

a new approach

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Aberdeen International Airport Master Plan 2013
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**Aberdeen International
Airport**

Info

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Foreword

For almost eight decades, Aberdeen Airport has played a pivotal role in the social and economic development of the North-East of Scotland.

In 2012, Aberdeen airport published its draft Master Plan outlining its 30 year vision for the future. It was an ambitious document, as you would expect from one of the UK's most strategically important airports.

It set out plans for significant investment in the physical capacity of the airport, including further enhancements to our terminal building, additional aircraft parking stands and taxiways, and space to further expand the runway so that we can – in time, and as demand requires – extend the airport's international reach.

As I said at the launch of our draft Master Plan, this investment – entirely funded by the airport – will ensure that Aberdeen International Airport is well placed to grow for the future and drive the region's economic success.

We consulted widely on our plans for growth. As a responsible airport operator, we understand that while many people welcome the employment and investment supported by the airport, and share our ambition to provide more choice of destinations for passengers, there are others who worry about the impact of more flights on their way of life. We have listened carefully to both sets of views, and published a revised Master Plan which, we believe, strikes a constructive balance between those differing views.

I stressed at the launch of our draft Master Plan that our forecasts for growth were realistic, achievable, but – above all – sustainable, and that remains our position today. We cannot grow Aberdeen airport without the broad support of local residents, politicians, businesses and passengers.

I am grateful to the many individuals and organisations who took the time to take part in our consultation, the most extensive ever undertaken by the airport.

Our consultation has shown that many people agree with the broad principles of the draft Master Plan, and welcome the clarity and transparency the document provides. This matters. We want to be open and clear about our plans for the future of the airport because, only by working in partnership with the local community, can we truly achieve our ambitions for the airport, the city and shire.

Aberdeen airport is a significant force in the UK aviation market – an ambitious, fast growing and increasingly well connected airport, the gateway to Europe's energy capital and Europe's busiest commercial heliport. We have emerged from the global downturn in a strong position, with a clear vision for the future and the confidence to realise that vision.

It is a shared vision, informed by the views of the many stakeholders who took part in our consultation; who, in doing so, helped us to better understand the airport's role in the local community, and the contribution it can make to the success of our region.

With almost 3,400 jobs supported by the airport across the north-east, Aberdeen International Airport is a vital economic driver for the region, contributing more than £110 million a year to the local economy.

The plans outlined in this revised document will ensure that we not only sustain, but also increase, the number of jobs supported by the airport. This, in turn, will generate an even greater economic dividend for the region.

But, growth must be achieved responsibly and sustainably, so this document also sets out our plans to strike a better balance that allows the airport to grow, but does so in a manner that minimises the impact of future growth on local residents and the local environment.

These are exciting times for Aberdeen International Airport. We have expanded our international route network with new destinations across Europe, and ambitions to reach even further afield. We continue to outperform many larger airports in terms of passenger growth. And our plans to create Scotland's first Airport City, with Aberdeen's airport at its heart, are taking shape, with a number of major commercial developments now underway around the airport that will transform the local economy and deliver enhanced facilities for local residents, businesses and, of course, our passengers.

I hope you find this document helpful and informative. We will continue to listen to the views of local people, and look forward to working with our partners in the coming years to achieve success for the airport, the city and shire.



Derek Provan,
Managing Director



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Executive Summary

Aberdeen Airport is integral to the economic success of the north-east of Scotland; both as a provider of quality jobs across the region and as a gateway for inbound tourism, an industry which is vital to Scotland's economy.

Aberdeen International Airport Limited (AIAL) is integral to the economic success of the north-east of Scotland; both as a provider of quality jobs across the region and as a gateway for inbound tourism, an industry which is vital to Scotland's economy. The airport's vision is to develop in a responsible and sustainable manner by investing in future capacity, delivering a better customer experience, and expanding the airport's international reach, providing improved connectivity for leisure travellers and the business community. This Master Plan sets out how we intend to achieve those ambitions.

The airport is an asset of strategic national importance, providing employment for nearly 5,000 people across Scotland and generating over £125 million annually for the economy. As the airport grows, so too will the substantial contribution it makes to Scotland's economic success. By developing the airport's route network, Scotland's position as a world class tourist destination, an attractive business location and a great place to live will be further strengthened. This document sets out long term forecasts for growth, and the airport infrastructure required to handle this growth at 2020 and 2040, including terminal and runway capacity. It also considers the economic role of the airport and highlights the strategic transport improvements needed to support a successful airport.

Context

The 2003 UK Government White Paper, the Future of Air Transport, provides the framework for the future development of UK aviation. It requires airports such as Aberdeen to set out their long term development plans and publish a Master Plan following public consultation. Aberdeen's first Master Plan was published in 2006 following the largest consultation ever undertaken by the airport. This Master Plan refreshes the document released in 2006.

Today's Airport

Aberdeen airport handled 3.1 million passengers in 2011, with approximately 20 airlines flying to around 40 destinations and a high percentage of business use (56%) supporting the north east economy. This Master Plan uses the timeframe up to 2020, and from 2020 to 2040, to provide an indication of the development required to meet forecast demand.

The Forecasts

Passenger numbers are forecast to grow to 4 million in 2020 and to 5.09 million in 2040. These figures are derived from econometric models produced by AIAL which are similar to independent forecasts prepared by the Department for Transport. Analysis of passenger numbers in recent years shows an underlying growth of around 2.5% per annum. Future forecasts predict an underlying growth of 2.8% per annum until 2020. Based on current levels of employment and the predicted passenger growth forecasts, an additional 1,110 jobs are expected to be created by 2030, generating an additional £42 million GVA for the Scottish economy.

Land Use to 2020

Up to 2020, development of the airport will focus on making best use of current facilities and alterations to existing infrastructure to meet capacity requirements. It is unlikely that the airport will need to develop outwith the current land under our ownership to facilitate this. The recently acquired land to the south will provide space for ancillary and airfield use.

Land Use to 2040

Beyond 2020 it is more difficult to pinpoint specific developments but it is likely that more substantial alterations to the terminal building and the provision of additional aircraft stands will be required. When considering airport development needs to 2040 it is envisaged that only limited additional land from outwith the existing boundary will be required and there is no requirement for land which has not already been identified in the 2006 Aberdeen Airport Master Plan.

Sustainable Development and the Environment

The Master Plan outlines a series of commitments on the environment. AIAL is committed to reducing energy use across the campus and has undertaken research to establish the airport's carbon footprint. The airport will also investigate the feasibility of using renewable energy technologies to meet its energy requirements. Action to tackle the issue of aircraft noise is also planned and includes developing a workable ground noise mitigation plan for residents to the east of the airfield.

Surface Access

Convenient and reliable access by a range of transport modes is of fundamental importance to the operation and success of any airport. The airport is prone to heavy traffic congestion at peak times and there is a high level of dependence on private cars and taxis for access to and from the airport. AIAL will continue to work with Transport Scotland, NESTRANS, local authorities and others to improve access to the airport, including the delivery of the AWPR and link road projects.

Summary

The Master Plan review has highlighted that Aberdeen airport is well placed to accommodate the predicted growth in passenger numbers within its existing footprint. It is only towards the end of the period reviewed that further consideration will need to be given to possible runway extensions and the corresponding land requirements. The review has also confirmed the economic importance of the airport and provided an opportunity for the airport to consider how its growth can be delivered in a sustainable way.

Introduction

Background to the Master Plan

Aberdeen airport's first Master Plan¹ was published in 2006 following the largest public consultation exercise in the airport's history. The original Master Plan has proved to be an invaluable document for many airport stakeholders, providing concise information on the operation and development of the airport and about the strict regulatory regime under which all UK airports operate.

In line with its undertakings in the 2006 Master Plan, Aberdeen International Airport Limited has invested more than £54 million developing and improving the airport over the past five years, at no cost to the taxpayer. The main capital investment projects arising for the period up to 2015 from the Master Plan were:

- A £10 million extension to the north end of the main runway
- A £5 million extension to the international arrivals areas and a redevelopment of the northern elevated walkway
- The provision of up to 850 additional car parking spaces
- The provision of seven additional aircraft parking stands

With the exception of the aircraft parking stands, (of which three have been built to match current growth and the changing airline fleet mix), all of the above investments have been completed at this time.

Aberdeen airport's first Master Plan was prepared in response to the requirements of the 2003 White Paper, 'The Future of Air Transport'², which provides a strategic framework for the development of airport capacity in the UK up to 2030. The White Paper required certain airport operators, including Aberdeen Airport, to produce master plans to reflect the objectives of the White Paper and to explain how they proposed to take forward the development of airport facilities. The UK Government is currently reviewing the 2003 White Paper and intends to publish a revised policy for consultation in 2012. The Government has confirmed that aviation policy continues to be based on the provisions and recommendations of the 2003 White Paper until any new policy is published.

The Future of Air Transport Progress Report³ was published in December 2006. The report provides an update of progress against the strategic objectives first published in the White Paper. It recognises that the criticality of aviation to the health of the national economy is increasing due to the continuing spread of business globalisation, rising disposable incomes, increasing numbers of UK residents and foreign visitors to the UK, together with the UK's continued role as an international hub.

With regard to environmental issues, the Progress Report notes the on-going development of an EU Emissions Trading Scheme (EU ETS) which encompasses aviation emissions. It also notes the establishment of the aviation industry's Sustainable Aviation Initiative (of which AIAL is a member), which seeks to improve the environmental performance of the aviation industry.

The guidance issued by the DfT in 2004⁴ on the content of Airport Master Plans recommended that they should be reviewed every five years and that the short to medium term period should be considered in a greater level of detail, with the longer term period being more indicative. This Master Plan follows these principles, but will look out to 2020 as the short to medium term and 2040 as the longer term time horizon.

The Master Plan has been informed by the 12 week consultation which took place following publication of a draft Master Plan in April 2012. The consultation was carried out in accordance with the Guidance on the Preparation of Airport Master Plans and the principles of the Scottish Government's Planning Advice Note 3/2010: Community Engagement⁵. Some 1,912 copies were downloaded from the airport website and a further 300 hard copies distributed during this period. An independent report on the public consultation, including details of the responses received, is available on the airport website – www.aberdeenairport.com

In common with the previous Master Plan, the updated version is not a statutory planning document. However, Government has directed that planning and transport authorities must take account of airport master plans and the provisions of the White Paper in their guidance, strategies and decisions.

Objectives of the Master Plan

The vision of AIAL is to continue to work with airlines and other airport users to strengthen and grow Aberdeen airport as the key regional airport in the North East of Scotland.

AIAL's strategic aims for Aberdeen airport's future are:

- To run an operation that is safe, secure, reliable and resilient;
- To deliver an excellent customer service experience that makes our airport the preferred choice for travellers;
- To continually improve the cost efficiency of its operations;
- To design and deliver quality, predictable, value for money infrastructure;

- To achieve high standards of sustainability; and
- To respond proactively to the needs of our stakeholders.

The objectives of the Master Plan are informed by AIAL's vision, strategic aims and Government policy. They are:

- To provide a basis for engagement and informed discussion with our customers, neighbours and partners;
- To positively influence planning, transport and economic development policies and decisions by establishing a shared vision for the development of the airport;
- To develop a framework to maximise economic and social benefits provided by the airport whilst managing environmental effects;
- To set out the prospects for air traffic growth and an indication of the airport infrastructure required to handle this growth at 2020 and 2040;
- To identify the areas of land currently outside the airport's ownership which may be required to enable the airport to grow and accommodate the forecast increase in passenger numbers; and
- To highlight the strategic transport improvements – including public transport - needed to support the growth of the airport and surrounding area.

It is right that this Master Plan sets out how Aberdeen airport is expected to grow in the medium and long term to provide a basis for engagement and informed discussion with our customers, neighbours and partners. It is hoped that the Master Plan will also inform the timely provision of supporting infrastructure by others.

It should be noted, however, that the timescales referred to in the Master Plan for airport growth and supporting infrastructure are based on current passenger forecasts. Therefore, if passenger numbers grow more quickly than expected, development may be required sooner. Equally, if numbers grow less quickly than expected, individual developments may not be required until later or not at all.

¹ Aberdeen Airport Master Plan, Aberdeen Airport Limited, 2006.

² CM6046 The Future of Air Transport, Department for Transport, 2003.

³ In July 2012, the UK Government published a draft aviation framework policy for public consultation. The draft framework sets out the Government's vision for sustainable aviation growth. The results of the consultation, and the Government's response to it, were still awaited at the time of going to press.

⁴ CM6977 The Future of Air Transport Progress Report, Department for Transport, 2006.

⁵ Guidance on the Preparation of Airport Master Plans, Department for Transport, 2004.

Aberdeen Airport Today

Introduction

Aberdeen airport is located approximately seven miles north west of Aberdeen city centre. It is bounded to the north and south by open farmland, to the west by Kirkhill Industrial Estate and to the east by the village of Dyce. The airport is the north east of Scotland's principal transport gateway and it performs a critical function in Aberdeen's role as Europe's energy capital. Indeed, supporting this thriving industry has turned Aberdeen into the busiest commercial heliport in Europe.

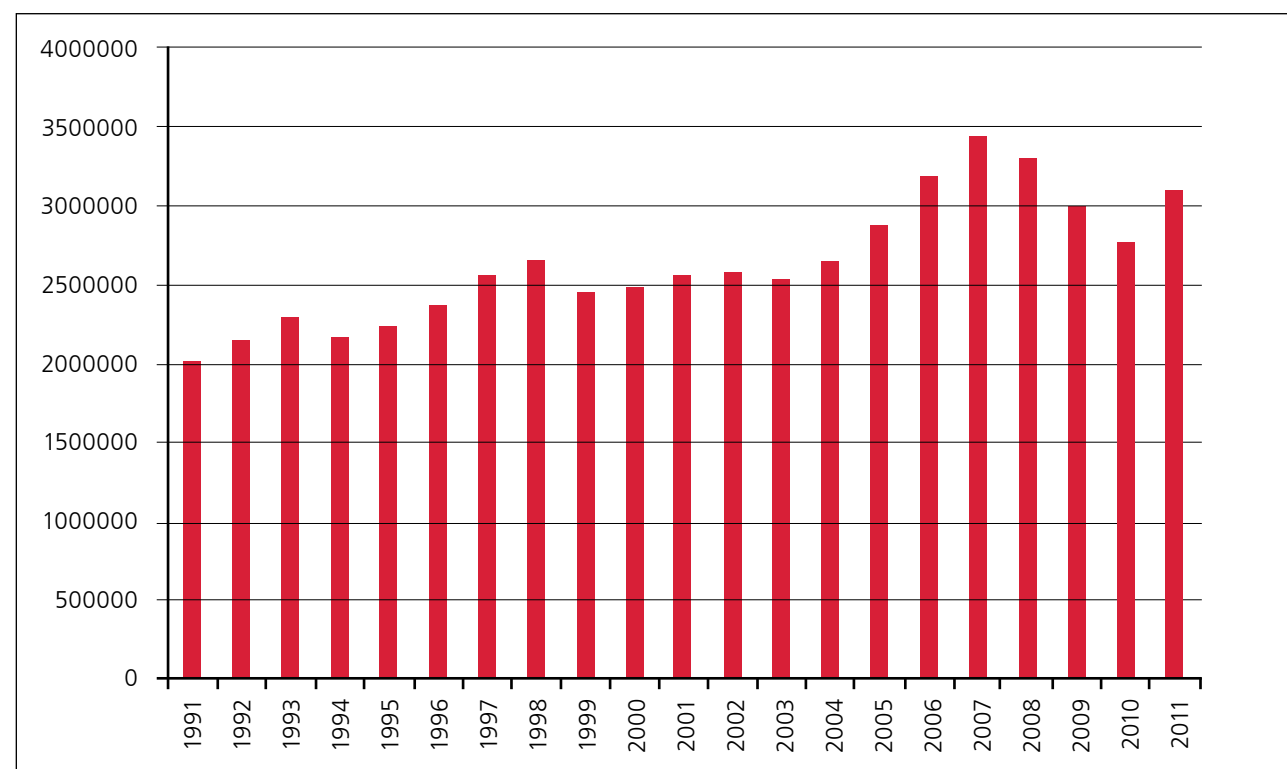
This chapter provides a description of facilities at Aberdeen airport and an overview of traffic characteristics.

