



Belfast City Airport



Belfast City Airport **Master Plan** to **2030**

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Comments on the Master Plan:

Anyone wishing to make a comment on the Master Plan may do so in writing at the addresses below.

Postal Address: Master Plan
C/o The Environment Manager
Belfast City Airport
Sydenham By Pass
Belfast
BT3 9JH

e-mail: info@belfastcityairport.com
Inserting 'Master Plan' in the Subject line.



1. The Master Plan – Introduction and purpose.

A Forward from the Chief Executive

In December 2003 the Government published 'The Future of Air Transport', a White Paper setting out a strategic framework for the development of airport capacity in the United Kingdom. Included within this document is a section devoted to air transport in Northern Ireland. For your convenience, the White Paper conclusions on Belfast City Airport [BCA] are summarized in Section 4 of this Master Plan - the Policy Context.

The Government also invited airports throughout the UK to develop and publish long term Master Plans to illustrate where and how the development of airport capacity might be delivered between now and 2030. This Master Plan, developed from our "Outline Plan to 2015" published in January 2005, is the BCA response to that invitation.

The Master Plan therefore, details how the airport might evolve over the next 25 years. It includes forecast passenger and aircraft movement numbers and possible development options to the site infrastructure.

BCA has grown in recent years to become an important gateway to the province. Our investment in the new terminal which opened in 2001, demonstrates our commitment to enhancing the economic and social development of the region, which is in line with our policy that:

"Through a programme of sustainable development, Belfast City Airport is committed to achieving a balance between the social and economic benefits of the Airport's growth, and the environment. We are committed to engaging with all airport 'stakeholders' to achieve these objectives for mutual benefit."

Our commitments to enhancing the economic and social life of the province through a programme of sustainable development will continue, and we continue to seek ways to minimise adverse environmental affects on the community. Our forecasts of passenger and aircraft movements indicate future growth. However, projections over such a long period are estimates that will, of course, vary through time. We shall, therefore periodically review the Master Plan to ensure it remains relevant to all those who have an interest in Belfast City Airport.

I hope you will find this a useful and interesting document.

Brian Ambrose
Chief Executive
Belfast City Airport

2. General Background to the airport

2.1 Character

Belfast City Airport is a regional airport serving a range of destinations, mainly in Great Britain and Ireland. Situated on the south shore of Belfast Lough adjacent to the A2, one of the main arterial routes into the city, the airport has grown significantly in recent years and is a key strategic gateway to the province.¹ Within a few minutes drive of Belfast city centre, BCA currently caters for over 2 million passengers per year, representing approximately 40% of the scheduled domestic air traffic to and from Northern Ireland.



Fig. 1 The new terminal was opened in 2001

2.2 Historical Perspective

Using grass airstrips, Belfast Harbour Airport opened as a commercial airport in 1938. During the war years commercial aviation ceased and the airfield became firstly an RAF then an RNAS station. Concrete runways were laid in 1940, serving both military operations and the adjacent Short Brothers aircraft factory.

Commercial services operated again briefly between 1945 and 1946 but in 1947 the airfield reverted to use as a test and production facility for Short Brothers and for military services. In 1950, the 04 – 22 runway was strengthened and lengthened to 2000 yards to facilitate the manufacture of such aircraft as the Canberra bomber, Britannia airliner and Belfast freighter.

Shorts took the decision to re-open the Harbour Airport for commercial traffic in 1983. During 1984, its first full year of operation, 177,000 passengers were carried on 11,000 air transport movements [ATM's]. Belfast Harbour Airport became Belfast City Airport [BCA] in 1989 and by 1991, when an extension of the terminal was completed, traffic had reached 535,000 passengers and 18,400 [ATM's]. 1994 was the first year when passenger numbers exceeded 1,000,000 and also when the new combined Air Traffic Control Tower and Fire Station became fully operational.

