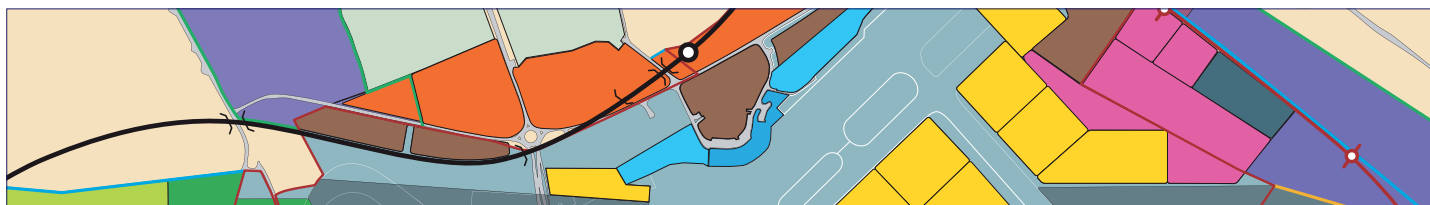


# Leeds Bradford International Airport Masterplan 2005-2016





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INTER

# Foreword



I am pleased to introduce this Masterplan that sets out the stages of development for Leeds Bradford Airport over the next 10 years and outlines general proposals for the period from 2016 to 2030.

In December 2003, The Government's Aviation White Paper "The Future of Air Transport" set out a policy framework for the development of UK airport capacity over the next 30 years, and required airports to produce Masterplans for the future.

This Masterplan looks at the development of the Airport and its forecast growth in passengers until 2030. We have identified preferred options for development and given careful consideration to environmental and economic impacts of the proposals. We believe that local people should have a say about the development of their local airport, and have knowledge of what is being planned on their doorstep. What is equally important is that we should avoid surprises for local people and to that end we consider that development at the Airport would continue as in past years to be gradual and incremental. Clearly, public consultation on major airport projects would be a key feature of the management of future Airport development.

Following two consultation periods that included a series of public exhibitions, we have reviewed all the comments made by Stakeholders and amended the document having taken all views into consideration. A report outlining the comments received will be posted on the Airport website: [www.lbia.co.uk](http://www.lbia.co.uk) for the 2006 summer period.

It is gratifying that so many people and organisations took the time to comment and assist us in formulating the development proposals for an airport that is able to meet the needs of an increasingly important Leeds City Region, its business community and the travelling public.

I accept that there are important environmental issues to consider as well as the well being of local residents. In this regard, the Airport will continue to play its part in the 'Sustainable Aviation' initiative to reduce the effects of climate change as a result of aviation activities, and further develop a dialogue with local communities to ensure all issues that could affect local people are considered and discussed. People can continue to be involved and make their views and suggestions known to the Airport if they wish.

The Masterplan is a strategic planning document for the Airport that will be reviewed approximately every 5 years. It is designed as an indicator of how the Airport might develop in future years and to inform people in a much more open way of the issues far earlier than in the past. The Masterplan has no effect on the normal planning processes that will continue to apply.

It has been encouraging to see that following the consultation process, people and Stakeholders in the main are supportive of our proposals, whilst reminding us of the need to take account of the environment. We accept our environmental responsibilities and aim to find a way forward that meets the aspirations of the majority of people and provides a balance of all the issues, whilst addressing key environmental matters.

On behalf of the Board of Directors, I would like to thank everyone who responded for their helpful contribution to the Masterplan process.

A handwritten signature in black ink, appearing to read 'Stewart Golton'.

**Councillor Stewart Golton,**  
Chair of the Board of Directors,  
Leeds Bradford International Airport



**“ Airport operators are recommended to maintain a masterplan document detailing development proposals ”**

The Aviation White Paper, “The Future of Air Transport”



# 1.0 Introduction

## 1.1 Background



Leeds Bradford International Airport (LBIA) is the fifteenth largest airport in the UK in terms of passenger throughput, with a total of 2.6 million passengers in 2005, and is the largest within the Yorkshire and Humber Region. LBIA is also one of the fastest growing airports within the UK, having experienced a 71% increase in passenger throughput in the three years since 2002. The rapid growth over the past three years has been largely due to the addition of new 'no frills' airline services operating out of the Airport. Additional terminal facilities have been constructed to accommodate the growth.

The Airport plays a vital role in the economy of the Region, being important in delivering sustainable industry, commerce and tourism, and in providing both direct and indirect employment. The recent growth trends are indicative of the strong market for air transport that exists within the Region, and also of the Airport's economic and social importance.

The Aviation White Paper, "The Future of Air Transport" (Department for Transport, December 2003) prescribes a strategic policy framework for the development of airport capacity over the next 30 years and is designed to guide decisions on future planning applications. Although general Government policy is to minimise the need for airport development in new locations by making the most of existing airport capacity, the White Paper seeks to encourage growth at regional airports through new runway capacity, more terminal and support facilities and improved taxiway systems.

It is specifically stated within the White Paper that additional terminal capacity would be required and a runway extension (of approximately 300 metres) may also be desirable at LBIA, recognising its regional importance, but setting the Airport's development plans within the Government's wider objectives for sustainable communities.

The White Paper also states that:

*"Airport operators are recommended to maintain a masterplan document detailing development proposals. ... We will expect airport operators to produce masterplans or, where appropriate, update existing masterplans to take account of the conclusions on future development set out in this White Paper."*

In 1985 the Airport Joint Committee approved a Strategy Plan, the framework of which had been developed as a result of the 1978 Government White Paper on Airports Policy and the 1980 Planning Permission for the runway extension scheme.

Subsequently in 1993, the Airport Board approved a revised Strategy Plan for LBIA up to the year 2003. This was used to inform the Leeds Revised Draft Unitary Development Plan of 1993, which, following a lengthy Public Inquiry, was adopted in 2001.

The Adopted UDP includes a policy for provision to be made for continued growth of the Airport subject to improvements to transport infrastructure. This policy is continued into the current UDP Review.

This document therefore represents an up-to-date Masterplan for LBIA, building upon the various elements of the Strategy Plan. It specifically responds to the policy context within the White Paper.

The Masterplan covers the period from 2005 to 2016, and some longer term proposals up to 2030, and is intended to be entirely complementary to the supporting regulatory policy documents for the Region.

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As recognised in the White Paper, it is evident that LBIA will require some significant, but incremental, development over the years addressed in this Masterplan, if it is to adequately cater for the passenger throughput predicted to 2016 and beyond. The Airport Company intends to undertake such developments in a sustainable way, to minimise the effects on the environment and to ensure that local people are consulted and involved as appropriate to alleviate as far as possible any concerns over the development of the Airport.







## 1.2 Objectives of the Masterplan

The aims and objectives of this Masterplan are to:

- Establish a flexible and sustainable planning framework within which the development of operational facilities, airport infrastructure and other services can be matched to growth in passengers and air transport movements.
- Enhance the visual setting of the Airport to minimise the impact of development on the surrounding areas.
- Encourage the use of the quietest aircraft and to minimise the effects of noise disturbance on the community surrounding the Airport.
- Develop commercial support facilities to maintain a satisfactory level of financial performance of the Airport.
- Encourage, where appropriate, further investment in the development of the Airport.
- Renew and extend cargo handling facilities commensurate with identified needs.
- Develop, implement and monitor an appropriate Surface Access Strategy for the Airport which improves access and maximises the potential for increasing the journeys made to the Airport by public transport.
- Minimise atmospheric and overall surface pollution.
- Minimise the effects of climate change

It is recognised that the proposals embodied in this Masterplan are dependent upon projections of future air traffic, which in turn are closely related to regional and national economic growth, to changes in technology and to national airport policy. As assumptions have to be made about all the factors which influence future growth, the Airport Company considers it prudent to adopt a flexible approach to future development to enable it to react promptly to any unforeseen changes.

## 1.3 Structure of the Masterplan

The supplementary report to the White Paper “Guidance on the Preparation of Airport Masterplans” specifies what information the Department for Transport wishes to see included within revised Masterplan documents.

Accordingly, this document includes the following sections:

### 2.0 Leeds Bradford International Airport

A brief history of the Airport and its role within the Yorkshire and Humber Region.

### 3.0 Forecasts

Future year forecasts for passengers, aircraft movements, freight and employees.

### 4.0 Infrastructure Proposals

Future infrastructure proposals across a range of the Airport’s activities and airfield operational boundary.

### 5.0 Surface Access

A summary of the revised surface access proposals.

### 6.0 Mitigation of Impacts

How we will minimise the impacts of our future development proposals.

### 7.0 Consultation

A summary of the extensive consultation process that has accompanied the preparation of this Masterplan.

### 8.0 Development Strategy 2016 - 2030

Some of our longer term development proposals, based on the Aviation White Paper.

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G-A ALN

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Yorkshire Aeroplane Club aircraft outside the club hangars in 1935



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# 2.0 Leeds Bradford International Airport

## 2.1 Brief History



Terminal building in 1947 with the 'crows nest' shed forming the control tower on top of the still-camouflaged hangar

LBIA was originally Yeadon Aerodrome, which began operating in October 1931 with club flying and training flights being predominant activities. At this time it was on 60 acres of grassland along the Bradford - Harrogate Road.

By 1935 the Airport had been extended by a further 35 acres and scheduled air services commenced to Newcastle and Edinburgh with North Eastern Airways.

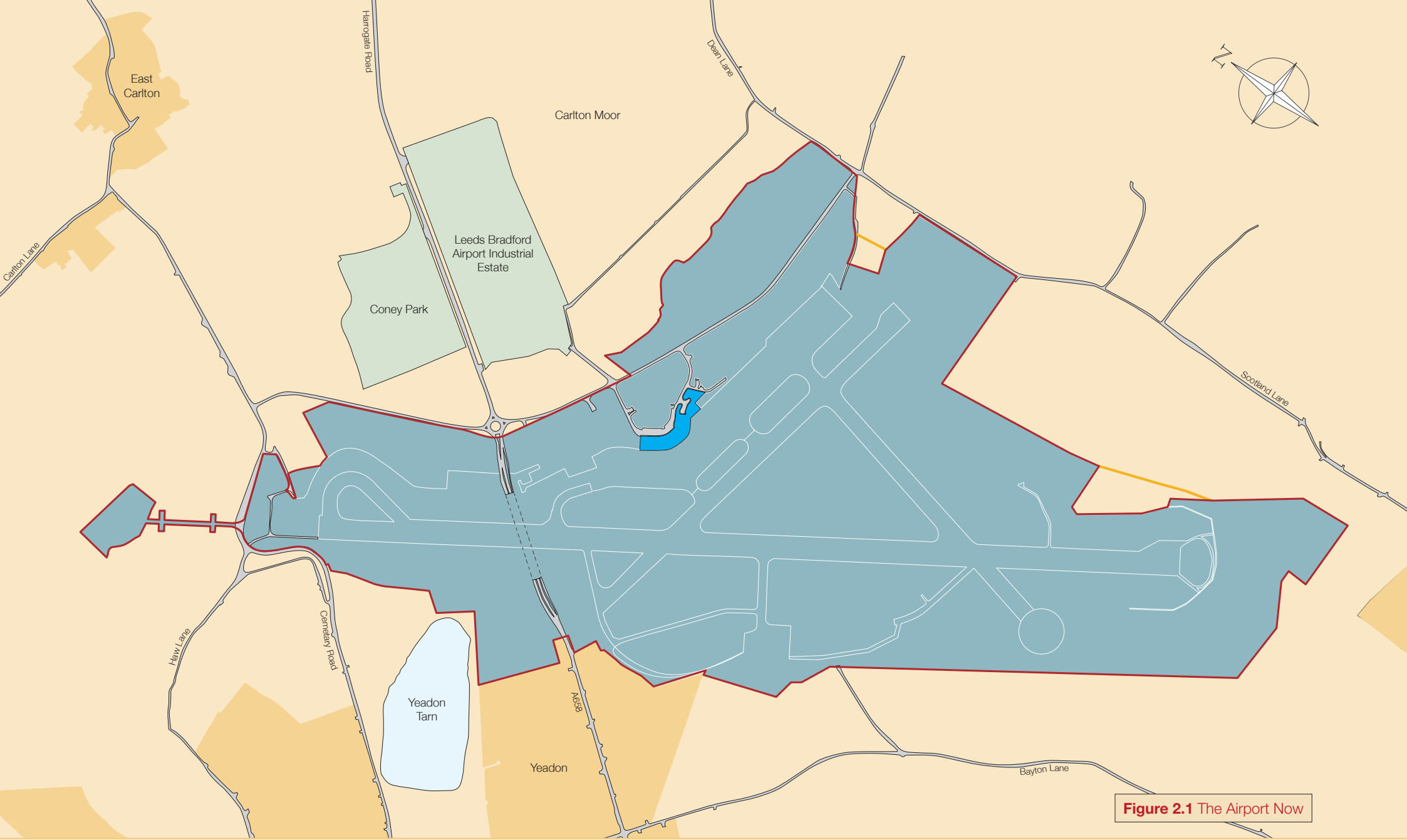


Aerial view of the runway extension under construction in 1984

Other significant milestones in the Airport's development have included:

- New terminal building (since demolished) built in 1936.
- Construction of two runways, taxiways and flight test hangars to accommodate Avro Anson, Lancaster, York and Lincoln test flights during the Second World War.
- Installation of permanent airfield lighting and extension to passenger facilities and apron areas in 1959, when the airfield was taken over by the Leeds Bradford Joint Airport Committee.
- New runway in 1965, and a new passenger terminal in 1968.
- Runway extension in 1984, the completion of which was marked by two pleasure flights organised by The Yorkshire Post, who chartered a British Airways Boeing 747 Jumbo Jet for the day, calling it "The Spirit of Yorkshire".
- Terminal extension opened in 1985.
- Conversion to a limited company under the provisions of the Airports Act 1986 and the five Metropolitan Councils of West Yorkshire became the shareholders of the new company.
- In 1996, the Airport served one million passengers, and by 2003, over two million passengers passed through the Airport. Since 1996 the terminal building has trebled in size with new and improved arrivals and departure facilities, lounges and two new air bridges.
- Construction work has been completed in recent years on a series of schemes to refurbish and extend the landside catering and restaurant facilities, new aircraft maintenance facilities and business and executive aviation centre on the south side of the Airport, and an expansion to the passenger terminal.





**Figure 2.1** The Airport Now

- Key**
- Urban Areas
  - Existing Terminal Building
  - Current Operational Area
  - Proposed UDP Amendment

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## 2.2 The Airport Now



The existing airfield operational boundary is shown in Figure 2.1 opposite. This boundary is recognised within the Leeds Unitary Development Plan (UDP).

The current Leeds UDP Review, covering the period 2006 to 2016, is well advanced, the Inspector's Report was issued in November 2005 and the Review is due for completion by summer 2006. The Local Development Framework (LDF) is the new generation of Development Plan which will eventually replace the UDP, but this will be a gradual process. Since the Airport Masterplan is not a statutory plan, its proposals will need to be incorporated into the LDF process.