History of the Airport

The history of Aberdeen airport dates from 1934, when land at Dyce was acquired for the development of a public aerodrome. During the Second World War the airport was primarily used as a military air base. Oil-related helicopter movements commenced in 1967 and the current main terminal and associated facilities were completed in 1977.

At the time of privatisation in 1987, Aberdeen Airport Limited handled 1.47 million passengers a year. Figure 1 illustrates the growth since 1991.

Figure 1: Annual passenger figures since 1991



Airport Facilities

Runway and Taxiway System

Taking into account the mix of fixed wing and helicopter operations there are four operational runways in use at Aberdeen today:

- **Runway 16/34** (the main runway) is designated by the CAA as a Code 4D runway, its dimensions being 1,952 metres long by 46 metres wide. It is equipped with a Category I instrument landing system (ILS). It generally lies in a North to South alignment and is used for all fixed wing operations. Under normal operations, it can accommodate any aircraft up to and including the Boeing 767 or Airbus 321.
- **Helicopter Runway 05/23** is a visual runway measuring 513 metres and has a North-East to South-West alignment.
- **Helicopter Runway 14/32** is a visual runway, 590 metres in length and lies in a North-West to South-East alignment.
- **Helicopter Runway 36** is a visual runway measuring 580 metres and has a North to South alignment.

The main runway is complemented by a Code D parallel taxiway system which allows for a peak hourly movement capacity of 36 take-offs or landings per hour.

Aircraft Aprons and Parking Stands

Aberdeen airport currently has up to 24 designated passenger aircraft parking stands depending on the configuration used (see Table 1). Of the passenger stands, two can accommodate larger aircraft such as the Boeing 767. Of the 24, 18 stands are 'contact', which means they are located within walking distance of the terminal. The airport also has other parking areas remote from the terminal which are used to park additional aircraft during peak periods.

Table 1: Aberdeen Airport Aircraft Stands

	Small	Medium	Large	TOTAL
Stands (min*)	12	9	2	23
Stands (max**)	14	10	0	24

* Assumes use of the centreline on multi use stands

** Assumes use of "L" and "R" centrelines on multi use stands

Passenger Terminal Facilities

The majority of passenger facilities are located in and around the main terminal, located on Brent Road. There are also four smaller passenger terminals including three for helicopter operations. The main terminal building has been extensively redeveloped and improved since 1977 and an extended departure lounge was opened in 2008. Recent developments have included a £5 million extension to international arrivals, refurbishing the security search area and providing new shops and restaurants. It is important to note that, with airport operators under significant pressure to maintain competitive charges, income derived from retail, catering and other 'non-aeronautical' uses plays an increasingly important role in enabling investment in the airport while maintaining competitive landing charges.

Internally, the main terminal building is organised such that arrival facilities are generally situated at the southern end of the building. Check-in and baggage facilities are located in the northern part of the building with security search and the departure lounge occupying the centre.

The main passenger terminal has 20 check-in desks with 100% hold baggage screening and a number of self-service check-in kiosks. There is one domestic and one international baggage reclaim belt.

As a direct consequence of the 2007 terrorist attack on Glasgow airport, £2 million was invested to enhance forecourt security and improve passenger drop-off facilities. A secure, dedicated public transport corridor for buses and taxis is now provided in front of the main terminal.

Car Parking

There are two public car parking areas within the airport, including the 500 space car park deck. Together, these provide a total of 2,254 spaces. There are 425 staff car parking spaces on the airport campus provided in a dedicated and secure staff car park. Table 2 shows the number of parking spaces by type.

Table 2: Car Parking at Aberdeen Airport

	No. of Spaces
Short Stay	1,247
Long Stay	1,007
Staff	425

Cargo and Mail

Cargo facilities occupy approximately 0.8 hectares of land, the majority of which is located off Ninian Road. Facilities here include 1,600m² of warehousing served by a dedicated cargo apron. DHL also have an 800m² cargo facility to the south of the main terminal.

Aberdeen's cargo business includes cargo flown on passenger services (belly hold), dedicated cargo flights and cargo transported by road to other major freight airports such as Heathrow. In the 12 months to the end of 2011, 6,191 tonnes of cargo were handled through Aberdeen airport and this represents an increase of 20% over the previous year.

Aircraft Maintenance

Aircraft maintenance facilities occupy approximately 17 hectares across 12 aircraft hangers providing 27,000m² of floor space. This is largely occupied by three helicopter companies each having significant rotary wing (helicopter) maintenance, repair and overhaul (MRO) facilities, as well as fixed wing (aeroplane) facilities for BMI Regional, Caledonian Airborne Engineering and Eastern Airways.

Air Traffic Control and Airspace

The air traffic control tower was built in 1977. This iconic 21 meter high building is located between the main taxiway and CHC helicopter base and commands an uninterrupted view across the airfield.

Airspace directly surrounding Aberdeen Airport is managed on behalf of the airport by National Air Traffic Services Limited (NATS). Outside of this zone airspace is managed by NATS En Route Limited (NERL) from the Scottish Air Traffic Control Centre at Prestwick.

Chapter 2

Ancillary Facilities

A number of ancillary facilities are also required to support the operation of the airport. Such uses usually have a locational need to be within or in close proximity to the airport boundary, either for operational, regulatory or efficiency reasons. Some of the key ancillary facilities at Aberdeen airport include:

- Airport fire station - AIAL has its own airport fire service which is operational 24 hours a day. The fire station is located to the East of the airfield off Wellheads Drive. The airport's fire training ground is located to the North West of the airfield off Forties Road;
- Fuel farm – The fuel farm covers an area of approximately 0.5 hectares and is located at Montrose Road. There are four surface level tanks with a combined capacity of approximately 1.5 million litres for the storage of Jet A1 and Avgas aviation fuels. On-site accommodation includes offices, training and staff welfare facilities. Fuel is delivered by road tanker to the fuel farm and then by bowser to the aircraft.
- Car hire facilities – These include a building housing the customer service desks (due to open in Spring 2013), ready return spaces, where passengers pick up and drop off cars and back up areas (incorporating vehicle wash, fuelling areas and office accommodation); and
- Hotels – There are two hotels located on the airport campus, a third under construction, and planning permission has been gained for a fourth.

Other ancillary airport facilities include:

- general/business aviation area;
- in-flight catering units;
- aircraft sanitation unit;
- motor transport facilities;
- engineering workshops;
- snow base;
- contractors compounds;
- office accommodation;
- police station;
- taxi feeder rank;
- petrol filling station; and
- flying club.

Traffic Characteristics

Aberdeen airport is an important gateway to the north of Scotland with 20 airlines providing links to over 40 destinations. It is the third busiest airport in Scotland, handling 3.1 million passengers in 2011. This represents an increase of 11.8% in passenger numbers from 2010. Although Aberdeen suffered some decline in passenger numbers since a peak in 2007, this was less marked than it was at other airports in the UK, and with passenger growth returning, Aberdeen was, in fact, the fastest growing UK airport in 2011. Aberdeen airport's market share within Scotland rose from 11.7% in 2004 to 13.3% in 2011.

The airport hosts a wide range of scheduled services, around half of which are to major UK cities, including London, Manchester, Leeds and Bristol, Cardiff and Belfast, as well as the Scottish Highlands and Islands. These routes are operated by airlines such as British Airways, bmi, Eastern Airways, easyJet, Flybe and Loganair.

Aberdeen also provides access to a number of key international hubs including Dublin, Paris, Amsterdam, Copenhagen and the new Frankfurt service operated by Lufthansa. The airport also provides links to a range of destinations that relate to Aberdeen's position as Europe's oil capital, including Bergen and Stavanger. This role as the energy gateway also makes Aberdeen Europe's busiest commercial heliport and results in the airport having a higher proportion of business passengers (56%) than most other UK airports.

Table 3 shows passenger numbers (split by international and domestic), Passenger Air Transport Movements (PATMs) and average passenger load per passenger aircraft between 1999 and 2011.

Table 3: Historical Passenger Air Traffic Data (1999 - 2011)

	Annual Domestic Passengers	Annual International Passengers	Annual Total Passengers	Annual FW PSTMs	Average Flight Load (Passengers)
1999	2006729	457288	2464017	48487	50.8
2000	2044724	442214	2486938	47357	52.5
2001	2129885	446182	2576067	49459	52.1
2002	2039812	546748	2586560	46325	55.8
2003	1911553	622362	2533915	47016	53.9
2004	2027260	628032	2655292	49556	53.6
2005	2176423	700349	2876772	55037	52.3
2006	2348760	842343	3191103	60085	53.1
2007	2476909	964791	3441700	63710	54.0
2008	2358903	962526	3321429	61099	54.4
2009	2190301	815969	3006270	59181	50.8
2010	2076295	705266	2781561	54340	51.2
2011	2283987	824184	3108171	58546	53.1

Aberdeen airport's catchment is dominated by the City of Aberdeen and Aberdeenshire. Around 63% of passengers were drawn from the City of Aberdeen and around 25% from Aberdeenshire. Moray (3%), Angus (2%), Highland (2%) and Perth and Kinross (1%) are the only other areas that provide any significant traffic.

Figure 2 shows that passenger demand is slightly greater during the summer months as leisure demand increases.

Figure 2: Monthly Passenger Distribution in 2011

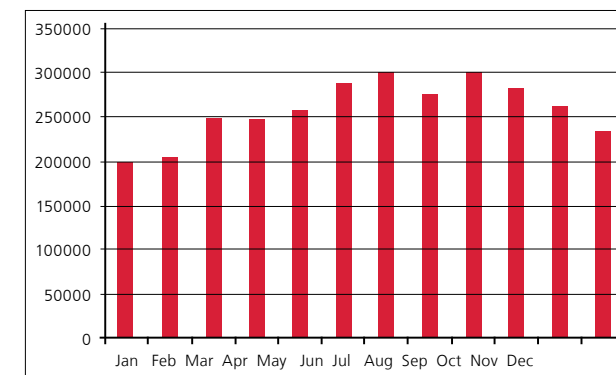
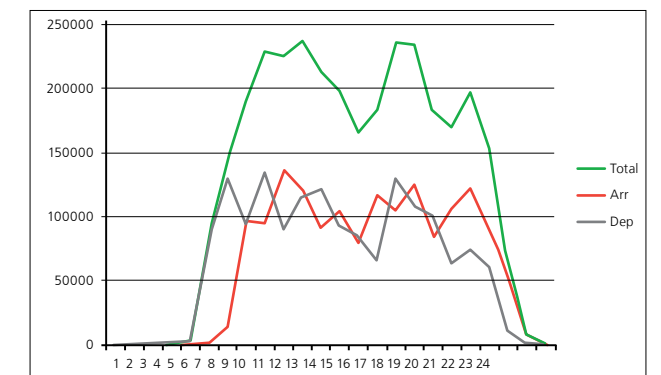


Figure 3 outlines total passenger demand by hour in 2011 and shows that, although departures are busy in the early morning and arrivals last thing at night, the periods between 10am and 11am and 4pm and 5pm are the busiest times for all passengers at Aberdeen airport.

Figure 3: Hourly passenger distribution in 2011





Policy and Legislation Context

Introduction

Aberdeen airport operates within a framework of policy and legislation which regulates the operation and development of airports. Key topics include transport, planning, economic development, the environment, airport design and future airport growth. Various local, national and international authorities have responsibility for different topics, and this chapter sets out relevant policy and legislation and how it relates to the airport. Environmental policies and legislation relevant to the airport are explored in chapter 6.

Aviation Policy

The Airports Act 1986 established a legal framework for the private ownership of airports in the UK and provides specific controls on their use and operation. The status of Aberdeen International Airport Limited (AIAL) as a relevant airport operator and as a relevant airport is conferred by Section 57 of that Act.

The Future of Air Transport White Paper, published in 2003, provides a strategic framework for the development of airport capacity in the UK up to 2030. Whilst aviation is a matter reserved to Westminster, the (then) Scottish Executive worked in collaboration with the Department for Transport to prepare the Scottish elements of the White Paper. The White Paper seeks to achieve a balanced approach to airport growth and in terms of Scotland it states that:

“Overall, the forecasts show demand for air travel increasing from around 20 million passengers per annum (mppa) today to close to 50mppa by 2030. A sizeable proportion of this demand is expected to arise at airports in the Central Belt.”

The main conclusions of the White Paper in respect of Aberdeen airport are:

- existing terminal to be developed incrementally to reflect increased traffic;
- land to be safeguarded for a possible extension of the main runway; and
- surface access links to be improved by the Aberdeen Western Peripheral Route.

The current UK Government has stated its intentions to replace the 2003 White Paper by 2013 and recently published a scoping document⁶ for consultation. Aberdeen airport provided a response to the consultation and will continue to engage with the UK Government and DfT as the new policy is developed to promote the creation

⁶ Developing a Sustainable Framework for UK Aviation: Scoping Document, Department for Transport, 2011.

of a new aviation policy framework which recognises the important role of Aberdeen airport and supports the development of the airport and supporting infrastructure.

In order to safeguard its licence to operate an aerodrome in the UK, Aberdeen airport must satisfy and continually adhere to CAA standards. These standards are contained within the CAA publication CAP168, and are subject to on-going revision to reflect changes such as the introduction of new aircraft.

Aerodrome Safeguarding and Public Safety Zones

Aberdeen airport is situated at the centre of a series of obstacle limitation surfaces which define maximum acceptable heights for buildings and other structures, such as telecommunications masts and wind turbines. The protection of these surfaces is undertaken as part of the Aerodrome Safeguarding process. This is undertaken by AIAL's Safeguarding Manager, in consultation with AIAL's Development team. Local Planning Authorities are issued with safeguarding maps which enable them to identify those planning applications on which the airport must be consulted.