A further extension was added to the terminal building in 1997, but it was not long before plans were being drawn up for the construction of a completely new terminal and apron approximately 500 metres to the north east of the existing facility.

The new terminal opened in June 2001, and in 2005 there were just over 2,200,000 passengers carried on a little over 39,000 ATM's.

3. The Role of Belfast City Airport

3.1 The Aviation market

a. Passenger Traffic

Our primary market is the short haul scheduled services sector. This will remain the core of our aviation business throughout the period of the Plan.

For a number of years we have operated a limited range of specialist charter services catering for golf and ski holidays to European destinations. While this currently accounts for less than 1% of total passenger throughput, research has indicated a market demand for increased charter opportunities from BCA. Our growth forecasts discussed later in the Plan are therefore, based on the assumption that the charter traffic will increase in the coming years.

BCA is not and will not be targeting the long haul passenger markets, and will not be making infrastructure investment to facilitate this business or the handling of 'wide bodied' aircraft.

b. Air Freight

Air freight through BCA has historically been limited to freight in the holds of scheduled passenger aircraft; 1000 tonnes being carried in 2005.

The restricted operating hours of the airport makes BCA unattractive for dedicated freight services. It is therefore unlikely that dedicated freight services of any significance will be operated from the airport.

c. General Aviation

In 2005, General Aviation accounted for approximately 5% of all aircraft movements. While BCA provides services to cater for this market segment, this is not an area of business that BCA actively targets. For example, neither a flying club nor air taxi operator is based at BCA. It is expected that General Aviation will remain a small percentage of aircraft movements.



Fig. 2 2005 Route Map

3.2 Economic Context

Aviation in the UK is a thriving business that attracts millions of pounds worth of private investment each year. This investment results in both direct and indirect employment and it is now widely recognised that airports are generators for economic activity.

Within the past 5 years BCA has invested more than £30 millions in re-development and currently directly supports around 900 jobs on the airport site and an estimated further 300 indirect and induced jobs in the greater Belfast area². In addition to this job creation, the location of the Airport provides easy access to Belfast city and Northern Ireland's main surface routes, contributing to both Belfast's increasing attractiveness as a place to do business and as a leisure destination.

3.3 Social Context

BCA recognises its social responsibility and is engaged in an extensive outreach programme with local schools, ranging from assisting primary school children to develop reading skills to supporting senior school students with travel, tourism and foreign language studies. BCA is committed to the further development of its Corporate Social Responsibility strategy as it seeks to continuously understand our contribution to sustainability in its fullest sense.

BCA therefore remains committed to the balanced and sustainable development of the Airport to further enhance the province's economic development while mitigating the impact on the local environment. BCA will continue to study industry 'best practice' in the management and mitigation of the environmental impacts of aviation and take appropriate action to evolve our environmental management systems.

4. Policy Context

This section considers the regulatory and policy framework within which BCA operates and this Master Plan has been prepared. At a national level, Government policies indicate the way in which airports and air services should be allowed to develop. Regional and local planning policies, prepared by devolved administrations and local agencies, seek to achieve a balance between the benefits of increased economic activity associated with the growth of airports and the need to protect the environment and the amenities of local residents.

Following are some of the main regulatory and policy instruments pertinent to BCA.

4.1 The Planning Agreement

BCA operates under a Planning Agreement³ between itself and the Department of the Environment for Northern Ireland. The current Agreement dates from January 1997. The Agreement sets out a series of obligations and restrictions on the operation of BCA which are summarized here:

- Scheduled aircraft may only be scheduled to operate between the permitted hours of 0630 and 2130 local time.
- There is provision for the permitted hours to be extended between 2131 and 2359 local time to facilitate delayed aircraft to use the aerodrome.
- Not more than 45,000 air traffic movements shall be accepted in any twelve month period.