The Airport sits at the heart of the Leeds City Region as shown in Figure 2.2 overleaf. Over 89% of passengers originate in the Leeds City Region. The Airport provides short and medium haul services to mainland Europe and within the UK that serve the business and leisure markets. Charter holiday services are also provided all year round.

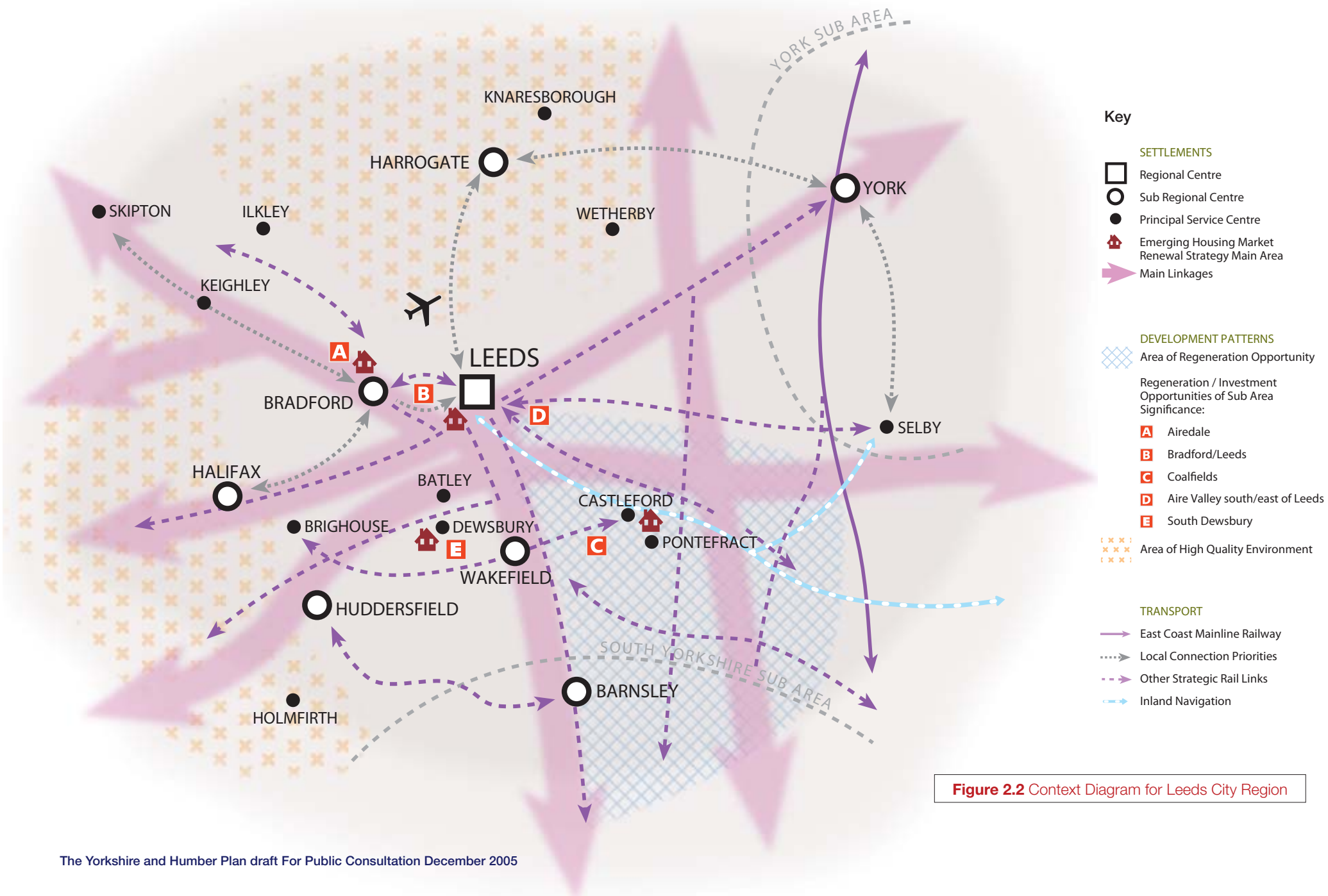
Airports are vital components of modern local and regional economies. They support employment and income through their operation, and also through the services they provide to businesses and the access they offer to inbound tourists.

LBIA has an increasingly important economic role especially within the Leeds City Region. In 2005 around 1,330 full time equivalent (FTE) jobs were directly supported by the operation of the Airport. These jobs are spread across a wide range of organisations from a variety of sectors. The largest employer on site is the Airport Company that currently employs around 250 FTE. These direct jobs generate around £24 million of income in the Leeds City Region.



These direct activities also support further income and employment in the wider economy through spending on goods and services by companies based at the Airport and expenditure of the wages and salaries earned by jobs supported by the Airport. These impacts are known as the indirect and induced effects. At present, it is estimated that activity at LBIA generates around £15 million of additional income in the sub-regional economy, which in turn supports a further 670 FTE jobs.

However, this employment and income supported through the operation of the Airport represents only a part of the economic importance of the Airport. As important is the economic activity supported and enabled by the services offered at LBIA. Primarily this relates to the employment and income supported in the wider economy through the Airport's influence on company location decisions, business productivity, trade, inbound tourism and its significant contribution to the overall 'connectivity' of the Leeds City Region. Whilst these effects are not easy to quantify, it is important to understand the role of the Airport in this context.



- Key**
- SETTLEMENTS**
- Regional Centre
  - Sub Regional Centre
  - Principal Service Centre
  - 🏠 Emerging Housing Market Renewal Strategy Main Area
  - ➡ Main Linkages
- DEVELOPMENT PATTERNS**
- ▨ Area of Regeneration Opportunity
- Regeneration / Investment Opportunities of Sub Area Significance:
- A Airedale
  - B Bradford/Leeds
  - C Coalfields
  - D Aire Valley south/east of Leeds
  - E South Dewsbury
- ⊗⊗⊗⊗ Area of High Quality Environment
- TRANSPORT**
- East Coast Mainline Railway
  - ⋯ Local Connection Priorities
  - - - Other Strategic Rail Links
  - ⋯ Inland Navigation

**Figure 2.2** Context Diagram for Leeds City Region





## 2.3 The Future of the Airport

Passenger throughput at LBIA is growing at a faster rate than at any other time in the Airport's history. The passenger forecasts indicate that passenger usage will continue to increase, and the forecasts are shown in Table 3.1 in the following section.

Consequently, the importance of LBIA within the Leeds City Region will be enhanced both in terms of the regional economy and to the benefit of the travelling public.

The Airport's role within the region is clear – it will continue to support the growing business and leisure markets for short and medium haul flights within the UK and to mainland Europe, in addition to the charter holiday market. Some long haul services are also possible.

The Airport will play a fundamental part in building the Leeds City Region's future economy, offering businesses and local residents alike the choice of destination required without needing to travel to Manchester or London, where long haul hubs have been identified in the Aviation White Paper.

The Airport's contribution to the Leeds City Region economy is set to grow as the Airport expands in the coming years. In 2016, the Airport is forecast to handle 5.1 million passengers and support around 3,400 FTE jobs (2,300 direct and 1,100 indirect and induced) and £105 million of income (£62 million direct and £43 million indirect and induced) in the City Region. By 2030, LBIA is expected to handle 8.2 million passengers and support around 4,100 FTE jobs (2,700 direct and 1,400 indirect and induced) and £154 million of income (£102 million direct and £52 million indirect and induced) in the City Region.

The Airport will also act as a significant "gateway" to tourists and business visitors to Yorkshire, and the importance of two way connectivity in the air travel market should not be overlooked.

Around 900,000 overseas visitors came to Yorkshire in 2003, spending approximately £294 million in the regional economy, which is believed to support around 160,000 jobs. LBIA has an increasingly important role to play in supporting this growing industry, providing access to international markets.

The future role of the Airport underpins the revised Masterplan, and is fundamental to the future success of the Leeds City Region, as represented in Figure 2.2 opposite.

The role of the Airport within the future economy of the City Region is also set out clearly in The Northern Way, a forward development growth strategy for the three northern regions. The document, published in Autumn 2004, makes reference to Manchester and Leeds as being Northern England's cities of European competitiveness, and the need to provide transport to and from these cities for a range of transport modes, including air. The Northern Way identifies that surface access improvements, both road and rail, to the northern airports is a critical issue.

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# CHECK IN HALL A DEPARTURES



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Airline	Flight	Destination	STD	Status
jet2.com	LS227	PALMA	1120	GATE CLOSED
jet2.com	LS271	ALICANTE	1130	GATE CLOSED
RYANAIR.COM THE LOW FARE AIRLINE	FR155	DUBLIN	1315	CHECKING IN A1-A15
jet2.com	LS231	BARCELONA	1315	CHECKING IN A7-A12
jet2.com	LS265	MALAGA	1330	CHECKING IN A7-A12
bmi	BD495	PARIS CDG	1335	CHECKING IN A20-A28
bmi	BD613	BRUSSELS	1400	CHECKING IN A20-A28
flybe	BE734	BELFAST CITY	1425	
Easternairways	T34704	SOUTHAMPTON	1435	CHECKING IN A20-A28
bmi	BD405	EDINBURGH	1445	CHECKING IN A20-A28
bmi	BD294	GLASGOW	1505	CHECKING IN A20-A28
bmi	BD417	HEATHROW	1535	CHECKING IN A20-A28
KLM	KL1550	AMSTERDAM	1555	
jet2.com	LS215	VENICE	1600	
MY TRAVEL	MYT351	TENERIFE	1605	
Easternairways	T34715	ABERDEEN	1715	
bmi	BD407	EDINBURGH	1730	

# CHECK IN HALL B DEPARTURES



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Airline	Flight	Destination	STD	Status
jet2.com	LS227	PALMA	1120	GATE CLOSED
jet2.com	LS271	ALICANTE	1130	GATE CLOSED
RYANAIR.COM	FR155	DUBLIN	1315	CHECKING IN A1-A15
jet2.com	LS231	BARCELONA	1315	CHECKING IN A7-A12
jet2.com	LS265	MALAGA	1330	CHECKING IN A7-A12
bmi	BD495	PARIS CDG	1335	CHECKING IN A20-A28
bmi	BD613	BRUSSELS	1400	CHECKING IN A20-A28
flybe	BE734	BELFAST CITY	1425	
Easternairways	T34704	SOUTHAMPTON	1435	CHECKING IN A20-A28
bmi	BD405	EDINBURGH	1445	CHECKING IN A20-A28
bmi	BD294	GLASGOW	1505	CHECKING IN A20-A28
bmi	BD417	HEATHROW	1535	CHECKING IN A20-A28
KLM	KL1550	AMSTERDAM	1555	
jet2.com	LS215	VENICE	1600	
MY TRAVEL	MYT351	TENERIFE	1605	
Easternairways	T34715	ABERDEEN	1715	
bmi	BD407	EDINBURGH	1730	

Airline	Flight	Destination	STD	Status
jet2.com	LS227	PALMA	1120	GATE CLOSED
jet2.com	LS271	ALICANTE	1130	GATE CLOSED
RYANAIR.COM	FR155	DUBLIN	1315	CHECKING IN A1-A15
jet2.com	LS231	BARCELONA	1315	CHECKING IN A7-A12
jet2.com	LS265	MALAGA	1330	CHECKING IN A7-A12
bmi	BD495	PARIS CDG	1335	CHECKING IN A20-A28
bmi	BD613	BRUSSELS	1400	CHECKING IN A20-A28
flybe	BE734	BELFAST CITY	1425	
Easternairways	T34704	SOUTHAMPTON	1435	CHECKING IN A20-A28
bmi	BD405	EDINBURGH	1445	CHECKING IN A20-A28
bmi	BD294	GLASGOW	1505	CHECKING IN A20-A28
bmi	BD417	HEATHROW	1535	CHECKING IN A20-A28
KLM	KL1550	AMSTERDAM	1555	
jet2.com	LS215	VENICE	1600	
MY TRAVEL	MYT351	TENERIFE	1605	
Easternairways	T34715	ABERDEEN	1715	
bmi	BD407	EDINBURGH	1730	



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# 3.0 Forecasts



## 3.1 Passengers

In 2005, the Airport handled 2.6 million passengers, and is on a rapid growth curve due to the strength of its core catchment area of the Leeds City Region. The development of new no-frills services has contributed significantly to the growth of the Airport in recent years.

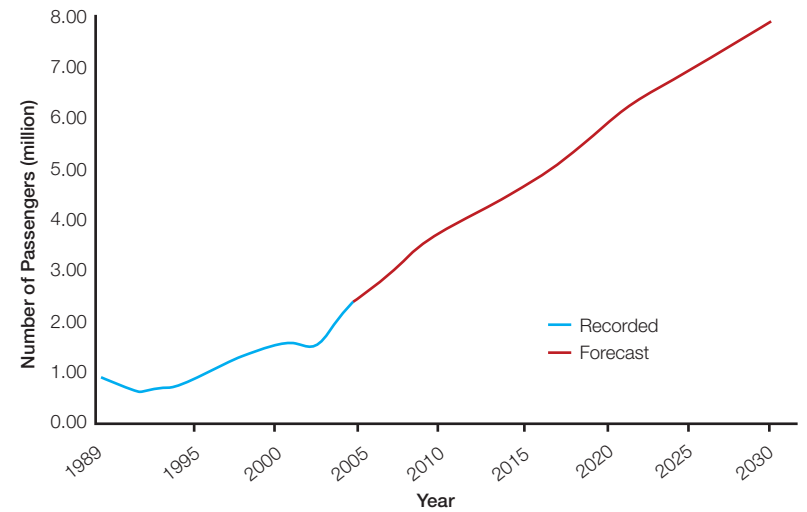
The growth potential of the Airport and the potential for the development of scheduled services has been examined over recent years, and these views on the considerable potential of the Airport are taken into account. Similarly, this Masterplan has also taken into account the Government consultation document: "The Future of Air Transport in the United Kingdom: North of England", and the air travel forecasts set out in the Aviation White Paper.

Table 3.1 below summarises the forecast annual passenger throughput (in millions of passengers) for a series of intervening years up to 2016. By 2016, the forecasts represent virtually a doubling in the 2.6 million passengers that passed through the Airport in 2005.

**Table 3.1**

Year	Passenger Throughput per annum (millions)
2005	2.6
2006	3.1
2011	4.3
2016	5.1

The graph below shows historic and future passenger forecasts for LBIA.





### 3.2 Aircraft Movements

In line with the above forecasts of passenger increases, Air transport movements (ATMs) are also expected to increase from the level of 30,000 ATMs in 2004 to approximately 50,000 ATMs in 2016.





### 3.3 Freight

In 1997, a total of 6,400 tonnes of freight were handled through the Airport, of which only 1,000 tonnes were flown. The 5,400 tonnes moved by road were mainly trucked to and from airports such as Heathrow and Manchester, but customs-cleared at LBIA.