Government targets for renewable energy generation have resulted in a large number of proposals for on-shore wind farms being brought forward in the last few years. AIAL supports Government objectives to increase the amount of energy generated by renewable sources; however this must be achieved without compromising the safe and efficient operation of aircraft and airports and the economic and social benefits these bring.

Wind turbines can be a cause for concern, both in terms of physical obstruction and their impact on radar navigation systems. Furthermore, poorly located wind farms can reduce airspace capacity and result in additional fuel burn as aircraft take longer routes around them.

AIAL will continue to work proactively with Government, Air Traffic Control providers and developers in this area.

The risk of air accidents occurring within, or in close proximity to airports, is the subject of Government policy which defines Public Safety Zones (PSZs) extending outward from the ends of a runway. PSZs identify areas where the risk of an aircraft accident, while extremely low, may be such as to merit restrictions on the use of land. The Department for Transport (DfT) are responsible for PSZ policy and Local Planning Authorities are responsible for ensuring PSZ policy is adhered to.

The current PSZs were calculated and formally adopted in 2011. The basic policy objective is that there should be no increase in the number of people living, working or congregating in PSZs and that, over time, the number should be reduced as far as circumstances allow.

Land Use Planning

National Planning Policy

Planning in Scotland is a devolved matter overseen by the Scottish Government. The second National Planning Framework⁷ (NPF2) was laid before Parliament in June 2009. NPF2 sets out the strategic national development priorities to guide the country's development up to 2030 and is intended to support the Scottish Government's central purpose of achieving sustainable economic growth.

The key aims of NPF2 are:

- to contribute to a wealthier and fairer Scotland by supporting sustainable economic growth and improved competitiveness and connectivity;
- to promote a greener Scotland by contributing to the achievement of climate change targets and protecting and enhancing the quality of the natural and built environments;
- to help build safer, stronger and healthier communities, by promoting improved opportunities and a better quality of life; and
- to contribute to a 'smarter' Scotland by supporting the development of the 'knowledge economy'.

The main difference between NPF2 and the first National Planning Framework is that NPF2 is a statutory document which is subject to parliamentary scrutiny. Furthermore, it designates 'national developments' which are considered essential to Scotland's long-term development. Designation as a 'national development' does not remove the need for planning permission. It does however establish the acceptance of the principle of development, leaving the assessment process to consider issues of detail such as design and environmental impact.

While the main purpose of NPF2 is to provide overarching co-ordination of policies with a spatial or land use dimension, it is also intended to inform the investment priorities of public agencies. Planning Authorities must take NPF2 into account when preparing development plans and determining planning applications.

Aberdeen airport has been designated as a national development (within Strategic Airport Enhancements) in recognition of the vital role it performs in the North-East

⁷ National Planning Framework for Scotland 2, Scottish Government, 2009.

and UK economies. Elements covered by the designation include:

- improvements in access by public transport;
- improvements to terminal facilities; and
- new parking arrangements.

NPF2 highlights a number of key challenges the country must address. With regard to air transport, paragraph 23 states:

“While the expansion of direct air links has dramatically improved Scotland's international connectivity in recent years, air travel is making a growing contribution to greenhouse gas emissions. A key issue over the next 25 years will be how to maintain and enhance this connectivity, with all the economic and other benefits that this will bring, while tackling the challenge of climate change.”

This statement highlights the importance of ensuring that the growth of Aberdeen airport is achieved in a sustainable and responsible manner.

Strengthening links with the rest of the world and the role this plays in supporting the economy is one of the main themes in NPF2 and paragraph 113 states:

“Economic success will depend on good connections with the rest of the United Kingdom and global markets. Scotland's position on the Atlantic seaboard makes it particularly important to respond to the changing geography of Europe and the development of European markets. We also need to strengthen links with North America and the growing economies of Asia.”

Domestic and international connectivity is particularly relevant given Aberdeen's relative peripherality and the region's economic future as an energy hub. The Framework also recognises that adequate investment in infrastructure is vital to the competitiveness of the country.

Paragraph 58 states:

“To ensure that Scotland is a good place to do business and an attractive tourism destination, we need to promote high quality environments and good transport interchange facilities at our air, rail and sea gateways.”

The Framework provides details of transport infrastructure developments which were committed to at the time of publishing, including the Aberdeen Western Peripheral Route (AWPR). In reflecting the position of the White Paper

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on supporting the growth of Aberdeen Airport, paragraph 116 highlights that:

“In promoting enhancements at our airports, the Scottish Government is placing emphasis on measures which improve surface access by public transport.”

The consolidated Scottish Planning Policy⁸ (SPP) was published in February 2010 and supersedes the previous range of topic based Scottish Planning Policies and National Planning Policy Guidelines. SPP is the statement of the Scottish Government’s policy on nationally important land use planning issues.

Airports are considered under the heading of transport and the SPP recognises the importance of airports as economic generators and transport nodes. It also highlights the role of airports in supporting wider economic growth and a significant number of jobs.

Planning authorities and airport operators are encouraged to work together to address the Airport Master Plan and other related planning and transport issues. Other relevant issues to address include:

- public safety zone safeguarding;
- surface access; and
- airport related on and off site development such as transport interchanges, offices, hotels, car parking, warehousing etc.

Regional Planning Policy

Regional planning policy is provided by the Aberdeen City and Shire Structure Plan which was approved in by Scottish Ministers on 14 August 2009. The Structure Plan vision is that:

“By 2030, Aberdeen City and Shire will be an even more attractive, prosperous and sustainable European city region and an excellent place to live, visit and do business.”

Proposals to deliver this vision include “Putting the Aberdeen airport masterplan into practice”. The airport is located within the Aberdeen City Strategic Growth Area which is one of three areas where development will be focussed on up to 2030.

Economic growth is one of the objectives of the Structure Plan. Paragraph 4.4 states:

“Future development should not be allowed to limit the growth of the economy by making the region less attractive to business, particularly in relation to congestion and access to roads, ports, airports and rail facilities. This infrastructure needs to be protected and improved...”

This reinforces the objective to improve the essential strategic infrastructure necessary to allow the economy to grow over the long term. Transport infrastructure is one area where focus is required to bring the existing network up to a standard which will enable the economy of the North East to flourish. The Structure Plan highlights the Aberdeen Western Peripheral Route, Haudagain roundabout, new park and ride facilities and improvements to the A96 - all projects which AIAL endorse and wish to see delivered.

One of the key projects for the future economic success of the region is Energetica. The connectivity provided by Aberdeen airport is critical to the prospects of this project and AIAL welcomes efforts to develop it further.

Local Planning Policy is provided by the Aberdeen Local Development Plan which was adopted on 29 February 2012. The Local Development Plan reflects NPF2 by considering improvements to Aberdeen as essential to the delivery of the land use strategy. The importance of safeguarding business and industrial land around strategic sites including the airport, is highlighted with reference to maintaining the city’s competitive position as a sustainable business location.

Local Planning Policy B14 refers specifically to Aberdeen airport and states:

“Within the operational land applying to Aberdeen Airport and Aberdeen Harbour there will be a presumption in favour of uses associated with the airport and harbour respectively.”

Public Safety Zones have been established for Aberdeen Airport (shown on the Proposals Map) where there is a general presumption against certain types of development as set out in Scottish Governments Circular 8/2002. Due regard will be paid to the safety, amenity impacts on and efficiency of uses in the vicinity of the airport and harbour.”

The Local Development Plan recognises that Aberdeen airport is a vital hub which provides a service for the region as a whole. It states that land within the airport operational area:

“...should be maintained for... respective related activities. This could include administrative offices, warehousing, car parking and possibly hotels.”

The plan confirms the council’s intention to maintain a night-time ban on helicopter movements except for emergency situations to protect residential amenity. Policy H8 also relates to residential amenity and states that:

“Applications for residential development under or in the vicinity of aircraft flight paths, where night time (23:00 to 07:00) noise levels in excess of 57dB LEQ or day-time noise levels in excess of 60dB LEQ are experienced, will be refused due to the inability to create an appropriate level of residential amenity, and to safeguard the future operation of Aberdeen Airport.”

In parallel, AIAL will continue to monitor planning applications in and around the airport and to provide comments where appropriate.

A Planning Brief has also been prepared by Aberdeen City Council for land adjacent to the airport around Dyce Drive to provide a framework for investment decisions and to encourage the development of a high quality business park. Land owned by AIAL within the Planning Brief area is designated for airport operational and related uses.

Development Management

All major airports in Scotland have certain permitted development rights under the provisions of Part 14 of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992, as amended. This means that some types of development undertaken by Aberdeen airport (or its agents) on operational land can proceed following the submission of a prior notification, rather than a planning application, to the Planning Authority. Developments such as the construction or extension of a runway, hotels and development on non-operational land are not permitted development. Operational land is defined in the Town and Country Planning (Scotland) Act 1997 as land owned by the airport authority which is used for the purpose of carrying out the airport’s undertaking.

Economic Development

Chapter 5 provides more detail on the economic impact of the aviation industry and Aberdeen airport specifically, but in a wider sense the airport has a significant role to play in supporting a number of economic development policy objectives. The key documents and policies in this area are summarised below.

A new Government Economic Strategy⁹ was published in 2011 to support the Government’s stated priority of increasing sustainable economic growth. The Strategy highlights the importance of developing international trade and investment and improving physical infrastructure. Specifically in relation to transport, the Strategy notes:

An efficient transport system is one of the key enablers for enhancing productivity and delivering faster, more sustainable growth.

The Aberdeen City and Shire Economic Forum (ACSEF) published an Action Plan in 2008 to deliver an economic vision for the region, which is:

“We aim by 2025, for Aberdeen City and Shire to be recognised as one of the most robust and resilient economies in Europe with a reputation for opportunity, enterprise and inventiveness that will attract and retain world-class talent of all ages.”

To become the location of choice for high value oil and gas and renewable energy organisations and a first choice for organisations of all sizes operating in other high value, quality and niche markets.

Our environment, our accessibility and our hospitality will make Aberdeen City and Shire one of the most interesting and enjoyable locations in the UK in which to visit, live, work and grow up.”

One of the strategic priorities in this document is to deliver a fully integrated transport network where Aberdeen City and Shire is the best connected region in the UK with global connectivity.

⁸ Scottish Planning Policy, Scottish Government, 2010.

⁹ The Government Economic Strategy, Scottish Government, 2011.

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Transport

The National Transport Strategy (NTS) priority is to promote sustainable economic growth assisted through an efficient and effective national transport network. To achieve this, the NTS sets out a series of strategic priorities and outcomes. There are three key outcomes:

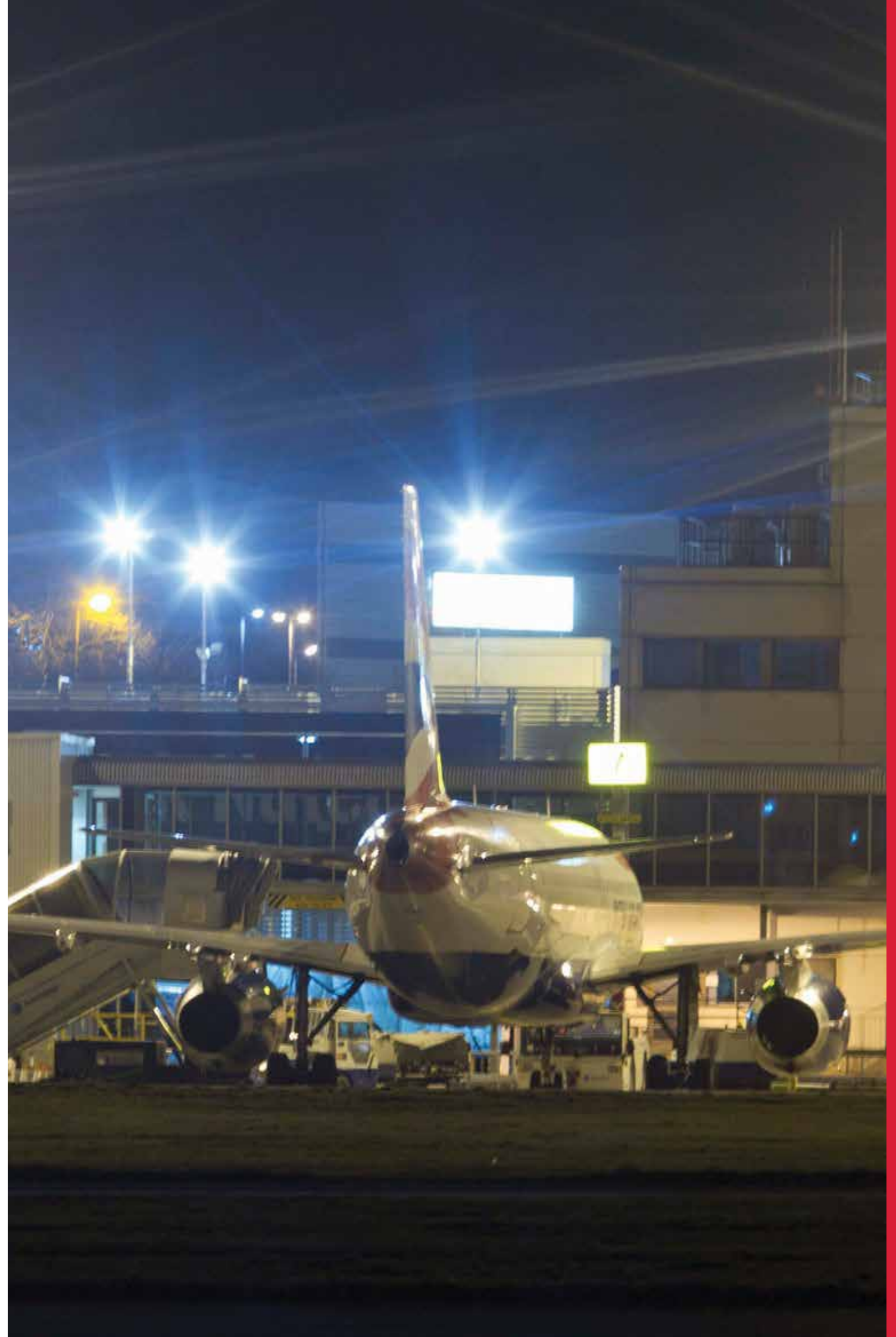
- improve journey times and connections;
- reduce emissions; and
- improve quality, accessibility and affordability.

The NTS makes reference to the Air Transport White Paper.

The Regional Transport Strategy¹⁰ (RTS) was approved by the Scottish Government in 2008 and sets out a vision for the region's transport infrastructure up to 2021. The RTS recognises the key role played by the airport in supporting the City and Shire economy, particularly as air is often the only feasible mode of transport for certain journeys due to Aberdeen's geographic position. It also notes that the AWPR is anticipated to improve access to the airport and to improve connectivity between the airport and key employment centres. The need to increase the number of people choosing to travel to the airport by bus and train is highlighted by the RTS, as is the partnership working between AIAL, NESTRANS and Aberdeen City Council.