- Operators using the aerodrome shall not offer for sale more than 1,500,000 seats from the aerodrome in any twelve month period.
- Only those aircraft types which meet the standards adopted by ICAO, Annex 16, Chapter 3, shall be accepted at the aerodrome.
- A bias shall be maintained of approaches and climb outs over Belfast Lough.
- The Company shall produce an annual Noise Contour and compare it with the indicative noise contours prepared by the Department.

4.2 The White Paper

In December 2003, the Government published 'The Future of Air Transport', a White Paper setting out a strategic framework for the development of airport capacity in the United Kingdom.⁴ The Government's declared intention is to follow a balanced approach which:

- Recognises the importance of air travel to our national and regional economic prosperity.
- Reflects people's desire to travel further and more often by air.
- Seeks to minimise the impacts of airports on those who live nearby, and on the natural environment.
- Ensures that, over time, aviation pays the external costs its activities impose on society at large.

Chapter 7 of the White Paper is devoted to air transport in Northern Ireland. The White Paper conclusions on Belfast City Airport [BCA] are:

- *"BCA is conveniently located close to the [Belfast] city centre, and has an above average proportion of business traffic.... Our [Department for Transport] forecasts suggest a potential demand of slightly over 4 million passengers per annum by 2030.*
- *However, the airport does face significant operational constraints. These include the length of its runway, and the planning controls imposed as a condition of its development.....*
- *BCA is also one of only four airports in the EU designated as a 'city airport' in EU Directive 2002/30/EC, which potentially allows the imposition of more stringent noise-related operating restrictions than other airports in the EU, if desired.*
- *We [Government] recognise the desirability of maintaining suitable controls on the environmental impacts of the airport, given the large number of people who live in the vicinity and are affected by aircraft noise. At the same time, the airport does have an important role as a transport gateway in the economic life of Northern Ireland. As is the case with many airports elsewhere, we recognise that a balance needs to be struck between these conflicting environmental and economic factors. However, we believe there may be scope to devise controls that would limit the local environmental disbenefits of Belfast City Airport without severely constraining the potential economic benefits which the airport could provide. We therefore invite the Northern Ireland authorities to review the form of the planning agreement, if and when they are so requested by the airport operator."*

4.3 Review of the Planning Agreement

With the publication of the White Paper, BCA undertook a period of extensive consultation with stakeholders to discuss the further development of BCA. As a result of the consultative process, in July 2004 BCA submitted an application to the Planning Service seeking a review of the form of the Planning Agreement. Specifically, as it relates to the capacity of the surface access infra-structure and terminal building prior to re-development in 2001, BCA requested the removal of the limit on the number of seats that operators are able to offer for sale.

Towards the end of 2005, the Department of the Environment announced that an Examination in Public hearing would be held in 2006 to make a determination on the review of the form of the Planning Agreement. The traffic forecasts produced later in this Master Plan illustrate a scenario assuming the 'seats for sale' limit is removed.

4.4 Aerodromes (Noise Restrictions)(Rules and Procedures) Regulations 2003

These regulations implement into UK law the provisions of Directive 2002/30/EC on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at UK airports. As a city airport, BCA is designated under these regulations as a competent authority with the power to impose more stringent restrictions on operating aircraft than other airports, provided such restrictions do not affect aircraft which comply with the ICAO 'Chapter 4' noise standards.

Using the power granted to it by these Regulations, BCA has prohibited the operation of those aircraft types which are only "marginally compliant" with the 'Chapter 3' noise standards.

4.5 The Environmental Noise Directive, Directive 2002/49/EC

This Directive outlines the requirements for the assessment and management of environmental noise across the Member States of the EU. The Directive envisages 'noise maps' being created in 2007 to illustrate noise levels resulting from industrial and transport activity within agglomerations, and from major airports. Although not a major airport, BCA lies within the agglomeration of greater Belfast and will therefore be included in the assessment. The noise map will form the basis of a review to determine the need for a subsequent action plan.