In 2004, freight throughput at LBIA was 3,623 tonnes by road and 88 tonnes by air. This level of freight throughput is relatively low in comparison with other similar and larger size airports. Competition from off-airport customs clearance facilities has impacted on road cargo throughput. Whilst there is potential for significant increases in cargo throughput at the Airport, flown freight is unlikely to increase substantially unless cargo only operations or mail services are established. The Airport is unlikely to handle large wide-bodied cargo aircraft on a regular basis, but could operate niche services handling small parcels and high value or perishable goods.

In previous years, LBIA has successfully operated such flights. As the City Region develops, it is possible that freight only flights could be re-introduced in the future by flying cargo from all over the world directly into the heart of the region from Europe or UK sources, reducing the need for dependence on road haulage over long distances. This could bring with it consequential economic benefits to the City Region. The Airport will continue to look for development opportunities to increase freight throughput. Consequently, land is being reserved for this purpose as shown at Figure 4.5.

### 3.4 Employees

Published research, covering a large number of European airports, indicates employment levels approaching 1,000 per million passengers per annum. However recent employment trends at airports with significant proportions of 'no frills' services suggest that a lower ratio is more appropriate.

Based on the lower ratio, the total number of people employed at the Airport in 2016 is expected to be 3,000 – 3,500 (FTE).



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INTERNATIONAL  
AIRPORT



# 4.0 Infrastructure Proposals

## 4.1 Overview



This chapter of the Masterplan summarises LBIA's future infrastructure proposals under the following sub-headings:

- Terminal buildings;
- Aircraft parking areas;
- Runway configuration;
- Parallel taxiways;
- Airfield equipment and buildings;
- Hotel and office development;
- Other support facilities.

In preparation for this Masterplan, LBIA has considered its requirements for each of the infrastructure proposals through a series of separate projects that have led to the conclusions set out in this document.

Some additional land has been identified outside the existing Airport Operational Land Boundary, and the Airport has identified such land so as to set out its long-term strategy.



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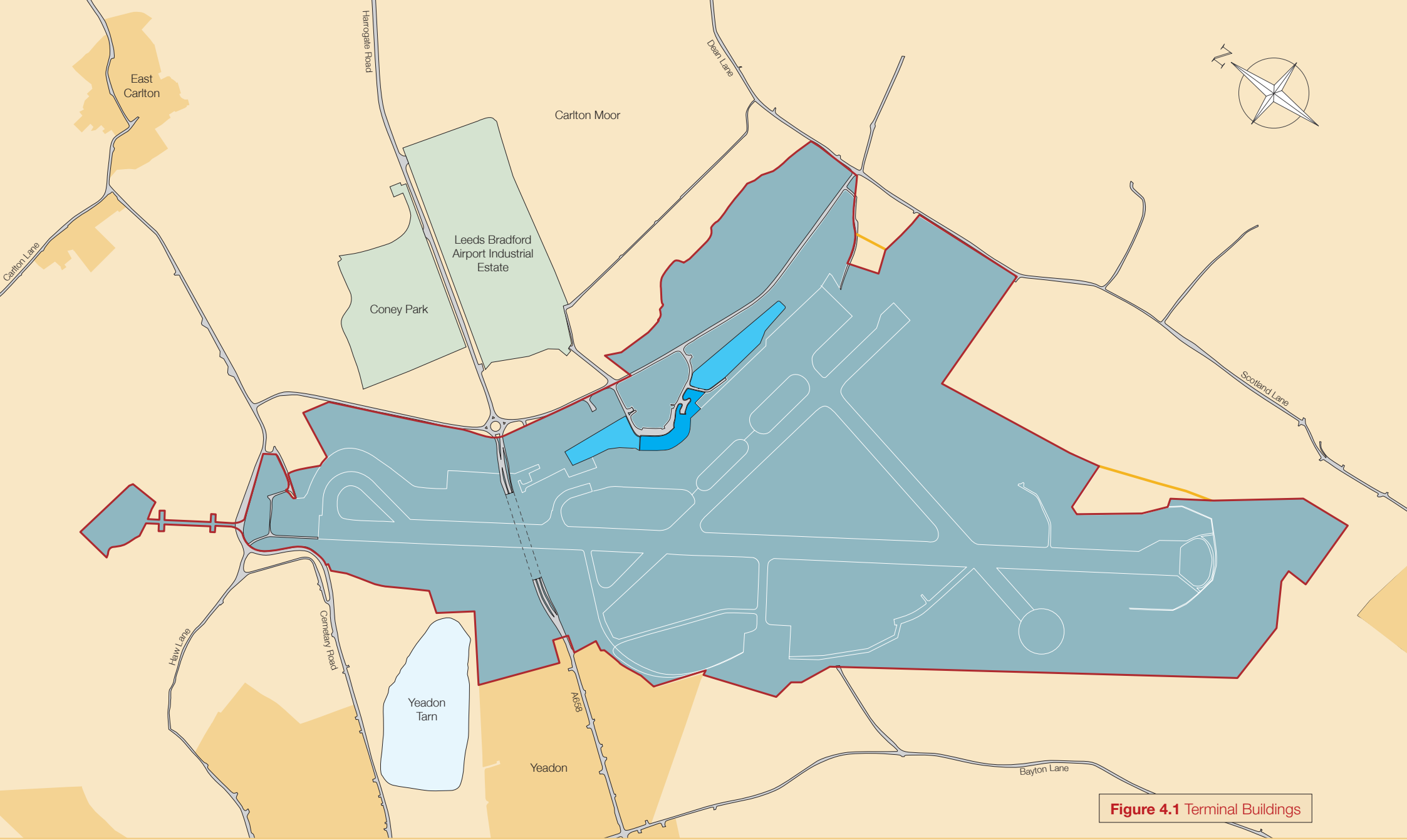
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**Figure 4.1** Terminal Buildings

- Key**
- Urban Areas
  - Existing Terminal Building
  - Current Operational Area
  - New Terminal Facilities
  - Proposed UDP Amendment

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## 4.2 Terminal Buildings



Since 1990, the passenger terminal at LBIA has trebled in size. A new check-in hall was opened in June 2004 and other recent work has provided for improvements to departure lounges, security search area and retail facilities, additional immigration, baggage reclaim and customs facilities as well as extended catering facilities and office accommodation. A walkway has been provided along the airside of the terminal to link international passengers arriving at the east end of the terminal with the expanded arrivals processing facilities at the west end of the building.

The existing terminal configuration has sufficient capacity to accommodate in excess of 3 million passengers per annum. It is clear, however, that additional terminal facilities will be required over the lifetime of the Masterplan to provide the capacity needed for the increase in passenger throughput by 2016.

Any additional terminal facilities must be located so that:

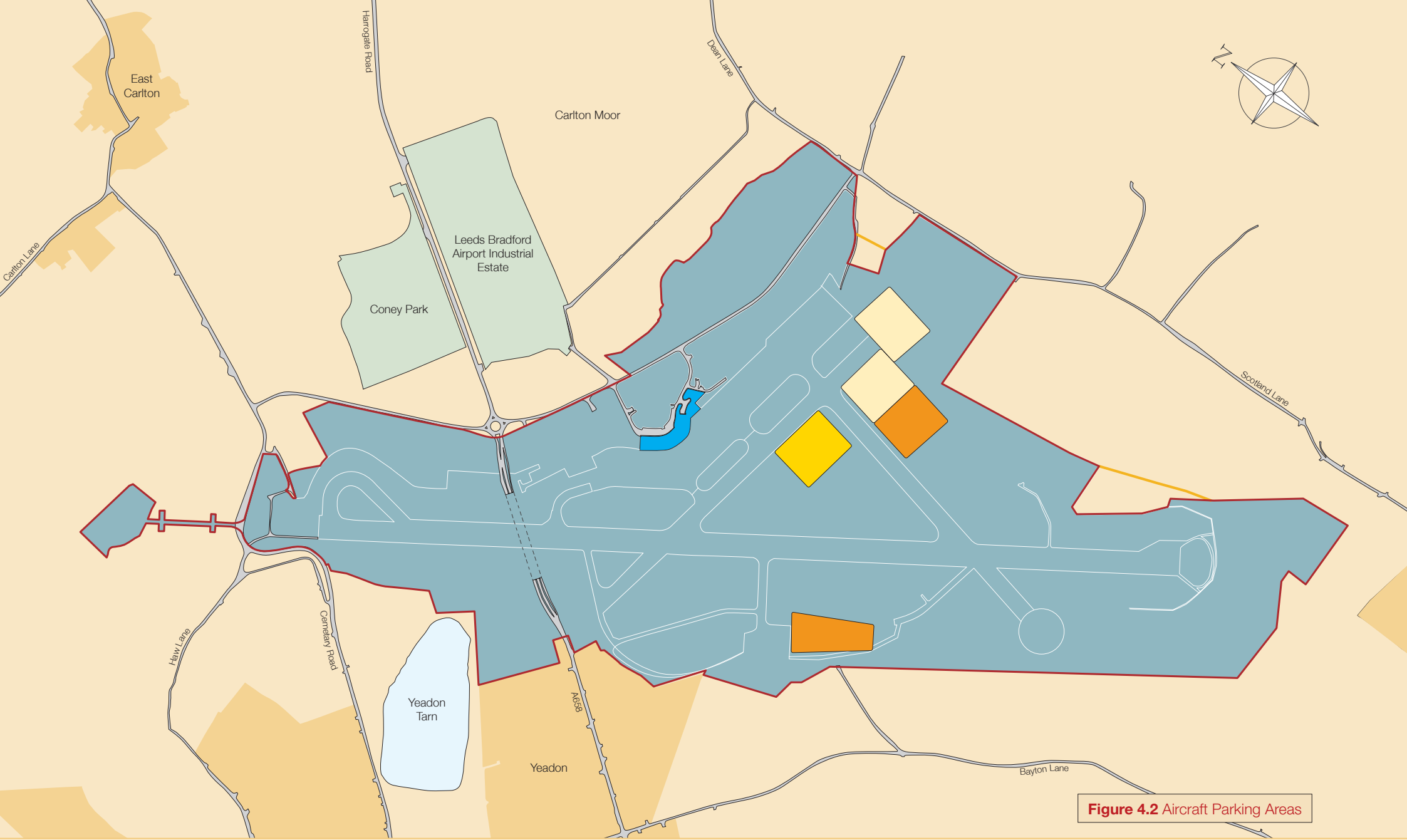
- Road access can be provided within the available land areas;
- Short stay car parking areas are available adjacent to it;
- If it is constructed in stages, space is safeguarded for future expansion to the planned horizon;
- It is set back sufficiently from the airfield to permit aprons of sufficient widths;
- Environmental and design issues are appropriately considered, in line with the landscape and urban design principles outlined in Section 6.3.

Given the layout of the airfield, an option for the further development of the terminal facilities would be immediately adjacent to the existing terminal building. It is anticipated that the first stage of construction would be located so that the new building could later be extended in an easterly direction, parallel to the aircraft parking areas.

The options for the location of new terminal facilities are shown in Figure 4.1 opposite.

The additional new facilities would be linked with the existing terminal or, if preferred, space could be left between the two elements for other associated development.





**Figure 4.2 Aircraft Parking Areas**

- |            |                          |                                |                                |
|------------|--------------------------|--------------------------------|--------------------------------|
| <b>Key</b> | Urban Areas              | Existing Terminal Building     | Aircraft Parking Areas by 2016 |
|            | Current Operational Area | Aircraft Parking Areas by 2006 |                                |
|            | Proposed UDP Amendment   | Aircraft Parking Areas by 2011 |                                |

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### 4.3 Aircraft Parking Areas



The aircraft parking areas at LBIA are able to accommodate around 19 aircraft on parking stands adjacent to the terminal building or on an existing apron to the east of the terminal building.

A review has been undertaken of the future requirements for aircraft parking for passenger, freight and general aviation operations.

In the coming years there will be a need to accommodate some larger aircraft that will require additional parking space. The proposed new aircraft parking areas are shown in Figure 4.2 opposite. Table 4.1 shows the requirement for parking stands for passenger aircraft up to 2016.

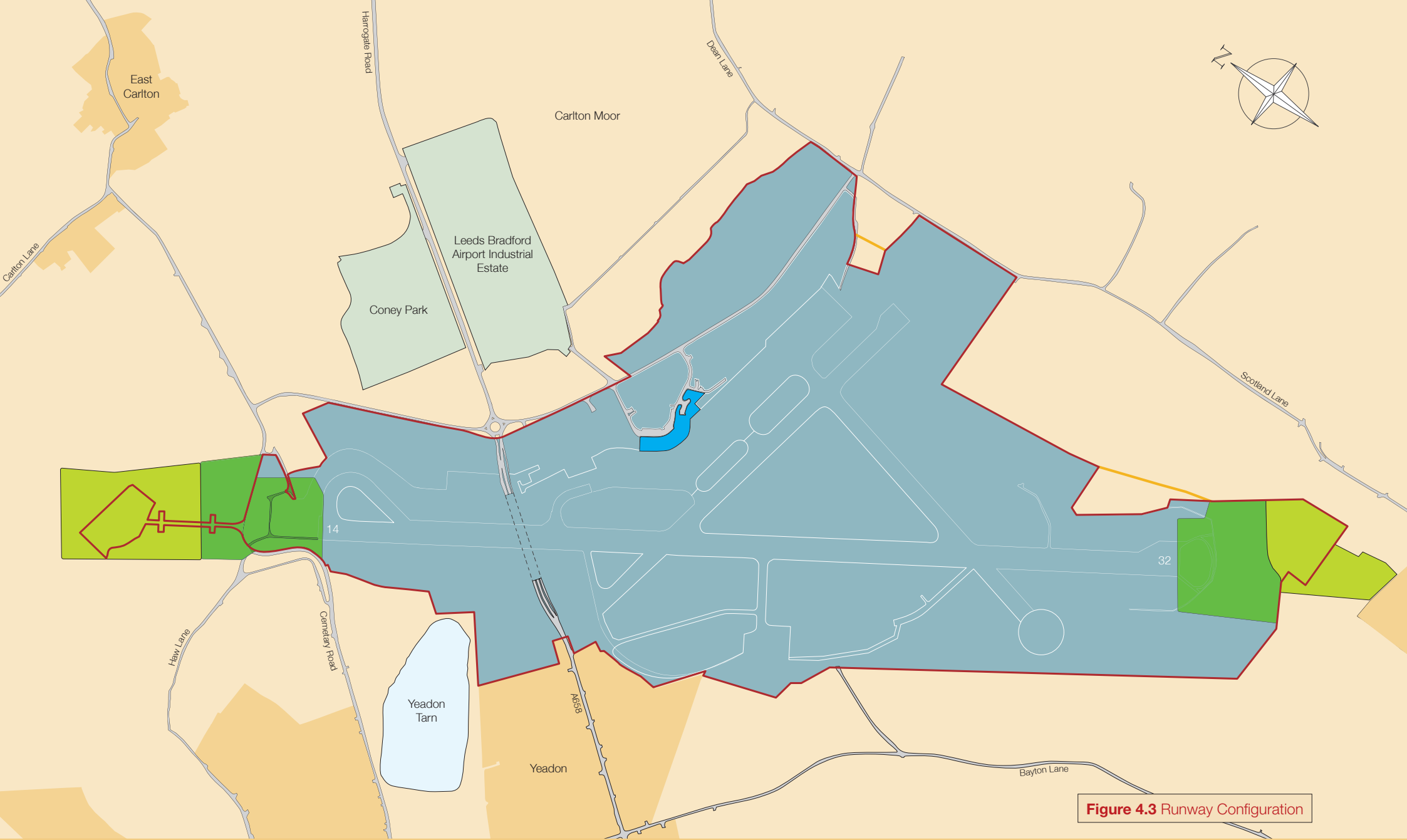
**Table 4.1**

Year	Number of Aircraft Parking Stands Required
2006	19
2011	27
2016	31

The table shows that a further 12 aircraft parking stands could be needed by 2016. Four of these are expected to be constructed during 2006.