The Local Transport Strategy for Aberdeen City¹¹ is the City Council's vision for transport. It seeks to work with AIAL to implement the Airport Surface Access Strategy, improve access to the airport and increase the range of destinations served by the airport.

¹⁰ National Transport Strategy, Scottish Government, 2006.
¹¹ Local Transport Strategy, Aberdeen City Council, 2008.



Forecast Demand

Introduction

This chapter presents various forecasts for the short to medium term – up to 2020 – and the longer term – up to 2040. AIAL has prepared forecasts to provide a basis from which to plan for future investment and development. It is important to emphasise that if traffic growth is stronger than predicted, development may need to be accelerated to meet demand, while if traffic grows more slowly than predicted, development may inevitably occur at a later date or not at all.

AIAL has calculated the figures using a standard air traffic forecasting model which incorporates various indicators. These include growth in UK and World Gross Domestic Product (GDP), the outlook for regional Gross Value Added (GVA) based on their historic relationships with UK GDP and Scottish GVA, the prospects for international trade, future trends in air fares, the degree of market maturity and the possible effects of rail and telecommunications competition. It is assumed that growth in air travel demand is driven mainly by economic growth and changes in the price of travel. Figure 4 demonstrates the impact on global passenger demand of various economic and geo-political events. Experience of previous setbacks suggests that demand will recover.

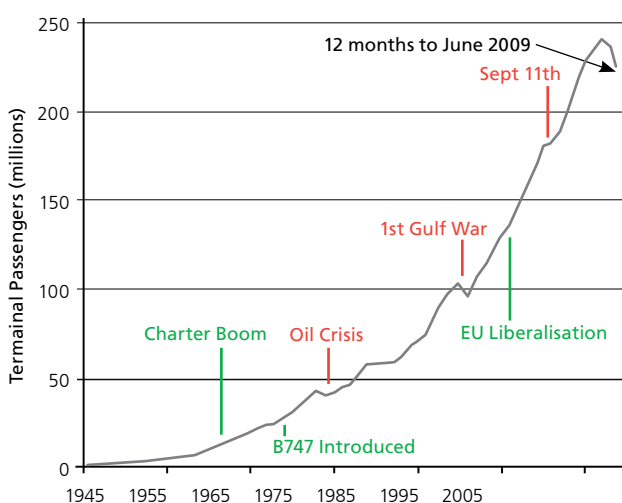


Figure 4: Growth in UK air passenger numbers 1945 – 2009, Aviation Trends, Q2 2009, and CAA

The forecasting model splits future passenger demand by geographical market, country of residence (whether Scottish, rest of UK or non-UK), and travel purpose (business/leisure, transfer/non-transfer). Informed by historic relationships and expectations about future trends, AIAL takes a view on the sensitivity of each passenger segment

to changes in the main factors influencing demand for air travel over the forecasting period.

Combining AIAL's view on the future trends of these key influencing factors with its judgement on the relationship between each of them and the growth in demand for air travel in each market segment, AIAL produces a projection of potential passenger demand for air travel.

An important area of judgement is the expected course of oil prices. In recent years we have seen a record increase in oil prices (to over \$130 a barrel) followed by a sharp decrease (to approximately \$40 a barrel), and a subsequent recovery to the current level of approximately \$80 a barrel. Looking forward, it has been assumed that oil prices will be lower (in today's prices) than the record high levels for the next decade or so, followed by a period of further moderate increase.

The forecasts incorporate an assumption of the effect on prices resulting from the recent increase in Air Passenger Duty and the inclusion of aviation in the EU ETS from 2012.

The following forecasts are considered in more detail:

- annual passenger forecasts;
- annual passenger air transport movement forecasts;
- peak hour runway movement forecasts;
- peak passenger aircraft stand demand forecasts;
- air cargo and mail forecasts; and
- car parking peak demand forecasts.

Annual Passenger Forecasts

The current Aberdeen airport forecast is illustrated in Table 4.

Table 4: Annual Passenger Forecasts

Year	Passenger (m)
2011 (actual)	3.10
2020	4.00
2040	5.09
Average Growth	2.0%

Average annual passenger numbers growth at Aberdeen airport from 1992 to 2007 was 3.5%. The forecasting model delivers average annual growth of approximately 3.0% up to 2020 and less than 2% between 2021 and 2040.

Annual Passenger Air Transport Movement Forecasts

Table 5: Annual Passenger Air Transport Movement Forecasts

	2011 (actual)	2020	2040
PATMs	58,546	67,000	81,400

Fixed wing aircraft movements are known as Passenger Air Transport Movements (PATMs) and effectively represent arriving and departing commercial aircraft with paying customers on board. Table 5 shows forecast PATMs for 2020 and 2040. These have been calculated by applying aircraft average loads to the passenger forecasts. Average loads have been divided into domestic, EU, and other international. Historic data in each category has demonstrated steadily increasing loads, and this is expected to continue during the forecast period. By 2040, the average load for Aberdeen is predicted to be 62.5 (up from 53 in 2011).

Peak Hour Runway Movement Forecasts

Table 6: Peak Hour Runway Movement Forecasts

	2011 (actual)	2020	2040
Peak Hour PATMs	26	28	33
Peak Hour ATMs	26	28	33

Peak hour runway movements have been forecast using a trend approach based on current and historic peak movement data. The 2040 figures have also been cross-checked with other UK airports handling similar traffic volumes. Table 6 sets out forecast peak hour runway movements for Passenger Air Transport Movements (PATMs) and total Air Transport Movements (ATMs), which include cargo, general aviation and positioning flights.

As discussed in chapter 2, Aberdeen's runway can handle up to 36 movements per hour during peak periods. The forecasts shown in Table 6 demonstrate that through to 2040, the existing runway and taxiway system will not require additional investment to handle the forecast throughput.

Peak Passenger Aircraft Stand Demand Forecasts

Table 7: Peak Passenger Aircraft Stand Demand Forecasts

	Small	Medium	Large	TOTAL
2011 (actual)	12	9	2	23
2020	13	11	2	26
2040	13	15	2	30

Stand forecasts were prepared by establishing utilisation trends for each size of aircraft, load factors, the likely future traffic mix (between international/domestic, long-haul/short-haul) and any known aircraft orders for airlines currently using Aberdeen. Peak stand demand tends to occur overnight due to the large number of aircraft based at Aberdeen. High demand is also experienced during the afternoon peak. The growth in international traffic can also result in increased demand for stands as international flights spend longer on the ground for re-fuelling etc. In contrast, low cost carriers often have very quick turn around times and may only use a stand for 20 minutes.

In line with market trends, it has been assumed that the number of larger aircraft using Aberdeen will increase over time as airlines replace older models, such as the BAe Jetstream and older Boeing B737 variants, with newer models. Therefore, when developing new facilities, design requirements to accommodate newer aircraft will be adhered to where possible in order to avoid constraining future operations. The current forecasts do not envisage large aircraft, such as the Airbus A340 or Boeing 747, using Aberdeen up to 2040 or beyond.

Table 7 shows that Aberdeen airport currently has sufficient aircraft parking capacity, with peak demand for 23 aircraft and 24 stands available. However, a detailed study of forecast stand demand and utilisation suggests that additional capacity will be required by 2020, and continue to be required through until 2040.

Air Cargo and Mail Forecasts

Table 8: Air Cargo and Mail Forecasts (tonnes)

	Air Cargo and Mail
2011 (actual)	6,191
2020	8,400
2040	9,200

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Aberdeen airport handled approximately 6,200 metric tonnes of air cargo and mail in 2011. This represents a small decrease from the 6,360 tonnes handled in 2005 at the time of the previous master plan. A number of factors have contributed to this decrease, including the collapse of flyglobespan (who carried large amounts of belly-hold cargo), as well as a general downturn in the air cargo market.

Cargo and mail forecasts have been calculated using Cargo Air Transport Movement (CATM) forecasts and PATM forecasts.

The majority of cargo at Aberdeen is transported as belly-hold on passenger flights. Going forward, this has been forecast to increase primarily due to the increase in passenger flights and also due to upgrades of existing aircraft types to larger aircraft which can hold more cargo and also are underpinned by the general growth in the oil business and local economy.

Peak Car Parking Demand Forecasts

Table 9: Public Car Parking Forecasts

	Short Stay	Long Stay
2011 (actual)	1,100	1,000
2020	1,300	1,300
2040	1,600	1,500

Table 9 shows peak car parking demand for long and short stay car parks. The long stay figures include peak demand for on-airport car parks and do not include other car parks some distance away and not operated by AIAL (currently around 1,000 spaces).

It is important to highlight two particular points in relation to public car parking provision. Firstly, in order to maximise the efficiencies (in terms of both land and transport), short stay car parking is best developed in a multi-storey format close to the airport terminal. These are planned to accommodate growth over a number of years such that capacity needs to be provided slightly ahead of demand.

Secondly, much of the anticipated growth in long stay parking capacity will continue to be provided by third party off-airport operators. However, as a significant volume of this capacity is provided on sites with temporary planning approvals (typically 3 – 5 years), AIAL will continue to play an important role in providing a secure, high quality supply

of long stay car parking within the airport campus to support the airport's operation and growth.

These forecasts have been developed from an analysis of trends in how passengers access Aberdeen airport.



Chapter 5

The Economic and Social Impact of Aberdeen Airport

Airports and air travel play a massive role in the economic wellbeing of cities and countries. Arguably, this role is more pronounced in Aberdeen given the city's location and its status as the energy capital of Europe. AIAL is committed to working with the wider aviation sector, Government and others to maximise the benefits and minimise the disadvantages of airport growth. An integral part of this approach means identifying and understanding both the benefits and disadvantages associated with developing the airport.

This chapter provides details relating to the economic and social impact of Aberdeen airport and aviation in general. Chapter 6 considers the current environmental effects associated with the airport and mitigation measures in place and the way in which the airport intends to mitigate and manage environmental effects associated with future airport growth.

The Economic Impact of Aberdeen Airport

An Economic Impact Assessment of Aberdeen airport was commissioned jointly by AIAL and ACSEF in 2010. The final report, prepared by industry experts York Aviation, confirms the airport's key role in supporting the city's position as a centre for the oil and gas industry, but also its contribution to bringing visitors and investors to the area and providing jobs for thousands of people.

Over 2,000 people currently work at Aberdeen airport, the vast majority of whom (over 92%) are from Aberdeen City and Shire. The overall economic impact of the airport extends to 3,870 jobs and £126 million of GVA in Scotland as a whole. Of this, £114 million flows directly into the City and Shire. Based on current levels of employment and passenger growth forecasts, the number of jobs supported in Aberdeen City and Shire will rise to around 3,950 ftes and to around 4,490 ftes in Scotland in 2030.

The completion of a recent £10 million runway extension in October 2011 underlines the important economic impact of airport development. A study published in November 2011 measured the likely boost to economic output and tourism spend as a result of the runway extension. It forecasts a rise in passenger numbers as airlines introduce larger aircraft and expand their international route network. The report suggests that the new runway extension will:

- generate an additional 205,000 passengers by 2015.
- contribute an additional £20.3 million for the city and shire economy, and create an additional 110 jobs locally by 2015.
- lead to as many as 30,000 extra visitors to the region every year, spending up to £6.4 million annually

In summary, it is clear that Aberdeen airport currently operates within a region of Scotland that is vital to the long term prosperity of Scotland as a whole and is also a key component of the UK Energy Sector. Combined with Aberdeen's potential as a tourist destination and a growing business and conference destination, this means that Aberdeen airport should have a solid demand base from which to expand and that the regional economy will be increasingly reliant on its services.

Looking at the global aviation sector, a study conducted by Oxford Economics on behalf of the Air Transport Action Group (ATAG) found that the sector accounts for 31.9 million jobs around the world and has an economic impact estimated at \$3.6 billion, which is equivalent to 7.5% of the world's economy. From a social perspective, the ATAG study found that aviation:

- broadens people's leisure and cultural experiences via wide choice/affordable access to destinations across the globe;
- improves living standards and alleviates poverty through tourism;
- often serves as the only means of transportation to remote areas promoting social inclusion; and
- contributes to sustainable development by:
 - facilitating tourism and trade;
 - generating economic growth;
 - creating jobs; and
 - increasing tax revenues.

At the UK level, a study undertaken on behalf of the Airport Operators Association (AOA) highlighted that the aviation sector generated £18.4 billion, or 1.5% of the UK economy. The sector also supports 234,000 jobs across the UK.

Supporting Scotland's Economy

Scotland's geographic location on the periphery of Europe means that air links are vital to the country's global competitiveness. As the economy develops towards more knowledge based sectors and the country continues to promote itself as an attractive tourist and inward investment destination, the ability of people and goods to travel quickly and efficiently grows ever more important. This was recognised by the 2003 Air Transport White Paper and more recently NPF2.

Aberdeen has the largest concentration of energy businesses in Europe and the greatest concentration of subsea skills in the world. Moving forward, the Economic study found that the future direction and development of the energy industry in Aberdeen City and Shire will be crucially dependent on global connectivity if it is to continue

to be 'anchored' in the region. The importance of Aberdeen airport in supporting the continuing expansion of the energy industry in the region can hardly be overstated.

However, the airport is also vital for the growth of other sectors such as life technologies, food and drink and tourism. Tourism in particular is an important sector for the region, generating some £250m of income, with around 40% of this coming from overseas visitors to attractions such as Royal Deeside, the Cairngorms or the 'Granite City' itself. Golf tourism is also increasingly playing an important role.

The economic study found that around 268,000 visitors to Scotland either from the rest of the UK or from overseas, arrived via Aberdeen in 2009.

Based on the assessment of the monetary value of tourism during the year 2008, the study estimated that the regional spend associated with visitors using the airport in 2009 was around £51 million. Good air links are clearly important to the success of tourism, with overseas visitors in particular relying on air travel to visit Scotland.

Raising our Profile

Both Aberdeen City and the Shire as well as Scotland as a whole compete at a global level for jobs, investment and visitors. Being competitive requires the achievement of a positive international profile and the provision of a level of 'connectivity' that enables people to get to Scotland easily.

The unparalleled accessibility provided by air routes is a key part of the package. AIAL will continue to work in partnership with partners in the north east to maintain and grow Aberdeen's route network and stimulate inward investment and tourism. Links to hub airports, and Heathrow in particular, play a fundamental role in this regard. Research by Oxford Economics suggests that around £1 billion of Scottish goods were exported by air via a hub airport.

Sharing Our Success

Local community groups and good causes have benefited from thousands of pounds worth of funding from the Aberdeen International Airport Community Panel in recent years. Membership of the Community Panel is drawn from representatives from Aberdeen City and Shire Councils, Scottish Business in the Community, our local MSP alongside airport staff. This gives local communities more of a say in how we direct our funding. Some of the major projects of the past year include:

- VSA – Easter Anguston Farm: received £50,000 towards the complete redevelopment of their farm buildings and their education room.
- Banff Sailing Club: received £1,733 towards the

purchase of new sails, to allow more participation from youth groups in sailing.