4.6 Belfast Metropolitan Area and Transport Plans

2004 saw the publication of draft Belfast Metropolitan Area and Transport Plans⁵. Within these draft Plans BCA is identified as a key strategic gateway to Northern Ireland and a number of proposals are made in relation to the development of surface access infra-structure in the vicinity of the airport.

It is recognised by BCA that, situated adjacent to major road and rail arterial routes into Belfast, BCA surface traffic forms part of the traffic load on these networks. Growth at BCA, along with residential and commercial growth in east Belfast, North Down and the Belfast Harbour Estate will have an impact on surface access routes in the area. The BMAP and BMTP put forward proposals which would indicate a move towards transport integration and improved management of surface traffic.

At the time of publication of the Master Plan, a determination is awaited in relation to the Belfast Metropolitan Area and Transport Plans. BCA undertakes to work closely with the Roads Service, Translink, the Belfast Harbour Commissioners and others to co-ordinate and align its surface access strategy with the BMAP and BMTP.

5 **BCA Statement of Intent**

BCA currently operates mostly within the market sector niche of scheduled airline services to and from Great Britain. Specialist charter services are also currently operated to a limited number of European destinations. It is the intention of BCA that our core business activity shall remain that of serving the GB scheduled market, while pursuing opportunities to develop other direct short and medium range services.

In developing the range and frequency of air services available to the public and the infra-structure necessary to support these services and other business opportunities, BCA will adhere to the following Development Principles:

DP1

We will continually assess the air transport market to seek further opportunities to develop new services within the parameters of the Master Plan.

Comment on DP1 -

BCA's primary market is the short haul scheduled services sector. While this will remain the core of our aviation business throughout the period of the Plan, efforts will continue to develop scheduled services into Europe. Efforts will also continue to increase the volume of short and medium range charter traffic to Europe.

DP2

We will not target the long haul passenger market, and will not be making infrastructure investment to facilitate this business or handling of 'wide bodied' aircraft.

Comment on DP2 -

The physical constraints of the BCA site make it impracticable to provide the airfield or terminal facilities necessary for the operation of long-haul, wide bodied aircraft.

DP3

Each planning application for major infra-structure development will be accompanied by a process of stakeholder consultation, an environmental impact assessment and a plan to mitigate any adverse environmental impact of the proposed development.

Comment on DP3 -

BCA is conscious that the operation of an airport involves a degree of environmental impact and community disturbance. We will continue to consult with stakeholders on issues that affect them and fully comply with the requirements of the planning authorities in submitting planning applications.

DP4

We will continually benchmark our activities against aviation industry 'best practice'.

Comment on DP4 -

BCA is and will continue to be engaged in a process of continuous improvement. Continuous improvement is measured against the standard of recognised aviation industry 'best practice' and is applied to operational and environmental procedures.

6. The Airport in 2005

This section gives a glimpse of BCA as it is today. It gives an outline of the existing facilities under the following headings:

Airfield
Terminal
Car Parking
Surface Access
Ancillary Services

The following Land Use Table also gives a spatial perspective of the airport.

Land Use	Current Area [hectares]
Airfield	96.385
Aircraft Aprons	5.279
Terminal	0.638
Car Parks & Surface Access	8.268
Ancillary Service & Taxi park	1.016
Available development land	9.741
TOTAL	121.327

Fig. 3 Current Land Use Area

6.1 Airfield

The Airfield and aircraft aprons broadly cover those areas associated with aircraft movements and their immediate support services. This includes:

- The runway, which is 1829m long and 45m wide, has recently been resurfaced along its entire length. Improvements were also made at that time to runway lighting and drainage. The airport operates at approximately 10 ATM's (Air Traffic Movements) per hour during the busier periods, with the Airbus A321 as the largest aircraft operating on a regular basis.
- The runway orientation is 04-22. Aircraft approaching from the south west and departing to the north east do so on a compass heading of 040 degrees. Aircraft approaching from the north east and departing to the south west do so on a compass heading of 220 degrees. In order to minimise air traffic over Belfast city, the airport operates a system of preferred runways. 04 is the preferred take off runway with departures down Belfast Lough and 22 is the preferred landing runway with arrivals up Belfast Lough. However, the ability to use the preferred runway is determined by prevailing wind direction and traffic flow.
- Three taxiway links connect the runway to the main apron.
- The main apron can accommodate 10 aircraft parked 'nose in'. All aircraft stands on the main apron are equipped with fixed electrical ground power to minimise noise and carbon emissions.
- A second apron, in front of the old terminal building, is now used for General Aviation and aircraft maintenance.
- An additional aircraft hard standing area is available on the north side of the runway. This area is also used to accommodate overflow traffic from the main and General Aviation aprons, and aircraft engine runs.
- The Airport Fire Service training ground is adjacent to the apron on the north side of the runway.

6.2 Passenger Terminal

The passenger terminal includes a range of facilities for processing and accommodating passengers (e.g. check-in, security, lounges, baggage reclaim, retail outlets and office accommodation occupied by the airport authority and tenant companies).

The passenger terminal design is based on an open plan to minimise both passenger distances from 'kerb side' to 'gate', and operating costs. This enables an easy re-configuration of space to adapt to changing customer requirements. The design capacity of the terminal is currently 2.5 million passengers per annum, although this may vary with changes to the scheduled / charter passenger mix, aircraft scheduling and degree of retail development. The current 'busy hour' flow rate is assessed as 800 passengers.

Current terminal facilities include:

- 20 check-in desks and 3 self-service check-in kiosks.
- 4 airline Ticket Desks
- Common boarding lounge with seating capacity for 550
- Capacity for 4 airline business lounges.
- Common aircraft boarding pier leading to 10 boarding gates.
- A dedicated arrivals hall with 2 baggage reclaim belts.
- Variety of retail, catering and car hire outlets.

6.3 Car Parking

Current car parking provision includes a Short Stay car park to the south west of the terminal, with 560 spaces for public and staff. The Main car park of 1950 public and 300 car hire spaces is to the north east of the terminal. Both are within walking distance of the terminal on a single level. A courtesy bus service operates within the Main car park. No long term block parking or off-airport parking is provided. There is sufficient parking to meet current demand.

6.4 Surface Access

Current and future provision of surface access is discussed in more detail in Section 9 of this report. However, in summary, current provision is made for:

- Bus stops for regular bus services to Belfast city centre and Londonderry.
- Taxi rank. A taxi holding area is also provided to the south west of the passenger terminal.
- Car parking spaces for 2250 passenger, 300 hire car and 260 staff cars.
- Passenger drop off / pick up areas, including dedicated disabled spaces.
- Passenger drop off / pick up for car park courtesy bus service.
- A courtesy bus service operating between the passenger terminal and the Sydenham rail halt, which is accessed by a footbridge over the A2 Sydenham By Pass road.

6.5 Ancillary Services

All airport Ancillary Services are located on the airport site. Some of the main ancillary activities are:

- Air traffic control and ATC engineering.
- Airport fire service.
- Motor Transport Workshop.

All of the above services are accommodated within the ATC building to the south of the passenger terminal, adjacent to aircraft parking Stand 1.

- Aviation fuel farm.
- Airline engineering support offices and stores.
- Cargo.
- Inflight catering kitchens.

Services located within the passenger terminal are:

- Airline and ground handling operations, crew reporting and administrative offices.
- Airport authority administrative offices.
- Conference Centre.
- Facilities engineering and IT support services.
- Statutory agencies such as HM Customs & Excise; HM Immigration, Department for Agriculture and Rural Development etc.

Also located on the airport site is an Air Cadet Unit. While not associated with the airport or airport operations, this unit does occupy 0.256 hectares of airport land.