The shorter runway, which could not be used by most air transport aircraft, has been taken out of operational service to enable some new apron areas to be constructed.





**Figure 4.3** Runway Configuration

- Key**
- Urban Areas
  - Existing Terminal Building
  - Current Operational Area
  - Safeguarded Land for possible Future Runway Extension
  - Proposed UDP Amendment
  - Safeguarded Land for Approach Lighting



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## 4.4 Runway Configuration



The number of ATMs that can be achieved in any particular period of time depends on many factors. Aircraft mix and weather conditions are important as well as the flexibility built into the system to change the order of take off of aircraft to suit airspace control requirements.

LBIA has no parallel taxiway at present and this may act as a significant constraint to aircraft movements in the future.

Table 4.2 shows the relationship between the future year passenger forecasts and the number of aircraft movements anticipated.

**Table 4.2**

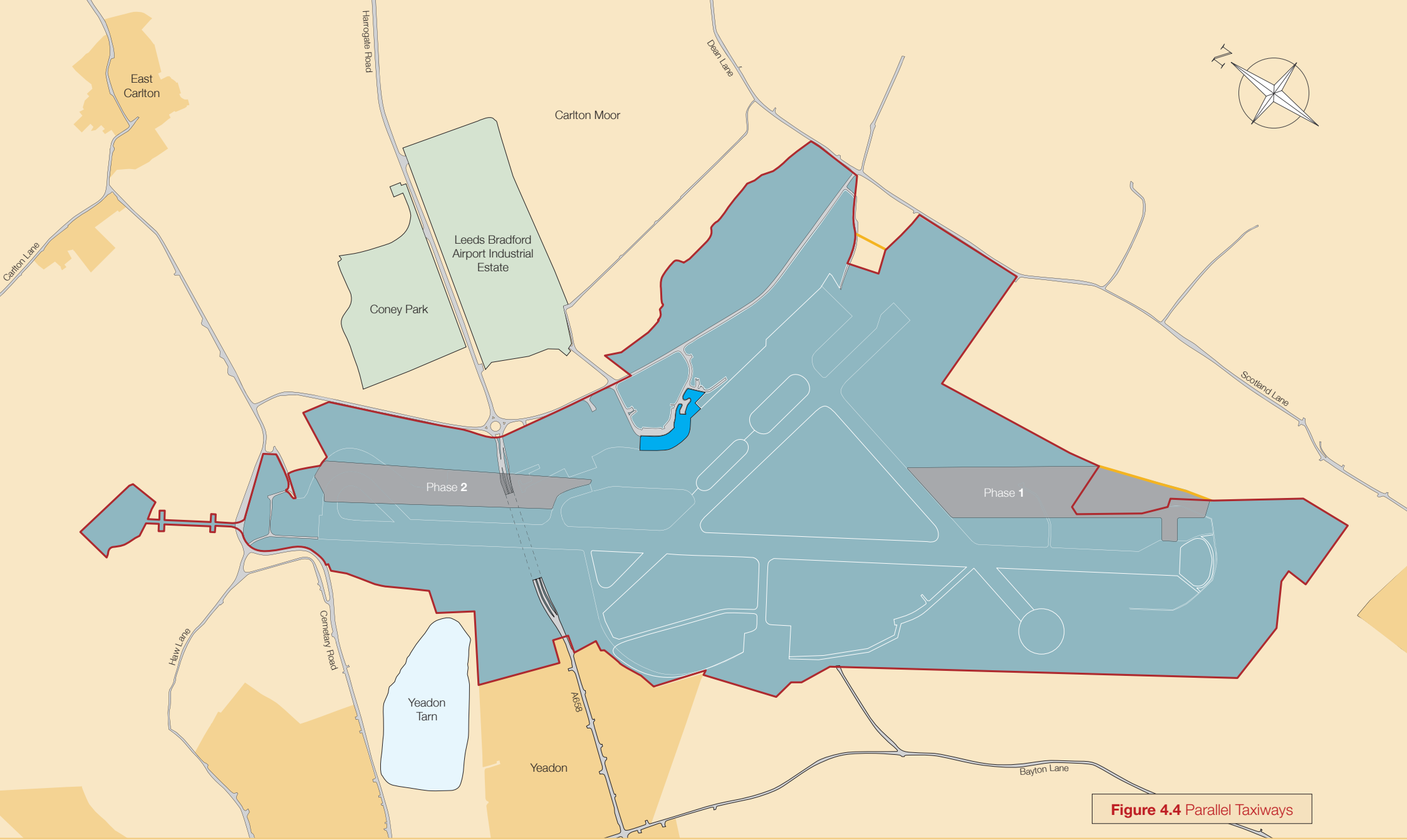
Year	Passenger Throughput per annum (millions)	Aircraft Movements (per peak hour)
2005	2.6	16
2006	3.1	18
2011	4.3	22
2016	5.1	25

The operational capability of the main runway has been reviewed to identify any operational improvements that could be made without the need for any runway extension. For example, slight changes to the angle of approach of aircraft would enable landing aircraft to make better use of the existing length of Runway 14.

Some re-profiling of the ground around the ends of the runway may be necessary to accommodate changes to the approach equipment and the runway approach lighting as shown in Figure 4.3.

The White Paper states that a runway extension of some 300 metres may be desirable in the future. However, the Airport has no plans or operational requirement for a runway extension at the present time. The situation therefore will be reconsidered in future reviews of the Masterplan for the period of time after 2016. Consequently, the safeguarding of land for an indicative scheme only is included within this Masterplan as shown in Figure 4.3.





**Figure 4.4** Parallel Taxiways

- Key**
- Urban Areas
  - Existing Terminal Building
  - Current Operational Area
  - Proposed Parallel Taxiways
  - Proposed UDP Amendment

## 4.5 Parallel Taxiways



The existing airfield layout could accommodate the forecast aircraft movements for the next few years without having an impact on aircraft operations. Approximately 20 aircraft movements per hour could be operated from the runway without a parallel taxiway. If aircraft movements were to increase beyond around 20 aircraft per hour, then a parallel taxiway would be required. It is likely therefore that a parallel taxiway to Runway 32 would be needed around 2010. A parallel taxiway to the north of the runway is considered to be the best option both in regard to integrating it into the surrounding landscape and improving operational effectiveness.

The requirement for a parallel taxiway to Runway 14 would be examined at the next review of the Masterplan. If it were constructed, it would require substantial engineering as it involves a crossing of the A658 adjacent to the north entrance of the existing road tunnel.

The areas identified to accommodate future parallel taxiways are shown in Figure 4.4 opposite. This includes a relocation of the existing Instrument Landing System to a location shown in Figure 4.5.



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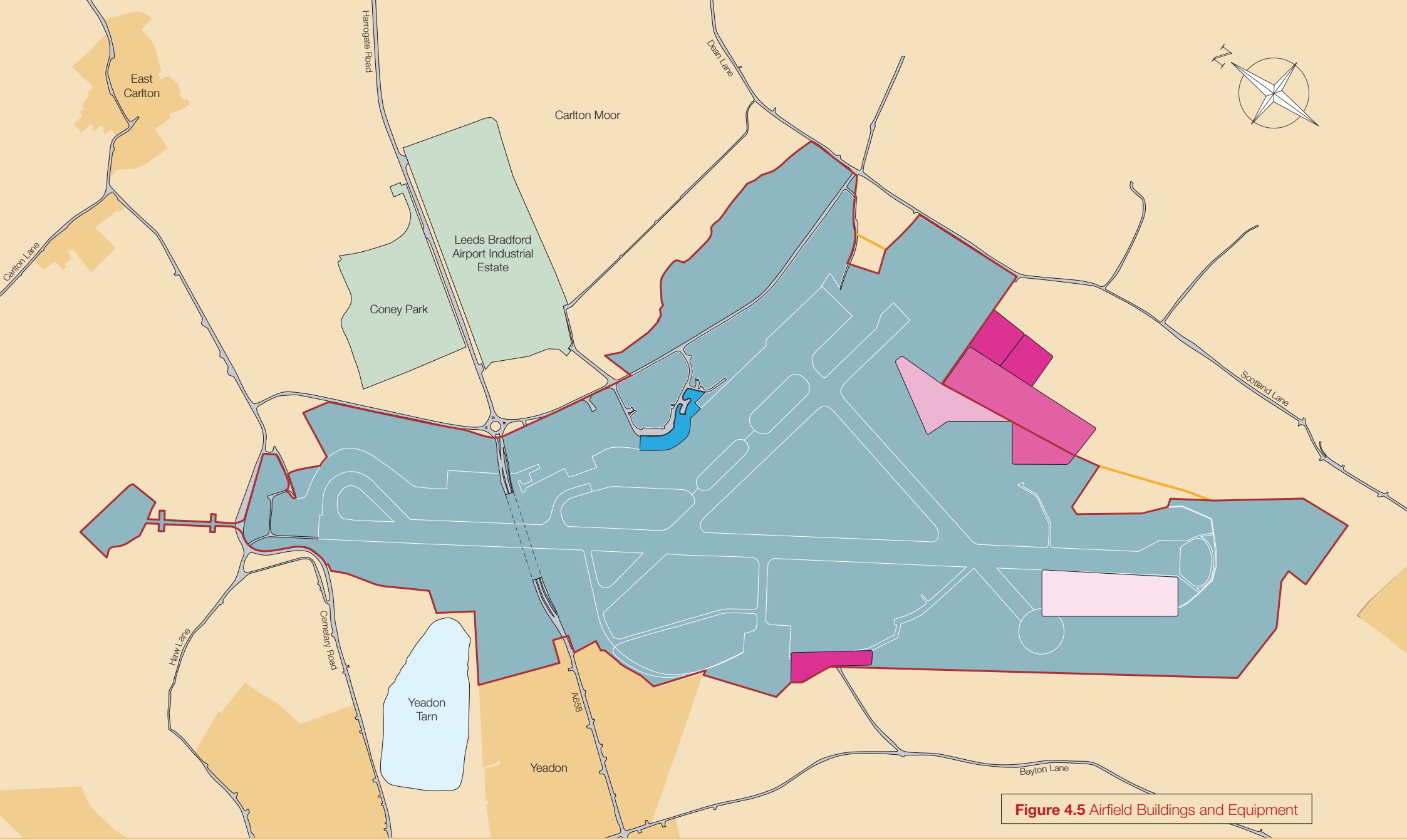
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**Figure 4.5** Airfield Buildings and Equipment

- Key**
- Urban Areas
  - Current Operational Area
  - Existing Terminal Building
  - Proposed Airfield Maintenance & Support Facilities
  - Proposed UDP Amendment
  - Proposed Freight Area
  - Proposed Fuel Farm
  - Instrument Landing System Area

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## 4.6 Airfield Buildings and Equipment



The land currently occupied by the vehicle workshops and engineering support facilities has been identified as a site for possible future terminal building extensions and aircraft parking areas. Consequently it is proposed to reserve land for airport maintenance and support facilities to the east side of the airfield as shown in Figure 4.5.

Aviation fuel services at the Airport are provided on the north side by Air BP and Conoco and on the south side by Multiflight. Annual uplift through the combined north side facility has been growing steadily from just over 15 million litres in 1992 to 61 million litres in 2005.

There is likely to be an increase in the annual throughput of fuel for ATMs as more destinations are added at the Airport. Table 4.3 shows the relationship between the future year passenger forecasts and the fuel storage capacity.

**Table 4.3**

Year	Passenger Throughput per annum (millions)	Storage Capacity (litres)
2005	2.6	700,000
2006	3.1	1,200,000
2011	4.3	1,800,000
2016	5.1	2,300,000

The proximity of the main north side fuel depots to the runway strip prevents taller tanks from being installed and severely limits the space available for expansion. The existing capacity of the tanks is likely to be exceeded in or around 2006. It is therefore suggested that provision for a new fuel depot be made to the east side of the Airport, as shown on Figure 4.5.

Access to these areas would be by a new internal airport road within the existing operational boundary.

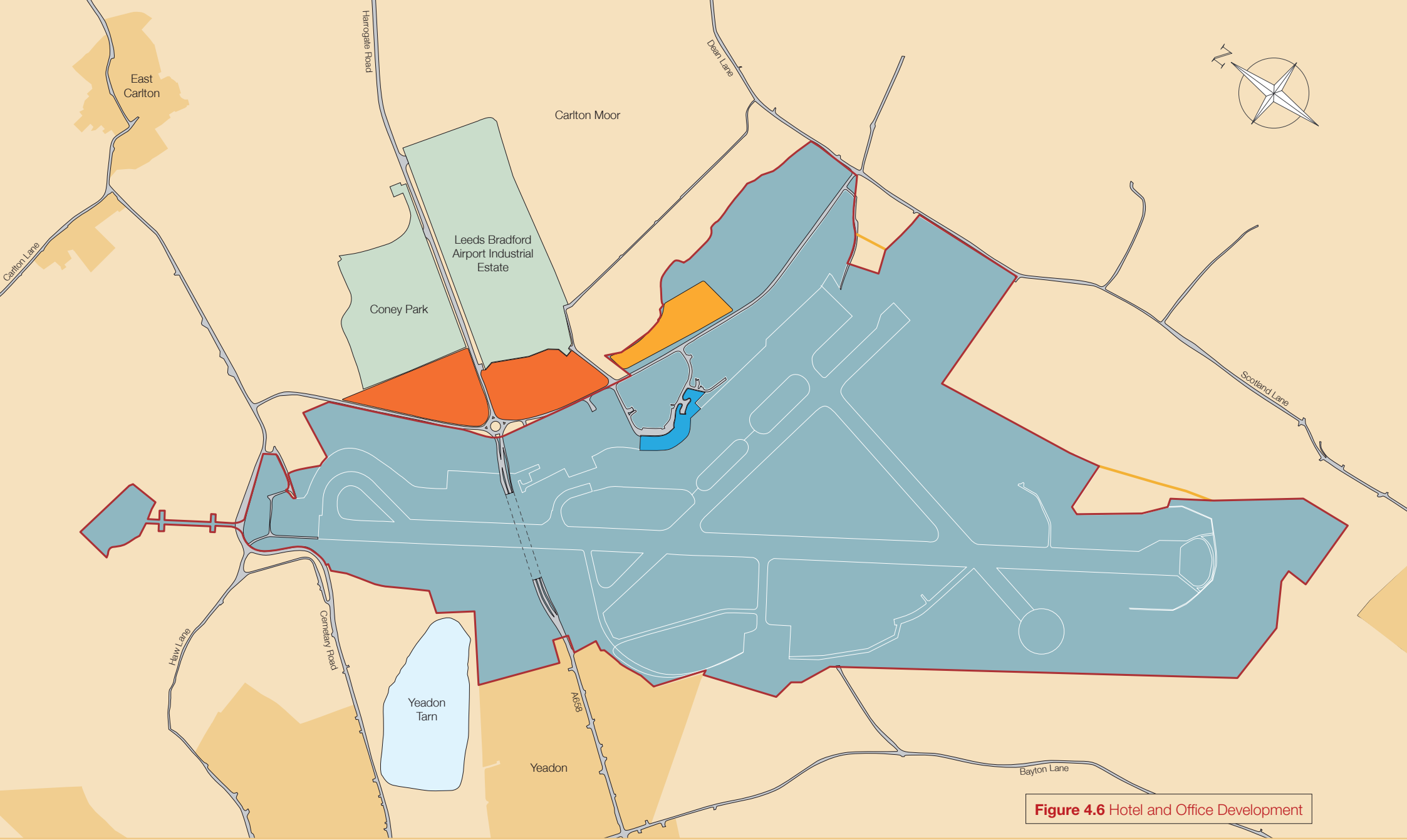
Multiflight has recently built two large hangars capable of taking commercial aircraft on the south side of the Airport. The two original hangars in this area are used for small aircraft only. Multiflight has also constructed a parking area to service the hangars and a new taxiway was built linking the new development to the runways and providing two way circular access from the south side to the runways.



