17, 19) | • Potential additional construction impacts, rather than just a single construction process, rather than (i.e. a landside facility)  
• Remoteness from the ASAS Control Tower facility (4)  
• Neighbours the RFFS facility (4)  
• Difficulty of attaining adequate views of aprons, which could:  
  - reduce the amount of impermeable surface / ‘hard standing’ (i.e. paving, which could increase the extent of potential water quality and flood risk impacts as a result of rain water runoff without mitigation (17, 19)  
- not in accordance with the ASAS Control Tower facility (17, 19) |
## Option | Advantages | Disadvantages
--- | --- | ---
**Cargo Handling Facilities**

**C1 – North of Terminal**  
- Has the capacity to serve the forecasted 68,000 tonnes of cargo pa in the short and medium term (i.e. up to 2016)  
- Reuses previously developed land and thus conserves soils and does not have potential to increase flood risk (11, 15, 17)  
- No potential for adverse landscape or biodiversity impacts (13, 14)  
  - Eventually, passenger apron will make these areas fragmented, leading to potential stagnation of this area for cargo handling and associated:  
    - loss of employment (1)  
    - harm to the success of associated businesses (2)  
    - lack of efficiency of infrastructure usage on this part of the Airport (10, 20)

**C2 – South-east of Airport**  
- Can contribute significantly to the forecasted long-term cargo demand, which in turn:  
  - supports employment opportunities (including as part of the additional construction) (1)  
  - supports long-term business success (2)  
  - supports the efficiency of infrastructure usage on this side of the Airport (10, 20)  
- Distant from Finningley village and residential area, with potential adverse effects more easily mitigated (5, 9, 13)  
  - Would require upgrading of the old parallel taxiway, new apron areas, a cargo terminal, and parking, which in turn:  
    - would require loss of agricultural land (11, 15)  
    - conflicts with greenfield use of land, potentially making use of the neighbouring Public Right of Way less attractive, and generally conflicting with protection of the landscape and biodiversity (6, 13 14)  
    - expands the area potentially affected by airport activities, such as indirectly through light, noise and air pollution (5, 9)

**C3 – South-west of Airport**  
- As for C2, plus the below  
- HGVs can enter via the existing AAR, minimising scope for development impacts (13, 14, 15, 17, 20)  
- Development will be screened by a large area of woodland planting (5, 9, 13)  
  - As for C2 but less impact on landscape due to woodland planting and no indirect impacts of Public Right of Way

**General and Business Aviation Facilities**

**BGA1 – Conversion of Heyford House**  
- Reuses previously developed land and thus conserves soils and does not have potential to increase flood risk (11, 15, 17)  
- No potential for adverse landscape or biodiversity impacts (13, 14)  
- Eventually, passenger apron will make these areas fragmented, leading to potential stagnation of this area as BGA and associated:  
  - loss of employment (1)  
  - harm to the success of associated businesses (2)  
  - lack of efficiency of infrastructure usage on this part of the Airport (10, 20)

**BGA2 – Relocation to the East Side**  
- Provides a more long-term solution to accommodation of GBA usage, which in turn:  
  - supports employment opportunities (including as part of the additional construction) (1)  
  - supports long-term business success (2)  
  - supports the efficiency of infrastructure usage on this side of the Airport (10, 20)  
  - Would require upgrading of the old parallel taxiway, new apron areas, new hangars, offices and the need to relocate of the new radar, which in turn:  
    - expands the area potentially affected by airport activities, such as indirectly through light, noise and air pollution (5, 9)  
    - is adjacent to Finningley village and residential area (5, 9, 13)  
    - loss of radar could be irreconcilable (1, 2, 3, 4, 10, 20)
### Option 1: Relocation to South-East Corner

#### Advantages
- Provides a more long-term solution to GBA usage issues.
- Supports airport growth and economic development.
- Supports the development of a new business park.
- Supports the development of a new hotel.
- Supports the development of new retail and leisure facilities.
- Supports the development of new residential and commercial areas.
- Supports the development of new transport and infrastructure projects.
- Provides a more efficient use of land and resources.

#### Disadvantages
- Requires additional land for development.
- Requires additional infrastructure investment.
- Requires additional environmental impact assessment.
- Requires additional social and economic impact assessment.
- Requires additional consultation with stakeholders.
- Requires additional consultation with planning authorities.
- Requires additional consultation with local communities.
- Requires additional consultation with local businesses.

### Option 2: Hotel Development

#### Hotel Development

#### H1 - Opposite the Terminal

- Minimises additional lighting of roads and car parks.
- Very easily accessible by foot to the airport.
- Conflicts with passenger parking.