- Aberdeen Ranger Service: received £2,500 towards a major tree planting scheme.

The Panel makes many smaller but equally effective donations, in total, donations to all causes are in excess of £80,000 each calendar year.

In 2011 we launched Runway, a community newsletter issued three times a year to around 10,000 homes in the Dyce, Bucksburn and Danestone area, to keep the airport's near neighbours up to date with the latest community and environmental news.

Capital Investment

Since 2002, more than £82 million has been invested in developing and improving Aberdeen airport to create an airport of which Aberdeen and Scotland can be proud. This is an on-going process which is being undertaken at no cost to the taxpayer. It is anticipated that more than £58 million will be invested over the next 10 years to further develop the airport and to enable full realisation of the benefits of previous development spending.

Tax

In 2011/12, air travellers contributed some £2.7 billion to the UK Exchequer through Air Passenger Duty. This burden is set to rise further, reaching £3.9 billion by 2016/17. AIAL maintains that APD is a blunt instrument that does not create incentives to improve environmental performance and may ultimately damage tourism and undermine Scotland's competitiveness.

A report recently commissioned by Scottish airports has warned that APD could cost Scotland more than two million passengers per year by 2016. The tax burden has increased by around 160% since 2007 for short haul travel, with long haul rates increasing by between 225% and 360%. Aberdeen alone is forecast to lose some 200,000 passengers. The report also suggests that APD will cost the Scottish economy up to £210 million a year in lost tourism spend. This in turn will have an impact on employment and investment in the tourism sector. We will therefore seek to work with the UK and Scottish Governments to review this tax, particularly in the context of the aviation being included in the EU Emissions Trading Scheme (EU ETS) in 2012.

Locally, AIAL pays nearly £1.65m every year in business rates to Aberdeen City Council and nearly £790,000 to Grampian Police. These amounts are over and above the airport's liabilities for all roads, lighting and waste management within the airport boundary.

Sustainable Development and the Environment

Introduction

Environmental effects associated with activities at Aberdeen airport can be considered at the local level (which includes air quality, noise, water quality and traffic levels), and the global level (climate change and greenhouse gas emissions). This chapter considers the current environmental effects associated with the airport, as well as current and future measures intended to mitigate and manage environmental effects.

Global Environment

At the global level, the need to reduce emissions and tackle climate change is a challenge in which we all have a part to play. AIAL is committed to fulfilling its role in meeting this challenge. Government at the Scottish and UK levels has established a framework to drive this agenda and this chapter sets out how AIAL can strike the required balance between managing the environmental effects of aviation and continuing to underpin Scotland's sustainable economic growth agenda.

The agreement of the Kyoto Protocol in 1997 raised public awareness of climate change and established national targets for the reduction of greenhouse gas emissions. As part of a larger airports group, AIAL has argued for a number of years for international aviation emissions to be incorporated within the Kyoto framework. At a European level, the Stern Report¹² recommended that aviation emissions should be included in the EU ETS. This scheme effectively sets a cap on carbon emissions and acts as an incentive for airlines and aircraft manufacturers to develop and operate more efficient aircraft. AIAL has long argued for this development and therefore welcomes the incorporation of aviation emissions into the EU ETS in 2012.

The Intergovernmental Panel on Climate Change estimates aviation's total impact to be around 3.5% of the total human contribution to climate change. It is estimated that this could increase to 5% by 2050, although scenarios range between 3.5% and 15%. At a UK level, the DfT estimates that UK aviation comprised around 6.4% of the UK's total CO₂ emissions (37.5 million tonnes of CO₂). Current DfT forecasts indicate that this could increase to around 60 million tonnes of CO₂ by 2050.

The 'Carbon Account for Transport'¹³ published by the Scottish Government monitors progress towards the National Transport Strategy objective of reducing transport emissions. It confirms that road transport is by far the largest source of transport emissions, contributing 69.6% of all Scottish transport emissions. Aviation in contrast comprised 12% of Scotland's transport emissions. Shipping accounted for 14.2% of Scotland's transport emissions.

The 'Carbon Account for Transport' notes that aviation has been the fastest growing sector between 1990 and 2007, albeit the only sector where emissions are disproportionately lower than in the UK as a whole. They also reduced by 1.7% between 2006 and 2007.

The UK Climate Change Act became law in 2008. The Act sets out a long-term, legally binding framework of targets to facilitate the reduction of UK greenhouse gas emissions by 26% by 2020 and 80% by 2050. The Climate Change (Scotland) Act 2009 received Royal Assent in August 2009. The Act is a key commitment of the Scottish Government, and is one of the most ambitious pieces of environmental legislation, in many ways putting Scotland at the forefront of tackling global climate change. The Scottish Government believe that reducing greenhouse gas emissions and making the transition to a low carbon economy will help create a more successful country. The legislation introduces a number of targets, including:

- reducing Scotland's greenhouse gas emissions by at least 80% by 2050;
- reducing greenhouse gas emissions by at least 42% by 2020;
- the establishment of a framework of annual targets; and
- the inclusion of emissions from international aviation and international shipping in the figures.

AIAL recognises that demand for air transport is forecast to grow both in North East Scotland and nationally and this will lead to some growth in aviation's carbon emissions. AIAL is a signatory to the UK aviation industry's sustainable aviation strategy. 'Sustainable Aviation' sets out the industry's vision for a sustainable future through a series of eight goals and 34 commitments, relating to economic, environmental and social aspects of aviation. Specifically, these include:

- limiting climate change impact by improving fuel efficiency and CO₂ emissions by 50% per seat kilometre by 2020 compared with 2000 levels;
- improving air quality by reducing nitrogen oxide (NO) emissions by 80% over the same period; and
- establishing a common system for the reporting of total CO₂ emissions and fleet fuel efficiency by the end of 2005, and pressing for aviation's inclusion in the EU ETS at the earliest possible date.

Fuel efficiency has a significant role to play, with aircraft fuel efficiency having already improved by some 70% over the last 40 years. A recent trial highlighted the potential benefits of more efficient operations across airport, airline and air navigation partners. Every factor within the journey of a British Airways flight from Edinburgh to Heathrow – from pushback from the stand and taxiing, to an optimised flight profile and Continuous Descent Approach – was calibrated to achieve minimal emissions and delay. The flight is understood to have saved up to a quarter tonne of fuel, equating to nearly one tonne of CO₂. In terms of sustainable alternatives to fossil fuels, a recent Progress Paper from sustainable Aviation¹⁴ states that several successful demonstration flights have been undertaken using bio fuels.

Emissions arise from three distinct sources which AIAL has varying degrees of control over:

- aircraft operations;
- the use of energy in airport buildings; and
- surface transportation.

Aircraft Operations

Aircraft operations are primarily influenced by airlines, air navigation service providers and aircraft manufacturers. AIAL will therefore continue to work with aviation sector partners through Sustainable Aviation and Aberdeen Airport's Airline Operators Committee to support the development of more efficient technologies and operational procedures. Practical measures such as Continuous Descent Approaches and the Aircraft on the Ground CO₂ Reduction Programme have already been adopted where possible.

The European Commission enacted legislation during 2008 that means that arriving and departing EU flights will be part of the EU ETS from 2012. The implications of emissions trading mean that the aviation sector will have to improve aircraft and operational efficiencies or purchase additional permits from companies who are reducing emissions. AIAL views action at a European level as an interim step towards integration in the global climate policy framework and we are working through our global trade association (ACI-World) to understand the principles and practicalities of emissions trading for aviation at an international level.

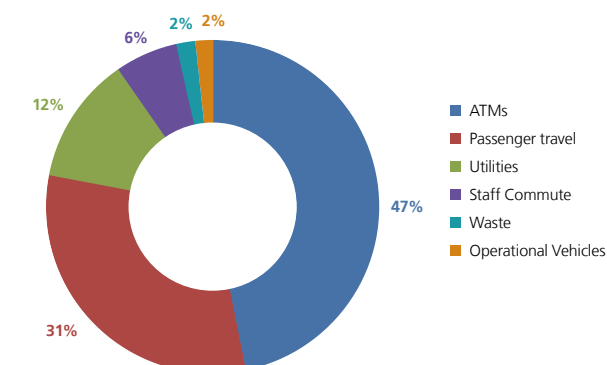
The Use of Energy at Airport Buildings

Demand for energy from the airport terminal and surrounding campus is the main source of emissions over which AIAL has direct control. A study was undertaken using energy demand data from 2008 to establish the airport's carbon footprint¹⁵. Aberdeen airport's carbon

footprint has been developed to be comprehensive and holistic and consistent with best practice. We therefore calculate not only emissions we directly control but also airport related emissions which are controlled by others and which we seek to guide and influence. These include for example, emissions from all passenger and staff journeys to the airport, emissions from fuel used in third party operational vehicles and emissions associated with aircraft landing and taking off at the airport up to a height of 3,000ft. Figure 5 summarises the breakdown of emissions in 2011.

Figure 5: Breakdown of Aberdeen Airport's 2012 Carbon Footprint

Aberdeen Airport 2010 emissions (tCO₂e) by activity



In order to reduce emissions directly attributable to the airport, a programme of energy efficiency measures has been implemented. This has resulted in a 2.7% reduction in 2011 electricity consumption against 2010 figures.

Surface Transportation

Figure 6 demonstrates the relatively significant contribution of passenger transport emissions. Chapter 9 sets out how AIAL will work with transport partners to improve accessibility to the airport, particularly by public transport. Such improvements will play an important role in reducing transport related emissions and enabling the airport to grow in a sustainable manner.

Local Environment

Noise

Noise associated with airports is often described as 'air noise' and 'ground noise'. Air noise refers to noise from aircraft in flight or on an airport runway during take-off or after landing. NATS is responsible for air traffic control in the UK, including Aberdeen airport, and noise preferential

¹² Stern Review on the Economics of Climate Change, HM Treasury, 2006.
¹³ Carbon Account for Transport No.2: 2010 Edition, Scottish Government, 2010.

¹⁴ Sustainable Alternative Fuels Progress Paper, Sustainable Aviation, 2010.
¹⁵ Aberdeen Airport Limited 2010 Carbon Footprint, Entec, 2011.

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guideline routes have been established for arriving and departing aircraft. AIAL will work with NATS to review the operation and impact of these routes.

Noise generated other than by aircraft in flight or taking-off or landing is known as 'ground noise'. The main sources of ground noise are:

- aircraft taxiing between runways and stands - this includes all holding, engine start-up and shut-down procedures during taxiing;
- Auxiliary Power Units (APUs) on aircraft for air conditioning the aircraft cabin while it is on stand, for supplying electrical power and other aircraft services and for engine start-up;
- ground running of aircraft engines during maintenance and testing;
- mobile ground equipment such as ground power units providing power supplies to parked aircraft;
- road vehicles, both on the airfield and travelling to and from the airport; and
- construction activities.

AIAL understands that airport related noise can be an issue for neighbouring communities. The airport has therefore developed a package of measures designed to minimise and mitigate the effects of aircraft noise. The Aberdeen Airport Noise Action Plan¹⁶ sets out a number of actions to manage and, where possible, reduce the impact of noise from aircraft at Aberdeen airport. The Noise Action Plan focuses on five key themes:

- Demonstrating our continuing commitment to managing aircraft noise impacts associated with Aberdeen airport's operations through the use of:
 - The quietest fleet practicable.
 - The quietest practicable aircraft operations, balanced against NO and CO₂ emissions.
 - Effective and credible noise mitigation schemes.
- Engaging with communities affected by aircraft noise in order to better understand their concerns and priorities.
- Influencing planning policy to minimise the number of noise sensitive properties around our airport.
- Organising ourselves to continue to efficiently and effectively manage aircraft noise.
- Building on our extensive understanding of aircraft noise and its effects in order to further inform our priorities, strategies and targets.

The total amount of aircraft related noise that local communities may experience around an airport depends predominantly on the noise emitted by individual aircraft

and the total number of aircraft movements in a given period. A standard way of illustrating aircraft related noise exposure is by the use of noise contours. Updated noise contours have been prepared by the CAA for this Master Plan, detailing existing contours (drawing 1), indicative contours for 2020 (drawing 2) and indicative contours for 2040 (drawing 3). As stipulated in the planning permission granted for the extension of opening hours in 2005, the airport remains fully committed to ensuring that the total noise energy emitted around the airport continues to be monitored.

Specific measures in place to manage noise issues associated with the airport include a noise insulation scheme. Following a public consultation exercise carried out during 2010, the airport will continue to support noise insulation measures for residential properties within the 66 decibel contour area.

Aberdeen airport also adopts strict, DfT imposed day and night-time noise restrictions, which are legally required at larger airports such as Heathrow, but which have been adopted on a voluntary basis by AIAL. Noisier aircraft (referred to as 'Chapter 2 aircraft') have been banned for a number of years from landing at Aberdeen and the imposition of differential landing charges encourage airlines to operate quieter aircraft types.

Members of the public can register any noise queries or complaints via a dedicated, noise action line (01224 348420). The noise action line is monitored and all calls are investigated. The airport will continue to support and operate the Noise Action Line in accordance with best practice.

As well as introducing initiatives to manage the current noise environment, the airport will continue to monitor planning applications for development within or near the flight path to identify potentially inappropriate development or highlight the requirement for suitable noise insulation.

Air Quality

The quality of air is affected by chemicals and particles emitted into the atmosphere as a result of human activity. Certain types of emission are of concern in the context of potential health impacts, for example fine particulate matter (PM10) and nitrogen dioxide (NO₂).

However, airports represent a complex source of air pollutants, consisting of many individual mobile and stationary sources. The pollutants emitted from airport operations fall into three categories and relate to aircraft

operations, road vehicles and miscellaneous activities such as boilers.

The largest single contributor to ambient concentrations of these pollutants currently, is road traffic. Homes, workplaces and other buildings also produce emissions either locally (e.g. gas boilers) or elsewhere (electricity generation from fossil fuels). In order to protect public health and comply with EU directives, the Government has set objectives for air quality in the UK National Air Quality Strategy (NAQS). The strategy is based on ensuring that concentrations of certain pollutants do not exceed specified levels in the outdoor air.

While the noise emitted by aircraft is arguably the primary issue for people living close to airports, airport-related airborne emissions coming from aircraft engines and vehicles travelling to and from the airport can also give rise to public concern. Consideration of local air quality against NAQS objectives, which was carried out by the Government prior to the publication of the 2003 White Paper, indicated that the expansion of Aberdeen airport would not compromise air quality standards for NO₂ or PM10 in the period up to 2015 and beyond.

AIAL undertakes air quality monitoring surveys at locations around the airport campus. The results of the most recent survey showed that the concentrations of NO₂ at the majority of sites around the airport were comparable with or lower than, equivalent monitoring sites in Aberdeen city centre. Further surveys will be undertaken on a regular basis, the results of which will be shared with Aberdeen City Council and other key stakeholders.