The new development has provided a maintenance base which is being used by home-based airlines, as well as providing commercial opportunities for on site aircraft maintenance within the City Region which could bring further business to the Airport.

The exact size of the maintenance facilities required at the Airport will depend on whether they are responding to essential demand only, serving a home-based airline or maximising the commercial opportunities in the provision of maintenance services.

Although, the present facilities will clearly be adequate for some time, it is proposed to safeguard an area of land to the east of the Multiflight hangars on the south side of the Airport for further maintenance and aircraft parking facilities. This area is shown on Figure 4.5.



**Figure 4.6** Hotel and Office Development

- Key**
- Urban Areas
    - Current Operational Area
    - Proposed UDP Amendment
  - Existing Terminal Building
    - Hotel & Office Development
    - Land Allocated for Employment in UDP



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## 4.7 Hotel and Office Development



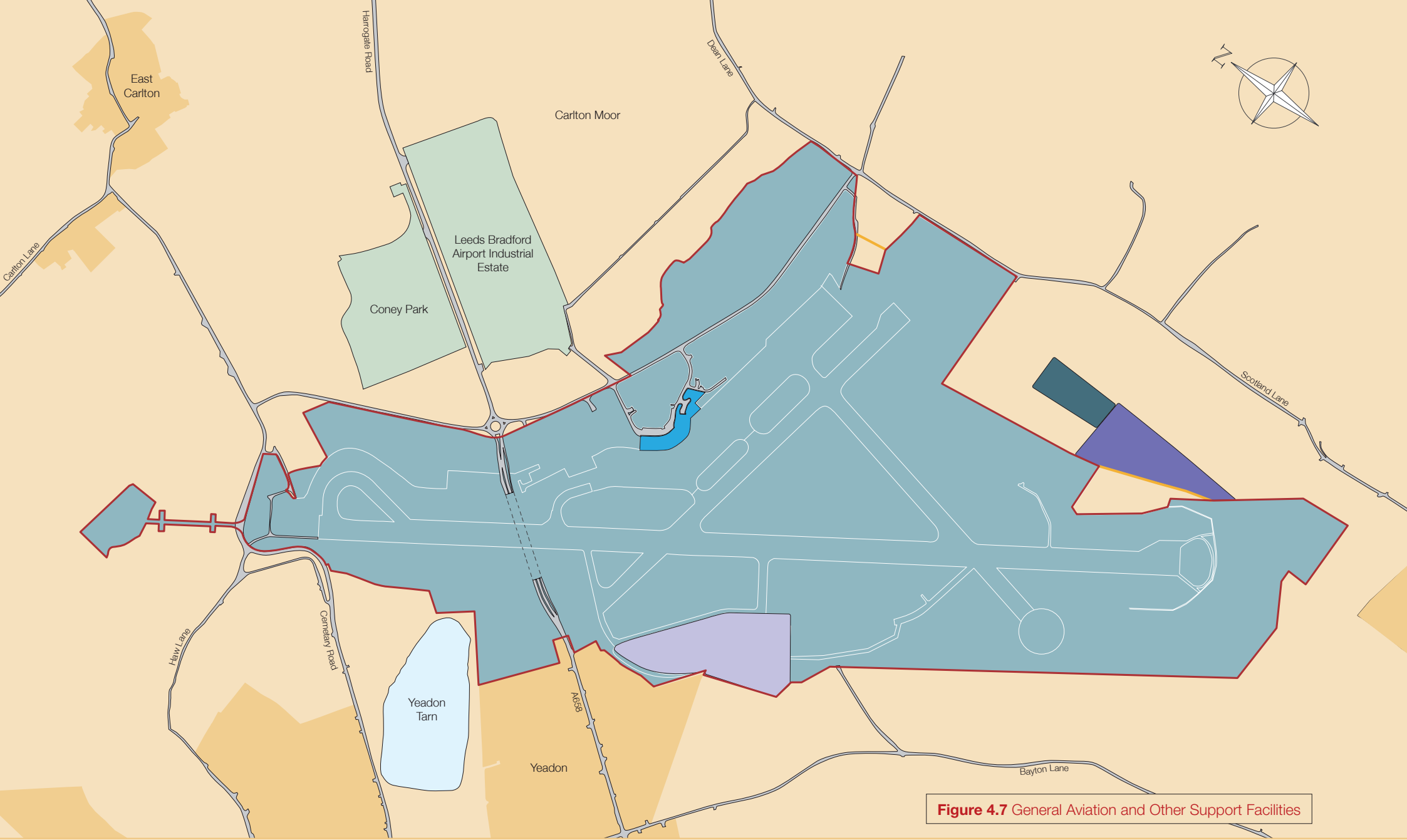
At present most of the administrative offices are in the passenger terminal building and the proposed additional terminal facilities includes for offices essential to the passenger terminal operation.

Airlines establishing a home base or an extensive operation at the Airport may require substantially more office space than at present, and LBIA may require additional accommodation for support services not associated with terminal building activity. The area reserved for an extended terminal complex allows for separate buildings being provided for such accommodation. Alternatively more of the existing terminal building could be converted to offices and the additional terminal facilities designed to take greater passenger throughput.

Land opposite the terminal complex has been safeguarded for a hotel site for some time, and a 48-bed budget hotel opened in October 2004. There are proposals to develop the site further to include a 3 or 4 star hotel together with some office accommodation.

This area is shown in Figure 4.6.





**Figure 4.7** General Aviation and Other Support Facilities

- |            |                          |                            |                       |
|------------|--------------------------|----------------------------|-----------------------|
| <b>Key</b> | Urban Areas              | Existing Terminal Building | General Aviation Area |
|            | Current Operational Area | Flight Catering            | Safeguarded Land      |
|            | Proposed UDP Amendment   |                            |                       |

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## 4.8 General Aviation and Other Support Facilities



The category of 'General Aviation' includes air taxis, executive aircraft, helicopters, private aircraft and flying clubs. The anticipated growth in airline passengers and the developments proposed on the north side of the Airport will mean that facilities for other support facilities will be restricted to the south side of the airfield.

General Aviation areas will continue to be developed around Multiflight and the south side hangars, which will reduce congestion on the north side apron areas and will also enhance aviation security in line with Department for Transport recommendations and advice. This area is shown in Figure 4.7.

Other support facilities not already discussed that require to be on or near the Airport include navigational aids, emergency services, tour operators, Control Authorities, in flight catering, hotels, car hire maintenance and coach parks. Navigational aids are generally accommodated on the airfield and do not add significant areas for land use planning purposes.

An in-flight catering unit is currently located in the area between the freight centre and the A658. This will not be large enough to accommodate expansion to the in-flight catering services that will be required as the Airport expands. An area of land to the east side of the Airport has been reserved for this purpose as shown in Figure 4.7.



Towards 2016, it is likely that additional airport support facilities will be needed. Further work will be necessary in the next review of the Masterplan to identify a more specific requirement. For the current Masterplan it is considered necessary to safeguard the land for indicative schemes, as shown in Figure 4.7.





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# 5.0 Surface Access

“ Improvements to both public transport and road access to the airport may also be required in the medium term ”

Aviation White Paper,  
December 2003

## 5.1 Overview

The 1998 Government White Paper set out the requirements for the majority of airports within the UK to prepare a Surface Access Strategy (SAS). The first SAS was produced in 2000, and was compliant with local and national Government objectives at the time. It was developed around the following key objectives specific to LBIA:

- To develop and enhance surface access provision;
- To provide passengers and staff with the opportunity of travelling by all modes;
- To maximise the efficiency of existing land and facilities;
- To achieve a public transport mode share (excluding taxis and minibuses) of 10% by 2011.

Preferred strategy objectives were developed for the short (1999 – 2003), medium (2003 – 2009) and long (post 2009) term as a key output from the SAS. The short term objectives and specific actions are largely complete.

The 2003 Aviation White Paper indicated that airports would be expected to update their SASs where necessary, to take account of the forecasts and policies now developed. To emphasise the need to enhance surface access to the Airport that had been identified in the first SAS, the White Paper specifically included the statement (above left).

A major Government objective, identified in the White Paper, is to increase the proportion of passengers who travel to and from airports by public transport. Approximately 64% of passengers in 2004 travelled to LBIA by private car. Key factors in considering proposals for new airport capacity are ensuring easy and reliable access, which minimises environmental, congestion and local impacts.

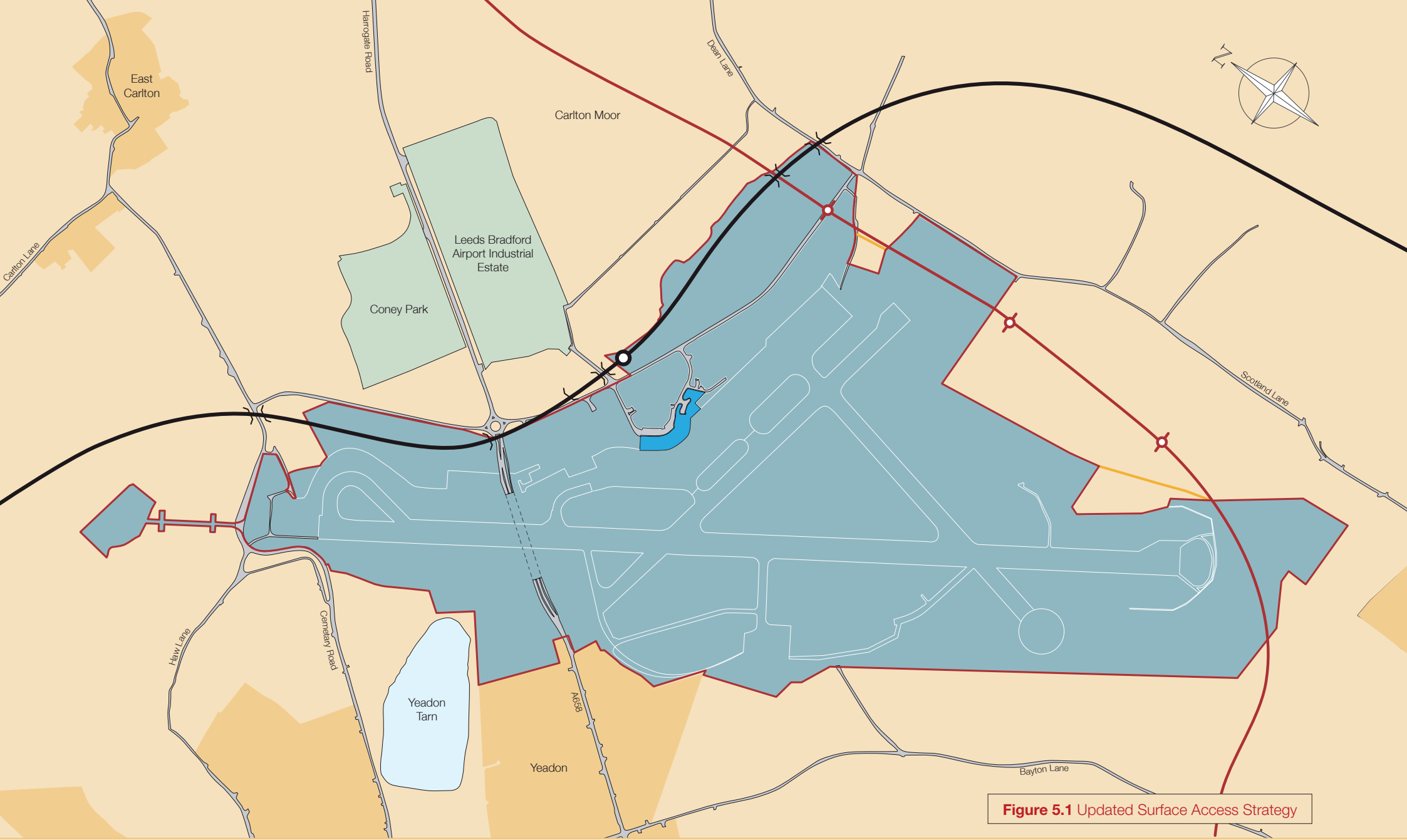
## 5.2 Existing Surface Access Connections

The Airport is linked by public service bus to both Leeds and Bradford railway stations, and hence to the national and local rail networks.







The 757 service runs from Leeds, the 737 service runs from Bradford and the 767 service operates from Harrogate.

Highway access to the Airport can be gained from the national motorway network from the M62, the M1, or the A1(M), then by using either the Leeds or Bradford Outer Ring Roads, and the local road network surrounding the Airport. A passenger survey conducted in 2004 indicated 96% satisfaction levels with the existing surface access arrangements. It is clear, however, that improvements will be required if the Airport is to fulfill its growth potential.





**Figure 5.1** Updated Surface Access Strategy

- |            |                                                                                                              |                                                                                                                         |
|------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Key</b> |  Urban Areas              |  Existing Terminal Building          |
|            |  Current Operational Area |  Possible Road Link with Roundabouts |
|            |  Proposed UDP Amendment   |  Possible Rail Link with Station     |



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### 5.3 Updated Surface Access Strategy



To take account of changes since the year 2000 and the implications of the Aviation White Paper, an updated SAS was prepared in 2004. In 2004, over 80% of passengers originated in West and North Yorkshire travelling essentially on domestic flights and to mainland European destinations.