#### H2 - East of the Existing Ramada Encore Hotel

- Minimises additional lighting of roads and car parks.
- Very easily accessible by foot to the airport.
- Conflict with potentially more efficient use of land for airport facilities.

#### H3 - West of Existing Car Park

- Minimises additional lighting of roads and car parks.
- Very easily accessible by foot to the airport.
- Conflicts with the Business Park using land already permitted for business park parking.

#### H4 - South of Existing Car Park

- Minimises additional lighting of roads and car parks.
- Very easily accessible by foot to the airport.
- Potential conflict with passenger parking.

### Option 3: General and Business Aviation Facilities (continued)

#### BGA 3

- Provides a more long-term solution to accommodation of GBA facilities.
- Supports the development of a new business park.
- Supports the development of a new hotel.
- Supports the development of new retail and leisure facilities.
- Supports the development of new residential and commercial areas.
- Supports the development of new transport and infrastructure projects.
- Provides a more efficient use of land and resources.

#### Challenges
- Requires additional land for development.
- Requires additional infrastructure investment.
- Requires additional environmental impact assessment.
- Requires additional social and economic impact assessment.
- Requires additional consultation with stakeholders.
- Requires additional consultation with planning authorities.
- Requires additional consultation with local communities.
- Requires additional consultation with local businesses.

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<tbody>
<tr>
<td><strong>Hotel (continued)</strong></td>
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</table>
| H5 – as part of a golf course development to the west of the Airport | • A much larger, different type of facility, providing a high-quality hotel with more employment and local economic opportunities (1, 2)  
• Would provide conference facilities, potentially useful for training and regular business (2, 3)  
• Would provide leisure facilities and a golf course (5, 6)  
• Accessible by foot to the Airport (9, 16, 18, 20) | • Although it will appeal to a wide range of customers, where used in association with the Airport, it is more isolated from the terminal than the other hotel options (9, 16, 18)  
• Uses some greenfield land of current agricultural use, with associated biodiversity and soil impacts (6, 11, 14, 15)  
• Potential effects to buried archaeology – Iron Age, Roman (6) |
| **Business Parks**            |                                                                                                                                                                                                           |                                                                                                                                                                                                           |
| TP1 – North of the AAR       | • Access available via the AAR including via public transport (9, 10, 20)                                                                                                                                 | • Potential impacts (e.g. visual, noise, lighting) on neighbouring residential area at Hayfield Green/Auckley, and Marr Flats public open space (4, 5, 13)  
• Uses greenfield land of current agricultural use, with associated biodiversity and soil impacts (6, 11, 14, 15) |
| TP2 – South of the AAR       | • Access available via the AAR including via public transport (9, 10, 20)  
• “Natural” (existing) landscape buffer with existing and planned residential development to the north (12, 13)  
• No potential conflicting land use issues, including visual amenity from Marr Flats public open space (4, 5, 9, 10, 20) | • Uses greenfield land of current agricultural use, with associated biodiversity and soil impacts (6, 11, 14, 15)  
• Potential landscape impacts on one residential property (Poplars Farm) to the west (12, 13)  
• Loss of small area of Hurst Wood SSI (although mitigation will be provided) (6, 13, 14) |
| **Residential Development**  |                                                                                                                                                                                                           |                                                                                                                                                                                                           |
| R1 – North of the AAR        | • Screened from Airport and AAR by existing woodland and planting (5, 6, 13)  
• Good foot/cycle path connections into Hayfield Green/ Auckley, community facilities and Airport (and associated business parks) (9, 10, 16, 18, 20)  
• New community facility to be provided as part of the residential development similarly well connected (5, 6, 8)  
• Good connectivity encourages community cohesion (7) | • Uses greenfield land of current agricultural use, with associated biodiversity and soil impacts (6, 11, 14, 15)                                                                                                                                                           |
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<tbody>
<tr>
<td>R2 - South of AAR</td>
<td>None identified</td>
<td>Loss of small area of Hurst Wood SSSI (although mitigation will be provided)</td>
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<td>Uses greenfield land of current agricultural use, with associated biodiversity and soil impacts</td>
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<td>Increased community cohesion (perhaps physically and associatively) and thus more attractive to drive</td>
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<td>Though safe crossing exists, walking/cycling into the village and to community facilities severed by the AAR</td>
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<td>None identified</td>
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Job No. | Date | Details | Prepared by | Reviewed by | Approved by
---|---|---|---|---|---
D110424 | Oct 2010 | Final | Laura Morrish | Kirsty Cobb | Mary Holt

Cover Photographs

- Urban sculpture at the passenger terminal entrance
- Pathway created as part of Airport landscaping scheme
- A common lizard resident at the Airport
- Aerial view of Airport

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