Water Quality

Aberdeen airport discharges surface water run-off into the adjacent Farburn, Mains of Dyce and River Don waterways. Such discharges require the permission of the Scottish Environment Protection Agency (SEPA). The previous licensing regime is in the process of being replaced by the Water Environment (Controlled Activities) (Scotland) Regulations 2005, as part of the transposition of the European Water Framework Directive (WFD) into Scottish law. The WFD establishes a legal framework for the protection, improvement and sustainable use of the water environment by requiring member states to prevent deterioration of water bodies and reduce pollution.

There are a number of airport activities which have the potential to cause pollution of local water courses if not properly managed, including:

- de-icing of aircraft and airside areas;
- vehicle and aircraft washing;
- aircraft and vehicle maintenance;
- run-off from construction sites;
- aircraft refuelling;
- waste and cargo handling; and
- fire training activities.

In order to manage the risk of pollution arising from the above activities, the airport maintains a multi-layered assurance and inspection system. This includes regular inspection and independent auditing of equipment and processes. The airport also regularly monitors surface water quality and has constructed a significant drainage system. This includes a number of interceptors, systems within which detect and prevent pollution from entering the surrounding watercourses. A large surface water storage lagoon is utilised as part of the system to further aid the prevention of contamination in the environment arising out of aerodrome operations.

The airport will continue to work with SEPA to manage water quality in accordance with statutory requirements and best practice. In considering its requirements for surface water treatment, the airport will ensure that the potential for flooding is taken into account. Where feasible, the airport will incorporate the principles of establishing Sustainable Urban Drainage Systems (SUDS) into new developments.

Biodiversity

The Aberdeen Airport Biodiversity Action Plan (BAP) describes the airport site, the habitats represented and their importance. It aims to provide a context for development by allowing the airport to clearly identify areas of ecological importance to minimise the impact of any future developments. The plan defines a series of management actions to maximise the ecological potential within the constraints of airport operations.

Around and within the boundaries of the airport there are no specific areas designated for conservation. None of the sites at the airport are considered to be of outstanding wildlife value, either in a local or wider context.

Waste Management

Waste is generated from a number of sources at Aberdeen airport including aircraft, catering outlets, offices, shops (packaging) and construction activity and from vehicle and aircraft maintenance. Around 90% of waste at the airport is generated by companies and passengers using the airport, with AIAL directly generating around 10%. Such sources

¹⁶ Aberdeen Airport Noise Action Plan, Aberdeen Airport Limited, 2008.

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generate seven categories of waste, the handling and disposal of which is covered by extensive legislation:

- inert (soils, hardcore, concrete, glass etc);
- general non-putrescible (plastic, paper, cardboard etc);
- scrap metal;
- end of life vehicles;
- electrical and electronic equipment;
- general putrescible (food waste, vegetable matter, trees and bushes etc); and
- hazardous waste, including lamps, fluorescent tubes, used oils, flammable liquids and batteries.

In addition to meeting legal requirements, Aberdeen airport's strategy for waste is based on The Scottish Government's Zero Waste Plan. This plan sets out a vision of a zero waste Scotland where waste is treated as a valuable resource and not as a burden. It proposes a long term target of recycling 70% of all Scotland's waste requiring that waste is sorted into separate streams for recycling and reprocessing, leaving only limited amounts for residual waste treatment, such as energy recovery.

This Zero Waste Plan is intended to create a stable framework that will provide confidence for the investment necessary to deliver a zero waste Scotland over the next 10 years. It does this by setting out a Mission and Vision for the long term. Within that context the Plan sets strategic directions in the key areas of activity for the medium term up to 5 years, with specific actions setting out immediate priorities.

Aberdeen airport is committed to reducing the amount of waste sent to landfill sites from the airport's operation. From 2006 to 2012, the airport has nearly trebled the amount of waste diverted from landfill, from approximately 24.7% to over 70%, meaning a corresponding decrease in waste to landfill. The airport will continue to work with companies and business partners to decrease the amount of waste generated and increase the amount of waste recycled. The airport will also investigate other ways of managing waste which could also contribute to the airport's energy requirements.

Heritage

Historical records show that there are 17 defined archaeological sites and features within the airport boundary; however none are still visible in the existing landscape. Any future developments will give due consideration to this when excavating.

In addition there are two Grade C listed buildings within a 500m radius of Aberdeen airport

- Walton Farmhouse, located to the south-west, and
- Dyce War Memorial, located to the east

The Airport Master Plan is not considered to have any impact on either of these two sites.

Future Mitigation and Management of Environmental Effects

AIAL has adopted a comprehensive approach to the on-going management and mitigation of environmental effects associated with airport operations. However, it is also vital that the airport constantly reviews this approach to ensure its effectiveness and alignment with best practice. We will therefore continue to engage with our neighbours and partners in this regard to manage our performance across environmental areas.

Global Environment

Aberdeen airport sees the incorporation of aviation into the EU ETS as an interim step towards the development of a global emissions trading scheme. Aberdeen airport will liaise within the Airports Group, Sustainable Aviation and the world airport trade association (ACI-World) to understand the principles and practicalities of emissions trading for aviation at an international level.

The inclusion of Aberdeen airport in the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES) will be an on-going incentive to reducing energy use at the airport. New developments in particular provide an opportunity to build in energy efficiency and sustainable design and the airport is committed to adopting this approach to development planning. In addition, the airport will investigate the feasibility of developing renewable energy technologies, both off and on-site, to meet energy requirements.

As noted above, surface transportation also plays a significant role in generating emissions. Chapter 9 sets out the airport's strategic position on managing surface transportation as the airport grows.

Noise

In terms of ground noise, indicative development proposals up to 2020 are contained within the existing boundary of the airport and are therefore not expected to change the noise environment significantly. Beyond 2020, any significant development where an Environmental Impact Assessment is required will be accompanied by a noise assessment where appropriate.

Building on the progress that has already been made – modern aircraft are 74% quieter than those in the 1960s – the airport will work through Sustainable Aviation to encourage airlines, aircraft manufacturers and air navigation service providers to continue advances in technology and operational protocols which reduce noise emissions from aircraft. The airport will also continue to review its Noise Strategy on a regular basis and publish our performance on noise issues.

Other Environmental Issues

Other environmental issues will be considered in detail at the appropriate time as development requirements indicate.




KLM

F-HBLF

Lufthansa Regional

Operated by

CityLine

Airport Development to 2020

Introduction

Current forecasts predict that Aberdeen airport will be handling around 4.0 million passengers a year by 2020. This chapter provides details of the likely development requirements needed to accommodate the forecast growth. Development requirements up to 2020 can all be undertaken on land currently owned by Aberdeen International Airport Limited. Drawing 5 shows the indicative layout and extent of airport development at 2020.

Any development will take place incrementally, to ensure as far as possible that additional capacity closely matches passenger demand. It must be re-emphasised that timescales referred to in the Master Plan for airport growth and supporting infrastructure are based on current passenger forecasts. Therefore, if passenger numbers grow faster than expected, development may be required sooner. Equally, if numbers grow slower than expected, development may not be required until later. The exact nature and timing of the developments outlined in this chapter and chapter 8 will always be subject to detailed financial and environmental evaluation. Consequently, the precise location and configuration of capacity enhancements may change.

General Development Principles

The dynamic nature of the aviation sector and changing needs of passengers and airlines mean that the specific form and location of the developments anticipated below are subject to modification. However, a number of general development principles have been established to guide and inform new development as follows:

- The first phase of additional aircraft stands will be developed to the north of the existing northern stands;
- International departures and arrivals facilities will remain to the south of the main terminal building;
- New developments will be located so as to minimise vehicle movements where possible;
- The design of new buildings will follow best practice guidance for energy conservation and sustainable construction and be of appropriate architectural quality, and;
- Hard and soft landscaping will be maintained and enhanced (within the scope of aerodrome safeguarding criteria) to reflect the status of the airport as a key international gateway.

Runway and Taxiway System

As highlighted above in Chapter 4, forecasts for peak hour runway movements indicate that there will be no need to evaluate any means of increasing runway throughput capacity before 2020.

The southern taxiway from the terminal area to the main runway end will need to be rebuilt to maintain operational use and may be re-aligned.

Aircraft Aprons

Based on the forecasts in Chapter 4 it is proposed to invest in new aircraft parking stands on a phased basis as demand requires. This will ensure that we match our facilities to the current aircraft fleet and provide infrastructure to enable future growth. We believe that investment in these stands will be required in 2015, 2016, 2017 and again in 2020. The location of these stands will be opposite the current stands number 10 to 13. Prior to the building of these stands investment will be required to relocate the helicopter taxiway which currently occupies this area.

Passenger Terminal Facilities

The continuation of a major terminal refurbishment since 2005 has seen significant investment to the security search and departure lounge areas. They do, however, both reach their assessed capacity of 3.25m passengers before 2020, and will be developed accordingly.

The international arrivals area is physically constrained and requires to be upgraded to meet future needs. Passenger experience has been improved by recent investments in covered walkway facilities, with the final stage completed in early 2011. However, there is a need to provide additional domestic and international baggage reclaim capacity to meet demand at peak times. A programme of projects to replace and extend the reclaim belts commenced in 2012 to provide additional capacity in this area. There is a future major investment programme planned to ensure that the international arrivals area has sufficient capacity and delivers and enhanced customer experience. The scope of this development will be partially determined by future UK and European legislation.

The current check-in desks also have an assessed capacity of 3.25m fixed wing passengers each year. It is anticipated that desk capacity will become less critical over time as internet and self service check in technologies advance and become more widespread.

In the period up to 2020, it is planned to continue to upgrade and refurbish other parts of the main terminal building to provide a more efficient and attractive facility which meets the expectations of passengers and airlines. Projects will

include re-developing the landside layout and expanding and upgrading the airside retail area and departures lounge space. Some capacity enhancements may also be required to the northern walkway and boarding gates, including additional weather protection for passengers.

Car Parking

Some additional capacity for short stay car parking will be required before 2020 and will continue to be located in close proximity to the main terminal.

Analysis of the demand for long stay parking at the airport has indicated that current on-airport supply meets peak demand however it is expected to exceed supply around 2013. If demand continues to rise in line with predictions, AIAL would seek to provide additional long stay car parking, within the areas designated for ancillary use. Additional long stay car parking will continue to be provided by third party off-airport operators.

Cargo and Mail

New cargo developments will be undertaken only as a result of specific requests from cargo operators. Detailed plans would be prepared and brought forward should demand arise. As a general development principle, the airport is seeking to consolidate cargo and maintenance facilities away from the existing terminal area. Consolidating such facilities presents a significant opportunity to safeguard areas for development and should create a purpose built cargo cluster with excellent links to the taxiway and runway system. The airport will seek to work with Scottish Enterprise, ACSEF and others to better understand the opportunities in this market to facilitate the development of an air freight development strategy.

Aircraft Maintenance

Currently there is no known demand for any additional aircraft maintenance facilities. However as with cargo, land has been safeguarded should the need arise.

Air Traffic Control and Airspace

Airspace directly surrounding Aberdeen airport is managed on behalf of the airport by National Air Traffic Services Limited (NATS). Outside of this zone, airspace is managed by NATS En Route Limited (NERL) from the Scottish Air Traffic Control Centre at Prestwick. Aberdeen airport has assumed that the controlled capacity of Scottish and UK airspace will grow to accommodate the forecast growth in air traffic. The CAA has recently published a draft Future Air Strategy and the airport is keen to be fully involved in all future discussions on airspace capacity provision.

Ancillary Facilities

Many of the ancillary facilities noted in chapter 2 will need to expand in line with the forecast growth in passenger numbers. Where possible, and taking cognisance of the general development principles established by this Master Plan, existing facilities will be extended to provide the additional capacity. Where this is not possible or the site is required for other purposes, facilities may need to be re-located. Drawing 6 indicates areas suitable for ancillary uses.

As the airport develops, it is very important that the vast majority of ancillary facilities continue to be provided within the airport campus in close proximity to the operational areas for two key reasons:

- If support facilities and services are located remotely from the airport, a considerable number of additional road journeys would need to be made to service the operational facilities. This would add unnecessarily to road congestion and to CO2 emissions; and
- The additional vehicles, staff and time allowances required to undertake remote servicing would add significantly to the operational costs of the businesses providing support services to the airport.

Helicopter Facilities

The traffic demand forecasts for offshore helicopters, both passengers and ATMs are relatively level through to 2020 and it is anticipated that the current areas occupied by the helicopter companies remain as per today. Minor operational developments may however be required, and the airport will work with the helicopter operators and Aberdeen City Council where necessary.

Airport Development to 2040

Introduction

This chapter considers the longer term development requirements for Aberdeen airport to grow and meet air travel demand up to 2040. Current forecasts estimate that Aberdeen will handle around 5.0 million passengers a year by 2040. The DfT Guidelines on the preparation of airport master plans recognise that planning for airport growth over such a period of time presents challenges and acknowledges that:

“Proposals which will come to fruition so far in the future are likely to bring with them considerable uncertainties and that consequently there is likely to be little value in working them up in any great detail”.

The forecast of 5.0 million passengers per year has therefore been used for planning purposes to provide a broad indication of the layout and extent of the airport at 2040.

General Development Principles

As described in chapter 7, the dynamic nature of the aviation sector and changing needs of passengers and airlines mean that the specific form and location of development can be subject to change. This is even more so the case when planning for the longer term out to 2040. However, in addition to the 2020 development principles a number of general development principles have been established to guide and inform plans for the longer term growth of the airport as follows:

- The development and operation of the existing runway and taxiway system will be optimised to achieve maximum capacity within operational and safety constraints, and;
- If required, additional runway length will be provided at both ends to allow airlines to operate more efficiently.

Runways and Taxiways

Drawing 6 shows the indicative layout and extent of Aberdeen airport in 2040.

As with the 2020 layout, forecasts for peak hour runway movements indicate that there will be no need to evaluate any means of increasing runway throughput capacity before 2040.

In terms of runway length, the main runway was previously constrained at 1829m and was extended to 1952m during 2011. This has enabled airlines to operate at higher load factors and also allowed new routes to be developed, supporting growth in passenger numbers. It is anticipated

that additional runway extensions may be required in the period from 2020 to 2040 and drawing indicates potential options. As with the 2011 project, the exact additional length and timing of developments will be determined by airline fleets and commercial needs.

Additional runway length to the south requires land not currently owned by the airport at Stoneywood Cricket Club to be acquired. This land is required to allow realignment of the southern section of the taxiway in order to comply with aircraft separation distances and enable additional ‘hold points’ to be created. This will contribute to optimising the full runway length.

Future runway extensions in addition to the 300m consent already in place are likely to require a full planning application and environmental impact assessment. Should a runway extension be required AIAL will enter into consultation as early as possible with Aberdeen City Council and other partners.