As a consequence the key objective of the SAS is defined as:

*“to connect the airport to its hinterland by the full range of transport modes, allowing for sustainable development within the locality which contributes to the Regional economy and delivers the Regional Spatial Strategy.”*

The revised SAS determines a range of key transport interventions required over the next 10 – 15 years that would support the sustainable growth of the Airport and offer real choices to passengers and staff across the range of transport modes.

Since the first SAS, the Government has also re-defined “public” transport to include all non-private car modes. As a result, existing public transport mode share is 36%. This has increased by 4% since the first SAS was produced in 2000.

In view of the recommended new surface access connections, two new targets are suggested within the updated SAS:

- To achieve a public transport mode split of 40% by 2011.
- To achieve a public transport mode split of 50% by 2016.

These targets will be delivered by continuing the promotion and encouragement of bus services as a means of accessing the Airport. In addition the existing target of achieving a 10% share by 2011 by public service bus will be retained.

In keeping with an airport serving the City Region, the updated SAS addresses the need identified in the White Paper to improve surface access to LBIA. New road and rail surface access links have therefore been proposed to the Airport as shown in Figure 5.1:

- A new direct road link from the A65;
- A new fixed rail link, currently being investigated as part of a review of the Harrogate line.

Both the road and rail link concepts have been considered in terms of offering improved connectivity to Leeds, Bradford, Harrogate and York, and to that part of West Yorkshire shown in Figure 5.2.

The road would provide a more direct and improved link to the Airport for public transport and forms part of a recommendation for the upgrade and improvement of the Leeds Outer Ring Road. It could offer some traffic relief to Rawdon, Yeadon and parts of Horsforth as well as providing an alternative route from Bradford via Thornbury, relieving the A658 through Eccleshill and Apperley Bridge.

The rail link could provide additional light or heavy rail capacity linking the Wharfedale and Airedale lines and offering an alternative route between Leeds and Bradford and enabling trains for example to link Bradford to Harrogate and York via Guiseley and the Airport.



**Key**

- Railway
- Primary Roads
- Motorways
- - - Proposed Rail Link
- Proposed Road Link
- Urban Areas



**Figure 5.2** Surface Access within the Leeds City Region

To Halifax

To Wakefield and London

To Castleford and South Yorkshire

To York and the North East

To Harrogate

To Skipton

Bradford Forster Square

Bradford Interchange

Saltaire

Baildon

Bingley

Crossflatts

Shipley

Guiseley

Menston

Burley in Wharfedale

Ilkley

Ben Rhydding

Leeds Bradford International Airport

Horsforth

Headingley

Burley Park

New Pudsey

Bramley

Leeds

M1

M621

A668

A65

A660

A658



The other main elements of the updated SAS are as follows:

- Assess the need for a transport interchange including a possible park and ride facility on a site adjacent to the Airport. A park and ride facility, associated with a fast train link to either Leeds or Bradford, would add further weight to the case for a rail link, as it would offer a valuable public transport alternative to the private car.
- Seek to improve bus provision, journey times and public awareness of public transport access to the Airport.
- Encourage LBIA staff to use sustainable modes and develop a Green Transport Plan for Airport staff.
- Assess options for, and develop, improved passenger information systems at transport interchanges.
- Develop and implement route signing strategy with appropriate highway authorities.
- Review the roads in the immediate vicinity of the Airport to identify and implement road improvements in the Rawdon and Horsforth areas, and in particular for access to Bradford.
- Review and improve current marketing initiatives.
- Encourage the use of courtesy buses, mini buses and taxi pick up.
- Develop and implement a Mobility Management Plan for people of reduced mobility.
- Maintain and review the Car Parking Strategy (see Section 5.4).



The work in preparing the updated SAS has already involved detailed consultation with partners such as Local Authorities, Metro, Yorkshire and Humber Assembly, Yorkshire Forward, Highways Agency and Network Rail through the Airport Transport Forum. This consultation will continue through the delivery phase of the SAS.

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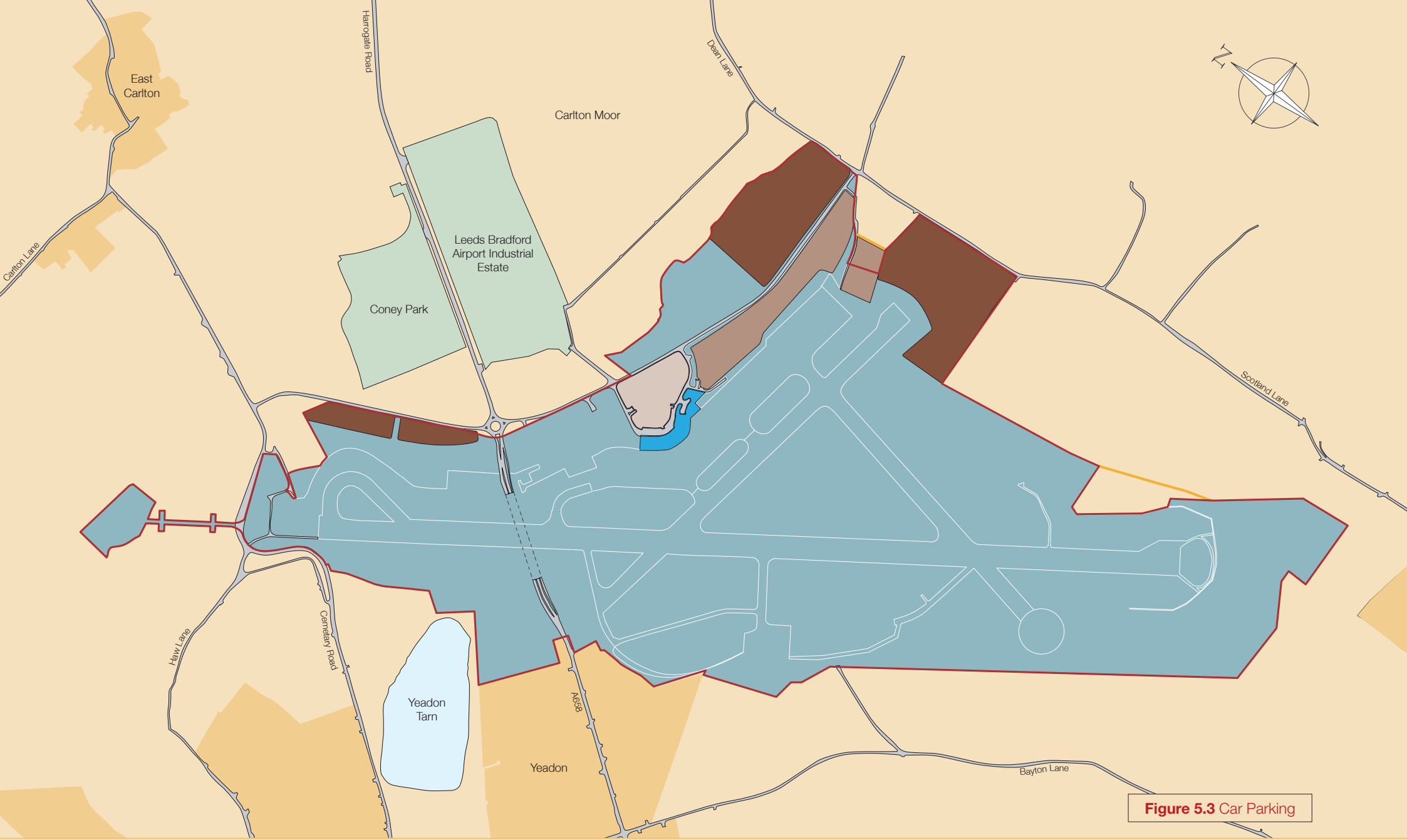
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**Figure 5.3** Car Parking

- Key**
- Urban Areas
    - Current Operational Area
    - Proposed UDP Amendment
  - Existing Terminal Building
    - Existing Long Stay Car Parking
    - Existing Short Stay Car Parking
  - Future Car Parking



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## 5.4 Car Parking



In association with the passenger growth forecasts, it is of paramount importance that there is sufficient car parking provision at the Airport. Any shortage of car parking spaces would ultimately result in an unnecessary restriction on growth with the undesirable movement of passengers to other more distant airports. This scenario would not help the regional economy nor would it assist the environment, resulting in longer surface journeys to Manchester and other airports.

In addition, because of the location of the Airport in relation to the heavily populated residential areas of Leeds and Bradford, a significant number of passengers are dropped off/collected by a third party. If sufficient car parking spaces are not provided, then the number of deliveries/collections will increase, thereby causing additional unnecessary double car journeys.

To help develop future car parking requirements, a survey of car parking provision at selected similar regional airports, especially those with 'no frills' services, has been undertaken. In comparison with the other airports surveyed, LBIA has a substantially lower ratio of long-stay car parking spaces.

The Airport has reviewed both the long and short-stay car parking provision to meet the change in operational services and passenger mix and to balance the demand and environmental issues. Using a lower ratio of spaces provided to passengers than any of the other airports surveyed, our estimated future requirements for short and long-stay car parking are set out in Table 5.1.

**Table 5.1**

Year	Passenger Throughput per annum (millions)	Short Stay Spaces	Long Stay Spaces
2005	2.6	778	1,900
2006	3.1	978	2,750
2011	4.3	1,433	4,350
2016	5.1	1,783	5,350

To accommodate the required number of spaces, it is suggested that land to the west of Scotland Lane and to the north and south of Whitehouse Lane, partly owned by the five District Councils, is safeguarded for future airport car parking requirements. This is shown on Figure 5.3 opposite.

Any major change in public transport mode share, for example the implementation of a rail link, would result in a reassessment of the Airport's car parking strategy. LBIA will continue to work towards strategies that may provide alternatives to the private car. However, car travel to the Airport will be the preferred and only option for a large number of passengers for some time to come. Consequently, adequate car parking will need to be provided to assist in reducing long surface journeys to other airports and to minimise the practice of pick-up and drop-off. Although some passengers will travel longer distances to use 'no frills' services, the availability of these services from LBIA would result in less overall surface journeys to other airports as well as adding increasing social and economic benefits to the region.

For reasons of financial viability, car park decking has not normally been used for long-stay parking at UK airports, although decking has been used for short-stay car parks. The Airport is committed to the principle of cost-effective decking solutions and consideration is currently being given to decking part of the short-stay car park. If it is economically viable in the future, car park decking could also be considered as an option for long-stay parking, which would have environmental benefits of significantly reducing land take.

There is significant pressure on existing staff car park capacity, even allowing for shift working, as there has been no increase in staff car parking spaces for at least 5 years. Consequently, it is considered reasonable that as well as promoting the Green Travel Plan, at least one car parking space is provided for every three full-time employees. Additional staff car parking space will need to be provided especially if the existing staff facilities are to be developed for other uses. Consequently, land south of Warren House Lane, shown in Figure 5.3, has been designated for this purpose.





## 6.1 Overview

In developing LBIA to meet the needs of the City Region, the Board of Directors will take full cognisance of the associated environmental impact on surrounding areas. Environmental measures, already implemented, have resulted in extensive improvements to local roads, stone walls, footpaths and visual amenities, as development has progressively taken place over the years. In the same way, all aspects of future development arising from this revised Masterplan will take the local environment into account.

The Landscape and Urban Design Study will be implemented in liaison with Leeds City Council's Development Department. Additionally, a Sustainability Appraisal has been prepared, which outlines a balance of the environmental, economic and social issues associated with a developing airport. The Airport Company wishes to be a good neighbour and to act responsibly and intends to mitigate, as far as practicable, any adverse environmental impact on areas adjacent to the Airport.



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# 6.0 Mitigation of Impacts

## 6.2 Environmental Management



Environmental Management is a business priority for the Airport Company. Its Environmental Policy and Strategy address key environmental issues associated with the Airport operation.

Following the successful implementation of the Green Globe standard for environmental management in 2002, the Airport Company decided to move towards the more widely recognised and stringent international standard for environmental management: ISO14001. Accreditation to the ISO14001 standard was achieved in September 2005. The implementation of ISO14001 reinforces the commitment of LBIA towards effectively managing environmental issues and to continued improvement in environmental performance.

The Airport company has also signed up to the 'Sustainable Aviation' initiative which commits UK aviation to a joint strategy aimed at delivering radical cuts in carbon dioxide emissions, nitrogen oxide emissions and airport related noise over the next 15 years.

## 6.3 Landscape and Urban Design Issues

During 2003, Gillespies completed a Landscape and Urban Design Study in conjunction with appropriate representatives from Leeds City Council. The study examines the landscape character and how the impact of any development proposals could be mitigated through landscaping measures. It analyses urban attributes at the Airport, identifies aspirations for future development and reinforcement of the gateway image into West Yorkshire. More specifically, it sets a number of principles for future development which:

- Enables LBIA to become more fully informed of the effects that any development proposals might have on the surrounding landscape and how that development could be best integrated into the environment.
- Provides indicative concepts on how the Airport might develop if good landscape, urban design and ecological principles are applied.
- Outlines the processes required to take forward the more specific phases of development and the further study and survey work that will be needed to inform the detailed design work.

LBIA accepts that the principles embodied within the Landscape and Urban Design Study would be incorporated into its major development schemes to mitigate the impact of specific development proposals, such as screen planting of the car park edges. More work will be required as the Airport develops to progress ecological surveys, key biodiversity issues and mitigation measures as well as updating the Landscape and Urban Design Study. This work would then assist in producing more detailed implementation phasing plans and proactive enhancement measures for implementation around the Airport.







## 6.4 Surface Water

LBIA works closely with the Environment Agency especially in regard to surface water run off from airfield site outlets. These outlets primarily drain into Carlton Beck and Scotland Beck and are regularly monitored to ensure compliance with regulatory requirements.

To ensure that surface water run off is effectively controlled, the following measures are in place:

- Surface water run off from apron areas, car parks, engineering compounds and the southside area is discharged through oil interceptors.
- In winter, the most environmentally friendly anti-icing agents are being used on aprons and runways. Apron run-off is drained to foul through an interceptor. As technology moves forward, more environmentally friendly products will be introduced for use on the airfield and wherever practicable in other areas of the Airport's day to day business.
- A reed bed was installed in 2002 to treat contaminated run-off from the fire training ground for safe discharge into the watercourse. The reed bed may need to be extended in capacity at a later date.
- A scheme for collecting and storing 'first flush' run-off from the airfield is being considered to enhance the existing drainage system as well as an underground storage facility at the east end of the disused runway.
- A study has been commissioned to examine in detail the drainage patterns around the Airport and to identify improvements that can be made to the drainage infrastructure.

## 6.5 Air Quality

The monitoring of air quality is a requirement of the Airport's planning conditions. As oxides of nitrogen (NO<sub>x</sub>) are considered to be the most significant in terms of their effect on air quality, NO<sub>2</sub> is used as the indicator to monitor air quality at six sites on and around the environs of the Airport.

The air quality monitoring results in 2004 show that the annual averages across the various sites were within the required national guidelines of 40 µg/m<sup>3</sup> (21 ppb) for NO<sub>2</sub>.