7. Current Traffic and Forecasts

7.1 Current Traffic

After rapid passenger growth in the early 1990's, volumes then remained fairly constant up to 2000. In June 2001, operations transferred into the new passenger terminal building. Towards the end of 2001, bmi British Midland transferred their services from Belfast International Airport to Belfast City Airport, which contributed to a 56% increase in passenger numbers in 2002. Since 2002, Northern Ireland has experienced continued economic and tourist growth⁶, which is reflected through increased passenger numbers.

Air Transport Movements [ATM's] in the period up to 2001 had seen a gradual decline as operating airlines began fleet replacement programmes to provide additional seat capacity, e.g. 36 seat SD360's were replaced by 50 seat DH8-300's, and 50 seat F27's were replaced by 97 seat BAe 146-200's etc. However since 2002, air traffic volumes have grown by 11%.

The current mix of aircraft types is illustrated in Fig. 4, however the fleet replacement programme continues with flybe withdrawing DH8-200 and DH8-300 series turbo-props, and BAe146-100 series jet aircraft to be replaced by DH8-400 series turbo-prop and BAe146-300 series jet respectively.

Flybe announced in June 2005 that there will be a phased replacement of their 112 seat BAe146-300 fleet with the 118 seat EMB 195 commencing in autumn 2006.

The following Table illustrates those aircraft types currently operating through the airport on a regular basis.

Air Traffic Movements 2005			
Type	Seats (Max.)	ATM's	% of Total ATM's
A321	191	4541	11.58%
A320	152	739	1.89%
A319	125	191	0.49%
B737-400	150	16	0.04%
BAe146-300	112	6395	16.31%
BAe146-200	97	1029	2.63%
BAe146-100	74	30	0.07%
ATP	68	22	0.06%
Dash8-400	78	16102	41.08%
Dash8-300	50	4005	10.22%
Dash8-200	37	48	0.12%
ATR-72	66	341	0.87%
ATR-42	48	1019	2.60%
F 50	50	98	0.25%
E-145	50	22	0.05%
E-110	17	298	0.76%
SH-360	36	708	1.81%
SW 4	19	64	0.16%
J31	17	340	0.87%
D328	15	342	0.87%
PA31	6	720	1.84%
GA/Air Taxi		2128	5.43%
TOTALS		39198	100.00%

Fig. 4 2005 Aircraft Mix

Weekly Patterns

BCA currently has limited involvement in the charter market. Scheduled services therefore make up 95% of all Air Transport Movements. The result is a relatively uniform pattern of passenger and aircraft movements, affected only by seasonal factors such as minor adjustments from Winter to Summer schedules; peak holiday traffic at Easter, July, August Bank holiday, Halloween and Christmas. The pattern of passenger throughput has therefore been predictable in recent years. The influence of holiday traffic is particularly apparent during July, with high levels leaving the province to return in August, and in December with high levels arriving into the province, to depart after Christmas. [Fig. 5]

However, while leisure passengers form an increasing percentage of the passenger mix, business travellers in 2005 continue to be approximately 50% of total passenger throughput.