Aircraft Aprons and Stands

Forecast peak stand demand for 2040 identifies the need for a total of 30 aircraft parking stands. It is proposed to invest in new aircraft parking stands as demand requires. This will ensure that we match our facilities to the current need and to provide infrastructure to enable future growth. The first new stands to be developed will be opposite the current stands number 14 to 17. Prior to the building of these stands investment will be required to relocate the helicopter taxiway which currently occupies this area. Land is already safeguarded for a further two additional aircraft stands towards the south of the main apron on recently acquired farmland.

Passenger Terminal Facilities

Further extensions and improvements to the terminal will be required to accommodate the 5.09 million passengers a year which AIAL is forecast to be handling by 2040. The terminal building itself will require extension to provide additional check-in, baggage handling, departure lounge and passenger circulation facilities. This is likely to be achieved by expanding to the West (currently the inner forecourt), and the South (currently international arrivals and service yards).

Cargo and Mail

As noted in chapter 7, cargo developments will only be undertaken in response to specific requests from cargo operators.

Aircraft Maintenance

While there is no quantifiable demand for additional maintenance facilities in the longer term, land is currently safeguarded for these uses.

Air Traffic Control and Airspace

As noted above in chapter 7, airspace directly surrounding Aberdeen airport is managed on behalf of the airport by National Air Traffic Services Limited (NATS). Outside of this zone, airspace is managed by NATS En Route Limited (NERL). Aberdeen airport has assumed that the capacity of the airspace managed by NERL will grow to accommodate the forecast growth in air traffic.

However, as the need and options for growth in runway length become clearer, more detailed analysis and modelling work will need to be undertaken in conjunction with NATS to understand what airspace changes, if any, will be needed. Where an airspace change proposal is identified then the CAA airspace change process will be followed. This process engages stakeholder organisations in consultation including, among others, local authorities, environmental groups, airport consultative committees and resident organisations. AIAL will support the CAA in following any airspace change process that is necessary.

Ancillary Facilities

The demand for ancillary facilities is inextricably linked to passenger and cargo volumes. Therefore, as passenger numbers increase to the forecast 5.09 million passengers per year in 2040, a significant amount of land will be required for ancillary uses to support the growth and operation of the airport, however this area is now within the airports ownership and so no further acquisitions of development land are anticipated.

Helicopter Facilities

The forecasts for offshore helicopter traffic show a decline from 2021 to 2040 as offshore oilfields mature and it is anticipated that the current areas occupied by the helicopter companies remain as per today. Minor operational developments may however be required, and the airport will work with the helicopter operators and Aberdeen City Council where necessary.

Surface Access and Transport

Introduction

Convenient and reliable access by a range of transport modes is of fundamental importance to the operation and success of any airport. Aberdeen airport is no different in this respect and is therefore committed to working with the appropriate planning and transport authorities to develop a range of convenient, attractive and sustainable options for people to travel to and from the airport. However, good access is not only important from the airport perspective. As the numerous policy documents discussed in chapter 3 recognise, Aberdeen airport plays a key role in supporting the nation's economy and is an important source of employment. The ability of the airport to maintain and enhance this role is undoubtedly linked with the quality and performance of the surface access network which connects the airport with the rest of the country. Research undertaken for the DfT states that:

"Respondents... generally regarded getting to and from airports as integral to their overall experience with a significant potential to affect satisfaction, mood and stress levels..."

The report goes on to suggest that:

"All other things being equal (i.e. availability and cost of flight permitting), most [passengers] said they preferred to use the airport that was easiest or more convenient for them to get to; often but not necessarily their nearest airport."

Increasing environmental awareness and the need to reduce emissions from transport is also a key consideration for surface access. As a responsible operator, it is important for Aberdeen airport and its partners to ensure that measures are being taken to manage traffic and promote environmentally sustainable transport choices.

The relationship between airport activity and the scale and patterns of demand for road, rail and other forms of transport is highly complex and influenced by a range of factors. These include journey time reliability, the purpose of travel (e.g. business/leisure), duration of travel and price. People travelling to and from the airport include passengers, airport/airline staff, people picking up or dropping off and those associated with cargo, maintenance and the airport's supply chain. Each of these groups can have differing and specific requirements for how they travel to and from the airport.

Aberdeen Airport Surface Access Strategy 2008 - 2012
The Airport Surface Access Strategy (ASAS) was published in 2008 and sets out a number of targets and actions to improve access to the airport and increase the use of more environmentally sustainable modes of transport. In terms of how the Master Plan and ASAS relate to each other, the Master Plan establishes the long term strategic objectives for improving surface access while the ASAS provides a more detailed tactical response to meeting these objectives.

The key objective of the ASAS is:

"To increasingly influence surface access journeys as the airport develops, and to support Government aims to increase public transport mode share."

A number of targets and actions are set out by the ASAS to achieve the key objective, notably:

"To increase the overall public transport modal share from 6.1% to 8.5% by 2012."

The ASAS was prepared by Aberdeen Airport Limited in consultation with members of the Airport Transport Forum (ATF). This body was established by the airport and is made up of transport related organisations such as bus operators, taxi companies, Transport Scotland and NESTRANS. The purpose of the ATF is to promote, monitor and co-ordinate improvements to the airport's accessibility by public transport in particular. AIAL has committed to review and reissue the ASAS in 2013.

Existing Strategic Transport Network

NESTRANS commissioned transport consultants to undertake a study to identify the strategic transport network which serves Aberdeen airport. The study also assessed the current and future performance of the network. The study identified the following issues:

- a high level of dependence on cars and taxis for access to and from the airport;
- that the airport is currently heavily dependent upon the strategic road network for access by staff and passengers;
- that there is evidence of congestion, delays and reduced operational efficiency on key parts of the strategic network serving Aberdeen airport which are predicted to be exacerbated over time as demand increases; and
- that there is limited scope to encourage modal shift to public transport without measures to make buses and trains more attractive to prospective users.

Road

Aberdeen airport is connected to the A96, A947 and A90 trunk roads via a local network that also serves the adjacent Kirkhill Industrial Estate and provides general access to Dyce and Aberdeen City.

In terms of the current performance of the road network serving the airport, many sections suffer from significant and recurring congestion during peak periods, particularly Dyce Drive, Wellheads Drive and Pitmedden Road.

Two projects are currently being constructed which will improve access to the airport by road. The Aberdeen Western Peripheral Route (AWPR) will reduce congestion and provide crucial links to Aberdeen and beyond. Journey times and reliability to all areas will be vastly improved.

The provision of the link road between Dyce drive and the A96 will complete the network between the airport and the AWPR. Again, this is expected to improve journey times and the reliability of travel times to the airport. Although preparatory work has begun, the handover of both these projects is a number of years away. Although there are no statutory planning issues associated with either the AWPR or the link road, the timing and delivery programme are key to meeting the forecast growth of both the region and airport.

Over 100 buses depart from Aberdeen airport every day. The bus route network is as follows:

- Jet 727 - Airport to Aberdeen city centre shuttle
- Jet 80 - Dyce railway station shuttle
- 220 - Aberdeen/Alford via Airport
- 27 - Aberdeen/Dyce via Airport
- 747 -Dyce/Ellon via Airport
- 777 -Oldmeldrum/Kingwells via Airport

Rail

The airport is not directly connected to the rail network. Dyce is the nearest railway station and is the main interchange for people using rail to access the airport. In recent years, Aberdeen airport has contributed towards the operation of the number 80 Dyce station shuttle bus. Also, AIAL has recently committed to provide land, currently within its ownership, to support the proposed development of Dyce railway station to accommodate proposed rail passenger growth and to improve customer service at the station. The delivery of this project is also key to providing capacity for growth.

Walking + Cycling

Accessing the airport on foot or by bicycle is not feasible for the majority of airport users and staff due to the practicalities of carrying luggage, shift patterns or the distance between the airport and peoples' point of origin. A number of locally based staff (and a very small number of passengers) however do choose one of these modes of transport, using the network of footpaths and the airport cycle route.

Footpaths link the airport with Dyce and cycle routes connect with National Cycle Network route 1. A number of cycle parking facilities are located throughout the airport campus.

Existing Passenger Transport Characteristics

Table 10 below shows how departing passengers chose to access Aberdeen airport in 2011.

Mode of Transport	Number of Passengers (%)
Private Car/Taxi	81.4
Bus/Coach	7.9
Other/Unknown	3.3
Rail	0.6
Transfer (arrived by aircraft)	6.8

Table 10: Passenger Modal Split (Source: 2011 BAA Retail Profiler Survey.)

The results shown in Table 10 represent an increase in the percentage of passengers travelling to the airport by bus or coach from 6.5% to 7.9% from 2005 to 2011. There is also a decrease in the percentage of passengers accessing the airport by car, from 86% down to 81.4%. The increase in bus usage is encouraging given the levels of investment the airport and its partners have made in improving public transport facilities and services.

Chapter 9

Table 11 details the areas of origin for departing passengers using Aberdeen airport in 2009.

Area	Number of Passengers (%)*
Aberdeen City	63.2
Aberdeenshire	24.7
Moray	3.4
Angus	2.2
Highland	1.9
Perth & Kinross	1.1
Dundee City	0.9
Glasgow City	0.5
South Lanarkshire	0.4
Falkirk	0.3
Fife	0.3
Rest of Scotland	0.7
England	0.2

Table 11: Origin of Departing Passengers (Source: 2009 CAA Passenger Survey.) *May not sum due to rounding.**Existing Staff Transport Characteristics****Table 12 below shows how staff chose to travel to work during 2008.**

Mode of Transport	Number of Staff (%)*
Private Car (driver)	88
Bus/Coach	3
Private Car (passenger)	4
Taxi	1
Motorcycle	1
Bicycle	2
Rail	0

Table 12: Staff Modal Split (Source: 2008 ASAS) *May not sum due to rounding.

Of all the staff who work at Aberdeen airport almost all live and travel from either Aberdeen City or Aberdeenshire with less than 1% travelling from outside these areas. Table 13 illustrates the areas where there are concentrations of more than 50 registered workers in residence.

Area	Number of Staff (%)
Northfield	5.3
Kintore & Oldmeldrum	4.4
Dyce	4.3
Newmachar	4.0
NE Aberdeen	3.8
Bankhead & Bucksburn	3.8
Westhill, Kirkton of Skene, Dunecht	3.6
Portlethen, Cove Bay	3.5
Inverurie	3.5
Torry & Harbour	2.4
Pitcaple & Kemnay	2.1
Ellon	2.1
Kingswells	2.0

Table 13: Staff concentrations by postcode districts. (Source: 2008 ASAS)**Surface Access Infrastructure 2020**

Achieving modal shift to more sustainable forms of transport is a priority for Government. This policy is explicit across a number of policy documents including the second National Planning Framework, Scottish Planning Policy, the National Transport Strategy and others. In addition to this, the Future of Air Transport White Paper makes improving surface access - and sustainable modes of travel in particular - a pre-requisite in order for future airport growth to be supported.

AIAL recognises the importance of achieving modal shift and is committed to working with partners to develop and deliver improvements. Improving accessibility to the airport enhances its attractiveness to businesses and tourists alike, and ultimately therefore contributes to the success of Scotland's economy. However, it must be recognised that many passengers and staff will continue to choose to access the airport by car for a variety of reasons and it is important that on and off-airport road infrastructure is improved and that a balanced and integrated approach is taken.

The previously mentioned AWPR and A96 link road projects both will greatly improve accessibility, will reduce and render journey times to the airport more predictable, and are key to the airport developing. The early implementation of these projects is crucial to accommodate the forecast passenger growth.

In terms of the internal airport road network, the investment of over £2.5 million since 2009 to improve traffic flow and passenger transport facilities has greatly reduced congestion on the forecourt areas of the airport. Traffic modelling indicates that the internal road network

has sufficient capacity and only minor works may be required as passenger demand increases to 2020.

In line with the target to double the number of staff who walk or cycle to work, the airport cycle network will be upgraded and improved facilities developed to provide functional and attractive routes.

In order to promote and encourage electric and hybrid vehicle use AIAL will provide charging points for public use and will also work with the car hire companies to introduce a more fuel efficient car hire fleet.

AIAL has also committed to provide land, currently within its ownership, to support the proposed development of Dyce railway station to accommodate proposed rail passenger growth and to improve customer service at the station.

Surface Access Infrastructure 2040

Surface access infrastructure improvements will be required both on and off airport to accommodate forecast passenger demand out to 2040. It is not possible at this stage to identify the exact improvements that will be required however AIAL will continue to work with transport authorities and operators to ensure that improvements are delivered in a timely manner to support the sustainable growth of the airport.

Chapter 10

Next Steps

Aberdeen International Airport's latest Master Plan is not the end of the process. It is the foundation upon which the AIAL team will progress to maximise the contribution a successful Aberdeen airport makes to our country. We will do this by: continuing to actively participate in the development of policies and legislation which affect the airport; continuing to engage with our customers, neighbours and partners; and continuing to develop Aberdeen airport in a sustainable and responsible manner.

The Master Plan will be updated every five years in order to provide a current and accurate basis to guide airport development and enable informed and on-going dialogue to continue.