The purpose of air emissions management is to ensure that air quality is improved where possible and that the annual monitoring results meet or improve on the national and European standards. To this end, air emissions management is an objective within the Airport Company's Environmental Policy which is reviewed annually and specific targets are set with the aim of effectively meeting these requirements, along with the objectives of the Sustainable Aviation initiative for reducing emissions.

These objectives include for example reviewing the fuel and type and age of vehicles that are operated to minimise the effect on the environment and also ensuring that plant and equipment is maintained to achieve better environmental performance. The Airport Company's Environmental Management System (EMS) contains Environmental Instructions on emissions management which are provided to appropriate airport company departments. The EMS is reviewed annually to provide a policy of continual improvement.

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## 6.6 Aircraft Noise

The most immediate impact of Airport operations on the local environment is aircraft noise. However, substantial improvements have occurred, partly due to national and international legislation and partly due to initiatives implemented by the Airport.

The Airport has actively encouraged airline operators to introduce quieter aircraft wherever possible. The Airport Company has, on its own initiative, imposed an extensive package of local control measures to minimise wherever practicable, commensurate with safety and operational considerations, aircraft noise disturbance in areas adjacent to the Airport.

Many of these measures were strengthened by planning conditions, and as a requirement, the Airport Company reports to Leeds City Council regularly details of night movements, aircraft noise and air quality. Leeds City Council periodically reviews the environmental data submitted by the Airport.

The operational procedures introduced by the Airport Company are mandatory. They include the use of Noise Preferential Routings (NPRs) to ensure that departing jet aircraft avoid the most densely populated areas and the use of preferred runway direction, when weather conditions permit, to route all aircraft over areas of lower population density. In addition, training flights by jet aircraft are strictly regulated.

A review of the aircraft movements for 2005 showed that approximately half of the summer night time aircraft movement quota permitted by planning condition had been used. Although there are likely to be some additional aircraft movements between 23.00 and 07.00, it is expected that the permitted quota for aircraft movements will be adequate for the period up to 2016.

The Airport Company has completed a review of the homes, schools and hospitals that fall within the 63 and 69 dB(A) Leq boundaries and has ascertained that no such properties are affected. The results were compared

with the 90 dB(A) SEL contour, in order to ascertain what differences if any exist. As there was no change, there is currently no need for any further action, such as an extension to the noise insulation scheme. Nonetheless, the Airport Company will keep this matter under review and will take appropriate action to further safeguard local residents and properties.

The Civil Aviation Authority (CAA) has undertaken detailed noise modelling work. The model provided estimates of noise exposure and numbers of population affected. The 57 dB(A) Leq is defined as a level at which the onset of community annoyance occurs. At LBIA, the 57 dB(A) Leq covers an area of 4.1 km with a population count of 1,100. There are no residents currently within the 63 and 69 dB(A) Leq contours. The CAA noise forecasts for 2006, 2011 and 2016 will be attached to the Masterplan document on the Airport's website. These forecasts show only a slight increase in the extent of the 57dB(A) Leq contour by 2016.

This noise modelling will continue to be updated over the coming years and will assist in providing an understanding of the effects of air and ground noise on people living near the Airport. Mitigation measures can then be reviewed or identified and action taken accordingly. It will be necessary to keep the 90 dB(A) SEL contour under review to determine whether any further noise insulation measures need to be considered.

In general terms, noise emanating from airport operations is mitigated by locating airport activities in the least sensitive areas and by controlling as far as practicable, airport functions to the least sensitive times. Strict control is exercised over the location, duration and timing of aircraft engine running for maintenance purposes. There is the opportunity through the medium of the Airport Consultative Committee for consultation to take place with representative organisations and this is expected to increase as procedures are reviewed and elements of the Masterplan are brought for implementation.

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## 6.7 Sustainability Appraisal

Although not a statutory requirement at this time, the Airport Company commissioned a Sustainability Appraisal (SA) managed by Arup in parallel with the development of the Masterplan. The SA has informed the development of the final Masterplan document.

SA is a process that systematically and transparently appraises or ‘tests’ plans or proposals against social, economic and environmental sustainability objectives. This process identifies potential positive, negative direct, indirect or cumulative impacts, conflicts and enhancement opportunities. This can inform the decision making process and when used it can help to enhance the sustainability of the plan or proposal.

The first stage collates baseline information and identifies key sustainability issues which will inform the SA of the Masterplan. High level baseline information relating to each of the SA Objectives was collected for the area immediately surrounding the Airport and the area likely to be affected by the Masterplan. Data was collected through a combination of desk study, site visits and collation of existing information. In addition to this the baseline information collected for the SA of the Leeds LDF provided further information on the wider area of Leeds.

Following the Baseline Review, an Options Review was undertaken in July 2005. As certain aspects of the Airport are fixed such as locations of existing infrastructure or required services and ancillary support there is limited scope to develop different options. For example terminal development and fuel farms have to be developed within the Airport boundary, whereas it was clear that surface access options would have the most significant impacts on the Airport environment, land use and the community. Therefore four options relating to alternative surface access were examined through the SA process.

During the option appraisal process, the Airport growth and development in line with Government traffic forecasts was taken as a given. The appraisal therefore only considered the different implications of different surface access options and not other aspects of the Masterplan at this stage.

The general level of road traffic will increase regardless of the Airport and as the Airport grows, there will inevitably be more demand for travel. This could also affect existing and future economic activity in the area without infrastructure improvements. Therefore it is clear that there is a need to improve surface access to the Airport and its immediate vicinity which could bring associated environmental, amenity and social benefits to local communities.

Pursuing both a new road and public transport link (as discussed in Section 5.3) enables the sustainable aspects and short and long term benefits of the individual proposals to be realised. The road improvements would alleviate traffic problems and bring some economic and social benefits, whilst helping to create the demand and underpin the viability of the rail improvements, which will continue to maintain reliable access and add real value to the economy. Based on these conclusions, an SA of the draft Masterplan was undertaken in October 2005, and the emerging conclusions in relation to the SA objectives are as follows:

- The proposed development of the Airport is likely to have a significant and positive impact on the local and regional economy. The expected growth of LBIA and associated improvements of infrastructure and surface access has the potential to directly and indirectly create employment opportunities at the Airport as well as in the surrounding wards.
- The Masterplan will provide increased access and connectivity for the City Region and therefore more opportunities for economic inclusion by ensuring that all key centres are linked to the Airport, so the Airport can support the economic growth of the Region.
- The majority of required development land is within the current operational boundary, and any specific proposals (such as surface access improvements) will be subject to a separate environmental assessment. The Airport is aware of its environmental responsibilities and will continue to take every possible action to mitigate environmental impacts as the Masterplan is implemented.



# Foreword



I am pleased to introduce this Masterplan that sets out the stages of development for Leeds Bradford International Airport over the next 11 years and outlines general proposals for the period from 2016 to 2030.

We have identified preferred options for development and given careful consideration to the environmental and economic impacts of the proposals. We believe that local people should have a say about the development of their local airport, and have knowledge of what is being planned on their doorstep. What is equally important is that we should avoid surprises for local people and to that end we consider that development at the Airport would continue as in past years to be gradual and incremental.

We are therefore seeking people's views on our development plans as part of the public consultation.

The Masterplan will be available on the Airport website: [www.lbia.co.uk](http://www.lbia.co.uk) from 24 November 2005 and as a summary document hardout.

We wish to hear your views on all aspects of the proposals. Please email your comments to: [masterplan@lbia.co.uk](mailto:masterplan@lbia.co.uk) or write to the Managing Director, Leeds Bradford International Airport, Whitehouse Lane, Leeds, LS19 7TU. Please take time to consider our proposals and we look forward to receiving your comments. The public consultation period will close on 14 January 2006.

*Stewart Gorton*

Councillor Stewart Gorton,  
Chair of the Board of Directors,  
Leeds Bradford International Airport.

"Airport operators are recommended to maintain a masterplan document detailing development proposals. ... We will expect airport operators to produce masterplans or, where appropriate, update existing masterplans to take account of the conclusions on future development set out in this White Paper."

The Aviation White Paper: 'The Future of Air Transport'



# Terminal Buildings



Since 1990, the passenger terminal at LBA has tripled in size. A new check-in hall was opened in 2004 and other recent work has provided for improvements to departure lounges, security search areas and retail facilities, additional immigration, baggage reclaim and customs facilities as well as extended catering facilities and office accommodation.



Any additional terminal facilities must be located so that:

- Road access can be provided within land areas;
- Short stay car parking areas are available adjacent to it;
- If it is constructed in stages, space is safeguarded for future expansion to the planned horizon;
- It is set back sufficiently from the airfield to permit aprons of sufficient widths;
- Environmental and design issues are appropriately considered.

The existing terminal configuration has sufficient capacity to accommodate in excess of 3 million passengers per annum. It is clear, however, that additional terminal capacity will be required over the lifetime of this Masterplan, to provide additional capacity for at least 60% more passengers than at present by 2016.



# Objectives of the Masterplan

The aims and objectives of this Masterplan are to:

- Establish a flexible and sustainable planning framework within which the development of operational facilities, airport infrastructure and other services can be matched to growth in passengers and air transport movements;
- Enhance the visual setting of the Airport to minimise the impact of development on the surrounding areas;
- Encourage the use of the quietest aircraft and to minimise the effects of noise disturbance on the community surrounding the Airport;
- Develop commercial support facilities to maintain a satisfactory level of financial performance of the Airport;
- Encourage, where appropriate, further investment in the development of the Airport;
- Renew and extend cargo handling facilities commensurate with identified needs;
- Develop, implement and monitor an appropriate Surface Access Strategy for the Airport which improves access and maximises the potential for increasing the journeys made to the Airport by public transport;

Leeds Bradford International Airport: Masterplan 2005-2016

# Want to know more about the Airport Masterplan ?

Please visit the website at:  
[www.lbia.co.uk/masterplan](http://www.lbia.co.uk/masterplan)



# Surface Access



The 1998 Government White Paper set out the requirements for the development of airports within the UK to a Surface Access Strategy (SAS). The first SAS was produced in 2000 and led to:

- Develop and enhance surface access provision;
- Provide passengers and staff with the opportunity of travelling by all modes;
- Maximise the efficiency of existing land and facilities;
- Achieve a public transport mode share (excluding taxis and minibuses) of 10% by 2011.

Approximately 64% of passengers in 2004 travelled to LBA by private car. Key factors in considering proposals for new airport capacity are ensuring easy and reliable access, which minimises environmental, congestion and local impacts.

"to connect the airport to its hinterland by the full range of transport modes, allowing for sustainable development within the locality which contributes to the Regional economy and delivers the Regional Spatial Strategy."

LBA Surface Access Strategy



# Airport Forecasts



Passenger Movements

In 2004, the Airport handled just under 2.4 million passengers, and is on a rapid growth curve due to the strength of its core catchment area of the City Region. The development of new air-ferries services is likely to contribute to the growth of the Airport in the future.

Historic and future passenger movements

Aircraft Movements

In line with forecasts of passenger increases, air transport movements (ATMs) are also expected to increase from the level of 30,000 ATMs in 2004 to approximately 50,000 ATMs in 2016.

The table below shows the relationship between the future year passenger forecasts and the number of aircraft movements anticipated.

Year	Passenger Throughput (per annum (thousands))	Aircraft Movements (per peak hour)
2004	2.4	16
2006	3.1	18
2011	4.2	22
2016	4.7	25

The Future of the North of England in the 21st Century

Leeds Bradford International Airport



# Economic Benefits



The Airport will play a fundamental part in building the Region's future economy, offering businesses and local residents alike the choice of destination required without needing to travel to Manchester or London, where long haul hubs have been identified in the Aviation White Paper.

LBA has an increasingly important economic role especially within the City Region. In 2005 around 1,330 full time equivalent (FTE) jobs were directly supported by the operation of the Airport and a further 670 part time jobs indirectly. This is worth £39 million in the City Region. In 2016, the Airport is forecast to support around 3,100 FTE jobs and £36 million of income in the City Region. By 2030, the Airport is expected to support around 5,500 FTE jobs and £129 million of income in the City Region.

Around 900,000 overseas visitors came to the Yorkshire and Humber Region in 2003, spending approximately £294 million in the regional economy, which is believed to support around 160,000 jobs in the regional economy. LBA has an important role to play in supporting this growing industry, providing access to international markets.

Freight

In 2004, freight throughput at LBA was 3,623 tonnes by road and 88 tonnes by air. This level of freight throughput is relatively low in comparison with other similar and larger size airports. Whilst there is potential for significant increases in cargo throughput at the Airport, freight is unlikely to increase substantially unless cargo only operations or mail services are established.



# Aircraft Noise



The results were compared with the 90 dB(A) SEL contour, in order to ascertain what differences if any exist. As there was no change, there is currently no need for any further action, such as an extension to the noise insulation scheme. Nonetheless, the Airport Company will keep this matter under review and will take appropriate action to further safeguard local residents and properties should the 90 dB(A) SEL contour extend further into the community.



The Civil Aviation Authority has undertaken detailed noise modelling work. The model provided estimates of noise exposure and numbers of population affected. The 57 dB(A) Leq is defined as a level at which the onset of community annoyance occurs. At LBA, the 57 dB(A) Leq covers an area of 4.1 km with a population count of 1,100. There are no residents currently within the 63 and 69 dB(A) Leq contours.

This noise modelling will continue to be updated over the coming years and will assist in providing an understanding of the effects of air and ground noise on people living near the Airport. Mitigation measures can then be reviewed or identified and action taken accordingly. It will be necessary to keep the 90 dB(A) SEL contour under review to determine whether any further noise insulation measures need to be considered.



# Aircraft Noise



The Airport Company has completed a review of the homes, schools and hospitals that fall within the 63 and 69 dB(A) Leq boundaries and has ascertained that no such properties are affected.

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This noise modelling will continue to be updated over the coming years and will assist in providing an understanding of the effects of air and ground noise on people living near the Airport. Mitigation measures can then be reviewed or identified and action taken accordingly. It will be necessary to keep the 90 dB(A) SEL contour under review to determine whether any further noise insulation measures need to be considered.



# Aircraft Noise



The Board of Directors will take full cognisance of the associated environmental impact on surrounding areas. Environmental measures, already implemented, have resulted in extensive improvements to local roads, stone walls, footpaths and visual amenities, as development has progressively taken place over the years. In the same way, all aspects of future development arising from this revised Masterplan will take the local environment into account.

A review of the aircraft movements for 2005 showed that approximately half of the summer night time aircraft movements quota permitted by planning condition had been used. However, it is likely that some increase in passenger and freight services at night could occur within the period up to 2016. Over half of the night flights in 2005 were aircraft that operated in the hour after 0600 hours.

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# 7.0 Consultation



## 7.1 Introduction

This Masterplan has been developed through a series of specific consultation processes, each aimed at ensuring that the plans and proposals have been tested rigorously and that all interested parties have had the opportunity to comment on, and inform, the plan. The various stages in the consultation processes have included:

- LBIA consultations;
- Statutory consultations;
- Key Stakeholder consultations;
- Public consultations.

The following paragraphs summarise the key outputs from the consultation process at each stage.

## 7.2 LBIA Consultations

The Masterplan has been through the following scrutiny procedures within the Airport Company:

- Board of Directors;
- Airport Consultative Committee;
- Airport Transport Forum.

## 7.3 Statutory Consultations

In accord with the procedures set out within the complementary SA processes, the following statutory consultees were each invited to comment upon the emerging document:

- Environment Agency;
- Countryside Agency;
- English Nature;
- English Heritage.

At all points during the preparation of this document, the Airport Company has also kept the DfT fully informed of progress.





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## 7.4 Key Stakeholder Consultations

Within the Airport's day-to-day operations, there are a number of key Stakeholders with whom we have existing partnerships, and with whom we will need to work to deliver some of the proposals outlined in our future strategy.

Accordingly, we have involved such key Stakeholders in informal discussions, as well as through the statutory consultations process, to ensure that our plans are robust, deliverable, and in accord with other statutory planning documents.

The key Stakeholders that have been involved in this manner are:

- Airline operators;
- Business users;
- City of Bradford Metropolitan District Council;
- Friends of the Earth;
- Government Office for Yorkshire and the Humber;
- Leeds City Council;
- Local Residents;
- Members of Parliament and Local Councillors;
- Network Rail;
- Other Local Authorities;
- West Yorkshire Passenger Transport Executive;
- Yorkshire Forward;
- Yorkshire and Humber Regional Assembly.

## 7.5 Public Consultations

Finally, a comprehensive series of public consultations were held on the draft Masterplan through November and December 2005 and also in February and March 2006. This process commenced with a briefing with local Members of Parliament and representatives of Horsforth, Bramhope and Yeadon local Councils.

The main part of this stage of consultation was the series of mobile exhibitions held around the local area at which members of the public had the opportunity to comment on the forward strategy.

Public exhibitions were held at Burley-in-Wharfedale, Cookridge, Guiseley, Horsforth, Menston, Otley and Yeadon.

## 7.6 Outcome of the Consultations

It is encouraging that so many stakeholders took time to consider the proposals put forward in the draft Masterplan and respond accordingly. The Airport has considered all of the comments received and the Masterplan has been modified and amended to reflect a large number of the comments received. The Airport Company would like to express its gratitude to all the people and organisations involved in the process. A report outlining the responses received during the consultation period will be available on the airport website.

The Airport Company will continue to involve all key stakeholders as the Masterplan is implemented through the established planning and regulatory processes.

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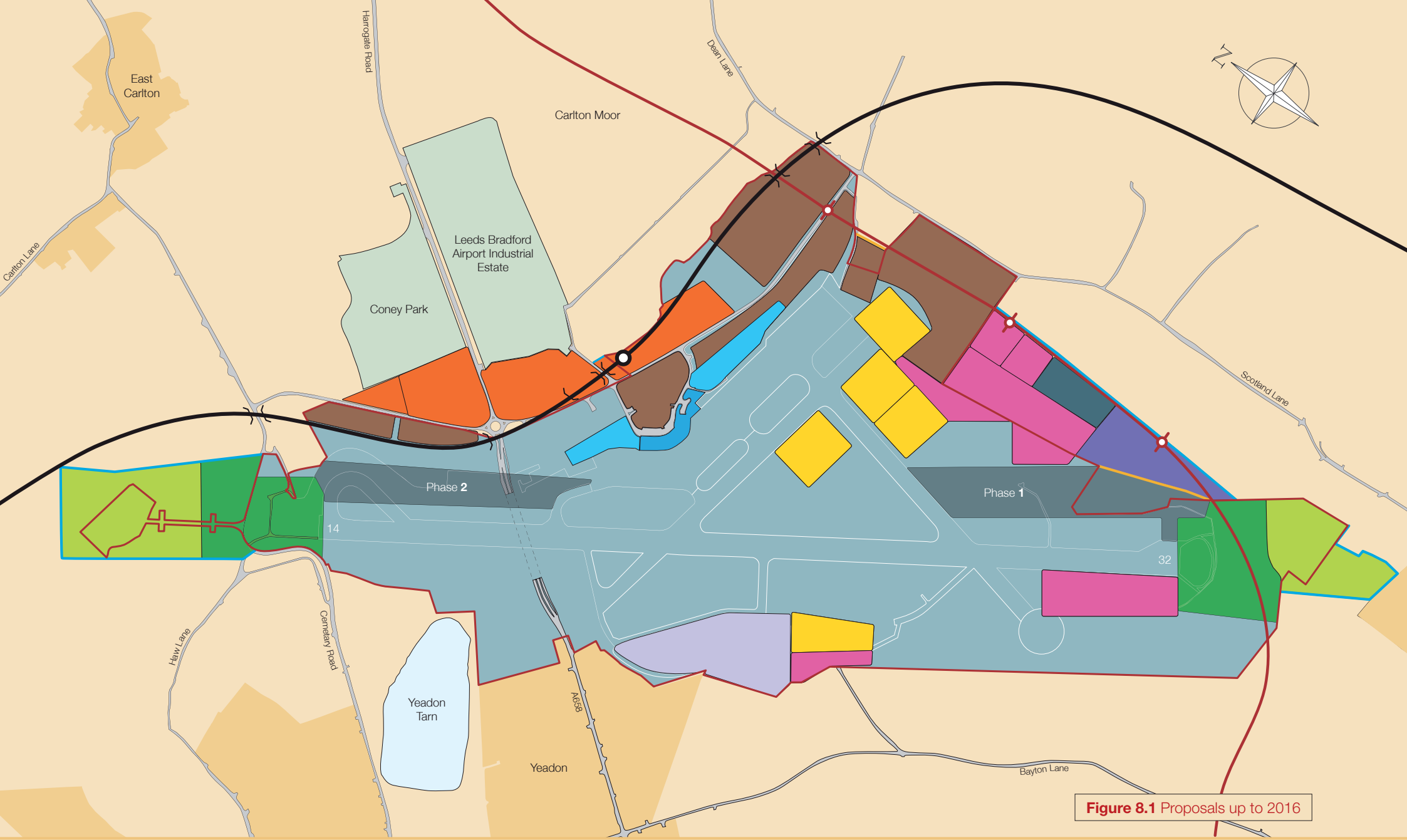
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**Figure 8.1** Proposals up to 2016

<b>Key</b>	Urban Areas	Current Operational Area	Aircraft Parking Areas	Proposed Parallel Taxiways	Safeguarded Land	Possible Road Link with Roundabouts
	Proposed UDP Amendment	Amended Boundary 2006-2016	Proposed Airfield Maintenance & Support Facilities	General Aviation	Possible Rail Link with Station	
	Existing Terminal Building	Flight Catering	Possible Future Runway Extension	Employment Land		
		Possible Future Approach Lighting	Car Parking			

# 8.0 Longer Term Proposals & Summary

## 8.1 Longer Term Proposals



This Masterplan has set out the possible future development proposals for LBIA up to 2016, as required by the Aviation White Paper. As recognised in the White Paper, it is evident that LBIA will require some significant, but incremental, development over the years addressed in this Masterplan, if it is to cater adequately for the passenger throughput predicted for 2016 and beyond.

The Masterplan covers the period up to 2016 in some detail. Development of the Airport is predicted to increase to a passenger throughput of around 8.2 million passengers by 2030. Consideration has been given to the land required to facilitate this growth and to what form a 2030 Airport might take.

Some modifications to the existing airfield operational boundary would be required, as indicated on Figure 8.1 adjacent, by the amended boundary 2006-2016 shown in blue. However, specifically to the east of the existing fence line, the Airport believes that landscaping and careful development could be used to protect the rural aspect of the Greenbelt, and road and surface access improvements discussed previously could be facilitated without any major impact on the environment.

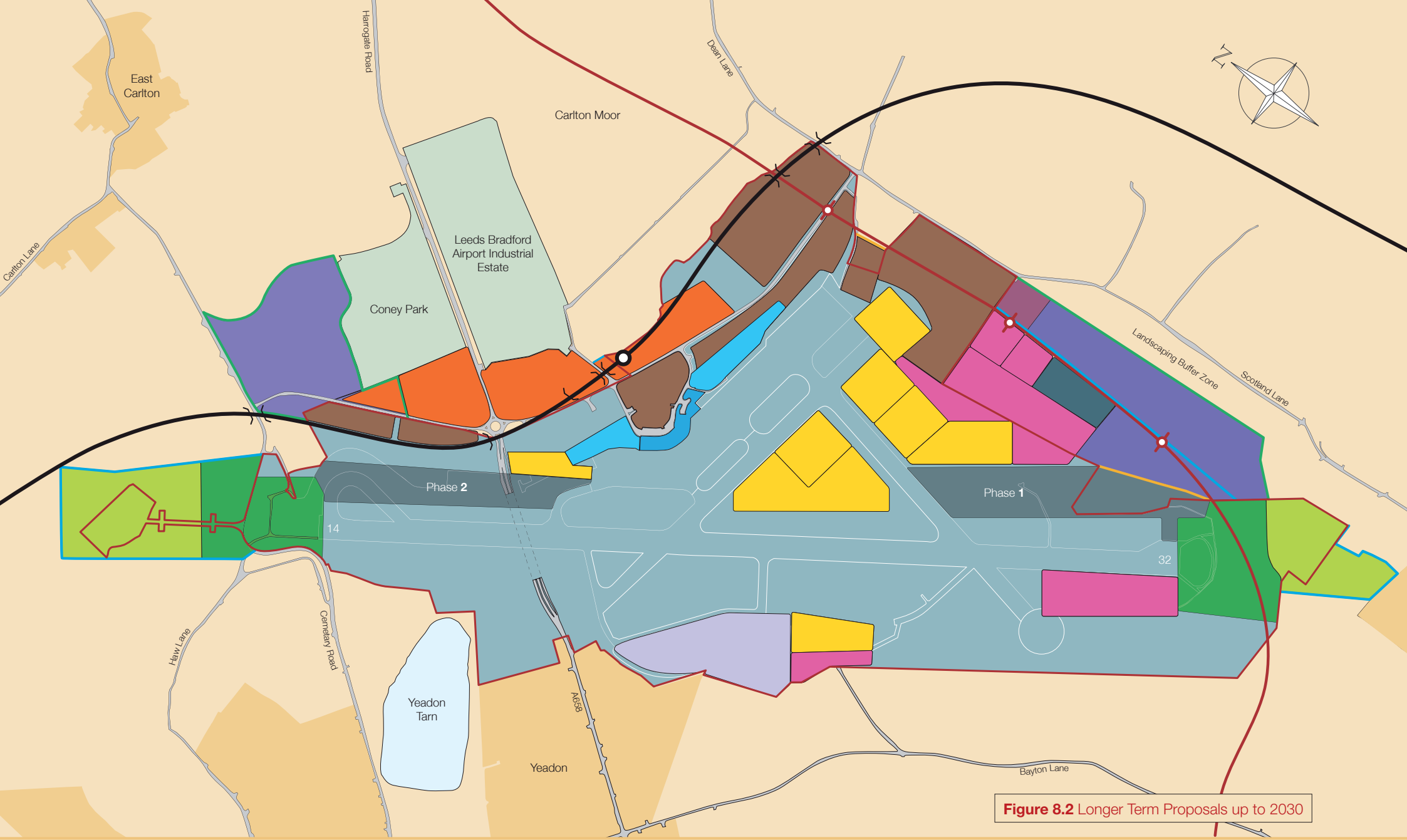
In particular the Airport Company considers it is important to safeguard the rural aspect of Scotland Lane. Consequently, it is proposed to introduce a suitable landscaping zone between the proposed extended airport operational boundary and Scotland Lane. It is also important that any surface access developments as proposed in Figure 5.1 should be planned to improve the environment around Scotland Lane.

The area of land highlighted on Figure 4.6 has been designated for employment use within the Adopted Leeds UDP. This area of land could provide for employment use in association with any new rail link. Consequently, the Local Authority is requested to safeguard this land for employment use in connection with the proposed rail link.

Also, an area of land between Warren House Lane, Harrogate Road (A658) and Coney Park has been allocated for employment use in the Adopted UDP, together with an employment commitment site which adjoins immediately to the west. Due to its close proximity to the main runway, this land could be important for Airport development post 2016. Consequently, the two areas of land highlighted in Figure 8.2, by the amended boundary 2017-2030 shown in green, should be safeguarded for Airport operational use in the longer term. The exact use will be determined at a later review of the Masterplan.

Longer term requirements for drainage are also being considered. In line with the procedure adopted at most large airports, it is considered that an area should be reserved on land between the Airport and Scotland Lane for the storage or alleviation of first flush outfall from the existing and future apron areas. This area is shown on Figure 8.2 overleaf.

The increase in pavement area to be drained will also require other facilities to control the storm water outfall into the local water course. A study has been commissioned to look at the longer term needs of airport drainage and surface water run-off.



**Figure 8.2** Longer Term Proposals up to 2030

<b>Key</b>	Urban Areas	New Terminal Facilities	Proposed Parallel Taxiways	Safeguarded Land	Possible Road Link with Roundabouts
Current Operational Area	Aircraft Parking Areas	Proposed Airfield Maintenance & Support Facilities	General Aviation	Possible Rail Link with Station	Flight Catering
Proposed UDP Amendment	Amended Boundary 2006-2016	Possible Future Runway Extension	Employment Land	Flight Catering	New Storm Water Drainage Area
Existing Terminal Building	Amended Boundary 2017-2030	Possible Future Approach Lighting	Car Parking		





## 8.2 Summary

The overall spatial Masterplan for the Airport up to 2030 is shown on Figure 8.2.

The Airport Company intends to remove as much uncertainty as possible about future development, and to alleviate any concerns of local residents as far as possible. The Masterplan sets out a programme of proposed developments that could be implemented in a sustainable way to ensure proper account is taken of environmental issues. Clearly, it is difficult at this stage to predict the exact requirements between 2016 and 2030 and beyond. However, the proposals are intended to inform stakeholders and the public of likely Airport developments and to show the extent of possible future development in a way that is as clear as possible.

The question of blight is one that some people may be concerned about. The Airport believes that the developments proposed will be gradual and incremental with only relatively small increases in the airfield operational boundary as shown on the plans. It is believed that there would be no blight effect as a result. If, in the future blight becomes an issue, the Airport would take responsible action to deal with the matter.

It is recognised that the proposals embodied in this Masterplan are dependent upon projections of future air traffic, which in turn are closely related to regional and national economic issues, to changes in technology and to national airport policy. As assumptions have to be made about all the factors which influence future growth, the Airport considers it prudent to adopt a flexible approach to future development to enable it to act promptly to any unforeseen changes.

To ensure that the Masterplan remains a realistic indicator, it is intended that full reviews will be undertaken (probably every five years) in order to accommodate any material changes in development pressures and the business climate.

Clearly, a full assessment of these future developments would be needed to fully understand the effects, and this will be undertaken through the process of reviewing this Masterplan.

For the time being, however, this Masterplan for LBIA is commended to the key Stakeholders for ongoing implementation.

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