Glossary of Terms

AABAP	Aberdeen Airport Biodiversity Action Plan
AIAL	Aberdeen International Airport Limited
ASAS	Airport Surface Access Strategy
ACI World	Airports Council International
ACSEF	Aberdeen City and Shire Economic Future
ATF	Airport Transport Forum
ATM	Air Traffic Movement
AWPR	Aberdeen Western Peripheral Route
CAA	Civil Aviation Authority
DfT	Department for Transport
EU ETS	European Union Emissions Trading Scheme
FTE	Full Time Equivalents
FW	Fixed wing
GVA	Gross Value Added
Leq	Equivalent continuous noise level
NAQS	National Air Quality Strategy
NATS	National Air Traffic Services Limited
NERL	NATS En Route Limited
NPF2	National Planning Framework 2
NTS	National Transport Strategy
NESTRANS	Aberdeen City and Shire Transport Partnership
PATM	Passenger Air Traffic Movement
PSZ	Public Safety Zone
SEPA	Scottish Environment Protection Agency

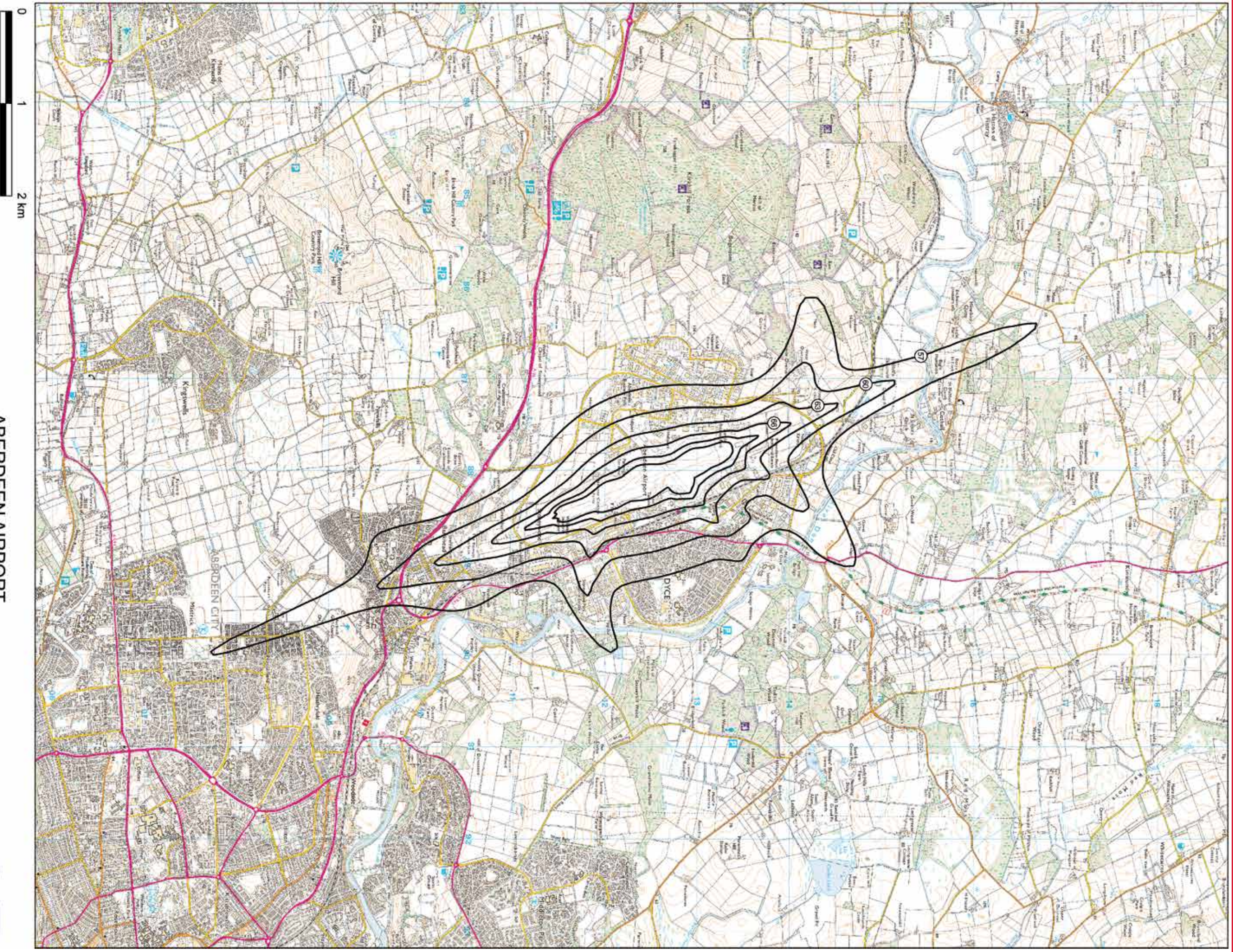




ABERDEEN AIRPORT
Year 2006 (actual)
Actual Modal Split 42%N / 58%S

SCALE 1:50,000@A3 ABZ - 105 June 2007

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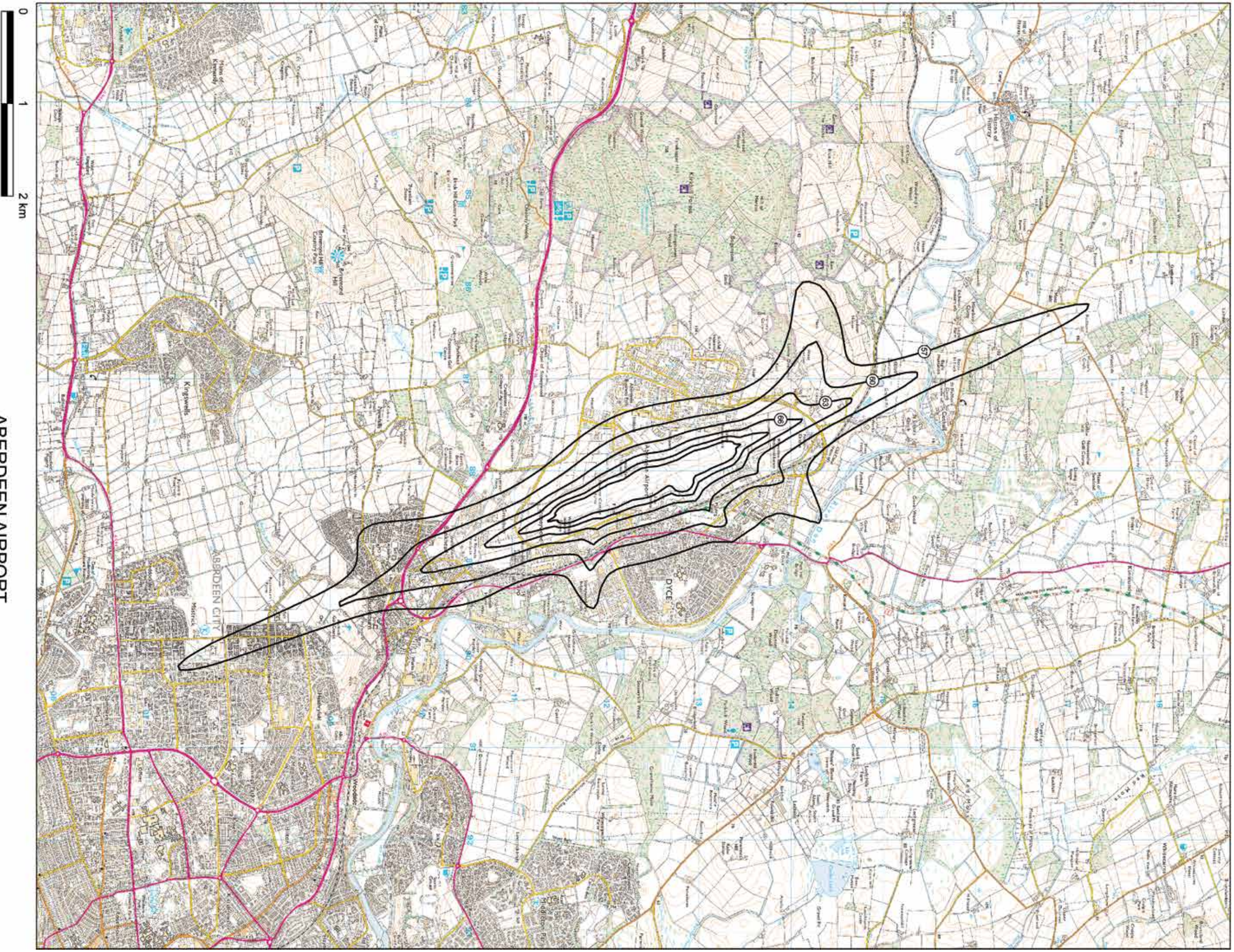


ABERDEEN AIRPORT
Forecast Year 2020 Leq Contours (Fixed-wing + Helicopters)
Modal splits: 53% rwy 16 / 47% rwy 34; 11% rwy H05 / 89% rwy H23

Scale 1:25,000

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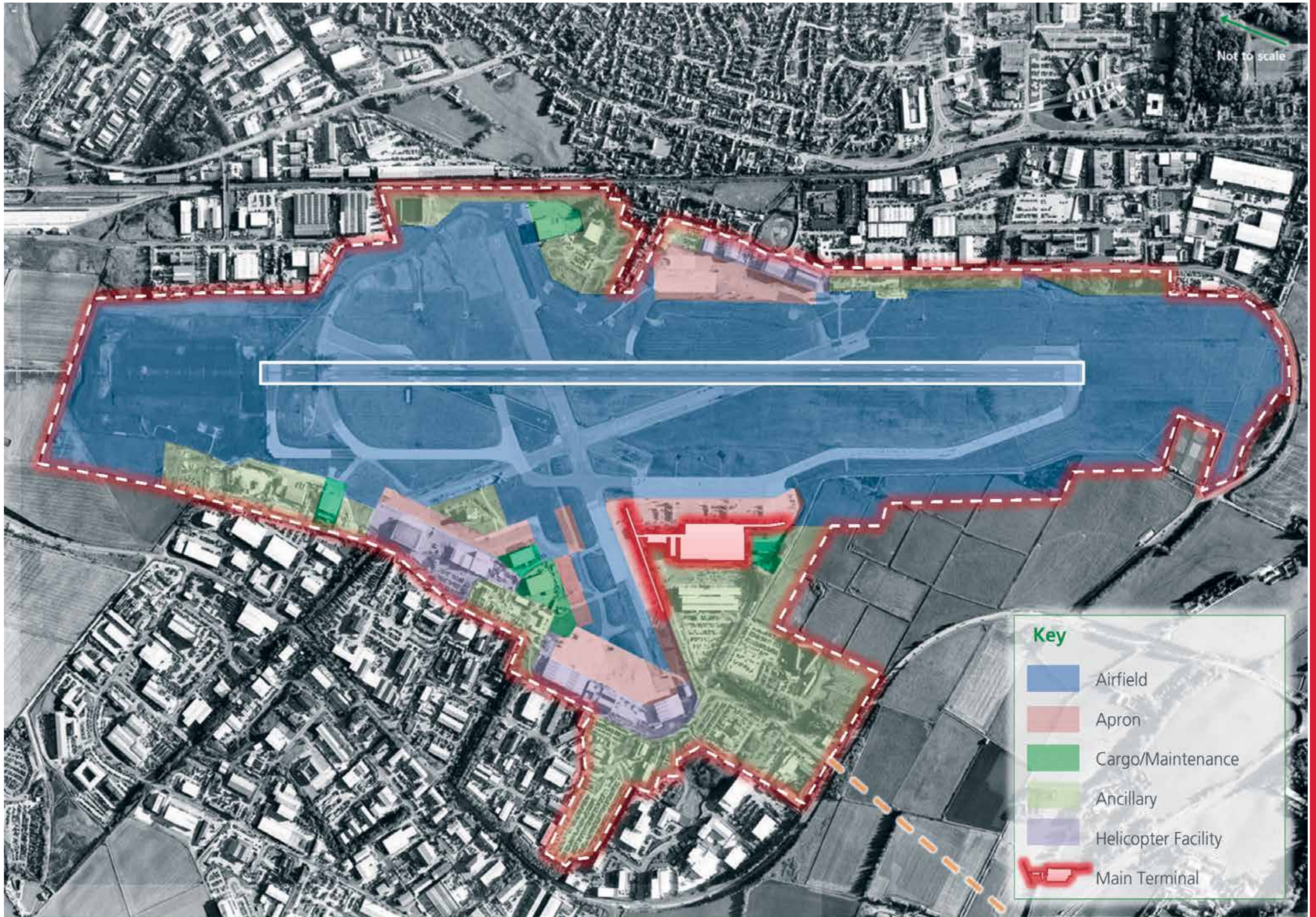
ABERDEEN AIRPORT
Forecast Year 2040 Leq Contours (Fixed-wing + Helicopters)
Modal splits: 52% rwy 16 / 48% rwy 34; 11% rwy H05 / 89% rwy H23

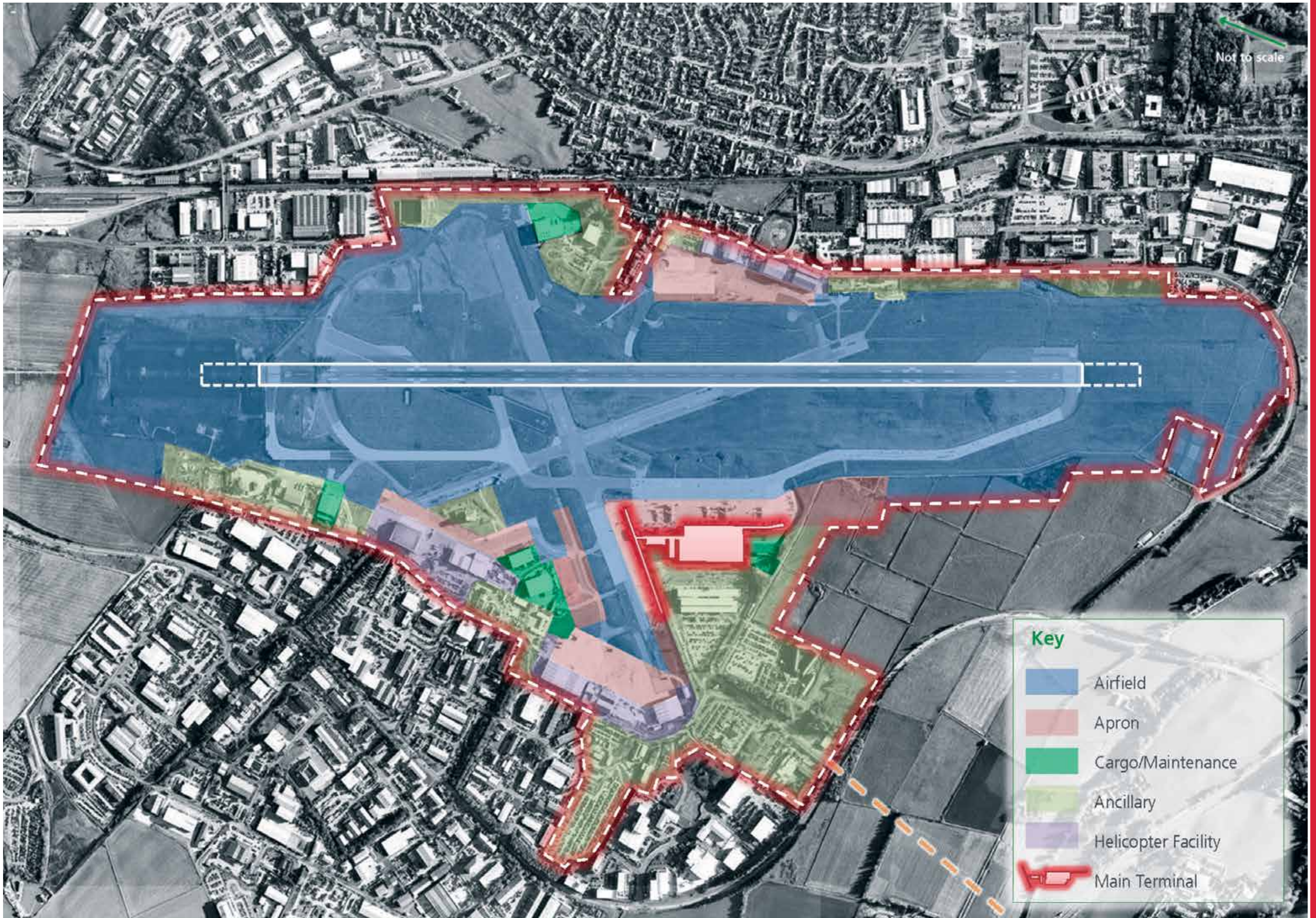
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