Weekly Arriving and Departing Passengers - 2005

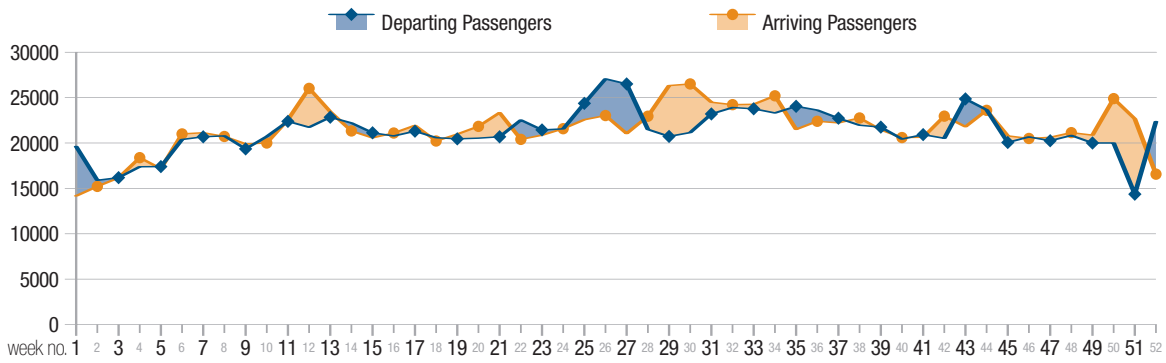


Fig. 5 Weekly Arriving & Departing Passengers

Weekly Aircraft Movements - 2005

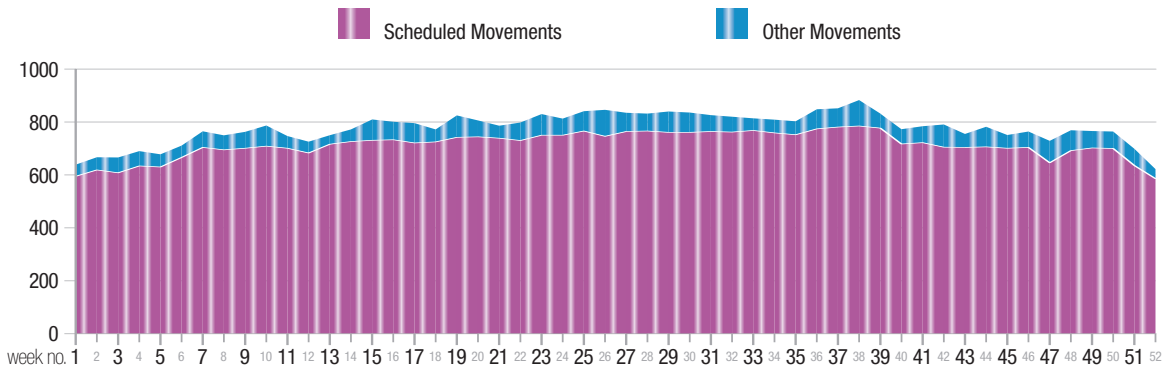


Fig. 6 Weekly Aircraft Movements

Daily Patterns

Daily traffic patterns are equally predictable, given the very low levels of charter movements. With the exception of holiday peaks, the following daily patterns are repeated throughout the year.

2005 Average Week - Daily Passengers

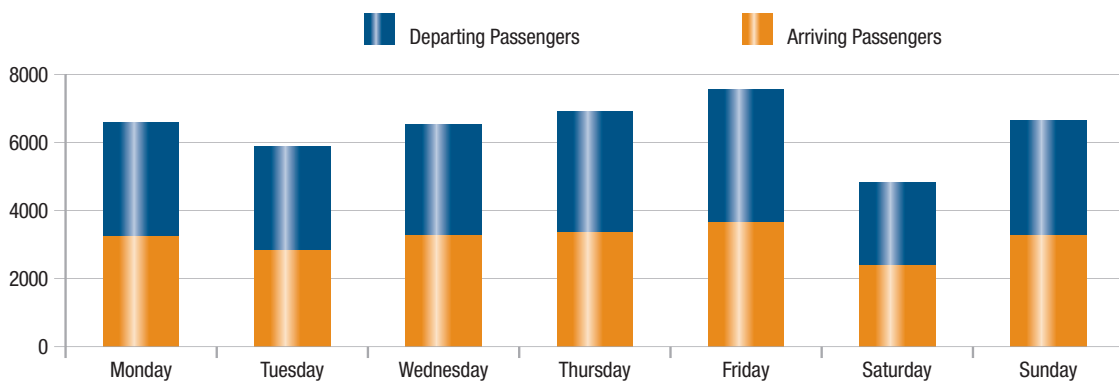


Fig. 7 Daily Passenger Movements – 2005 Average Week

2005 Average Week - Daily Aircraft Movements

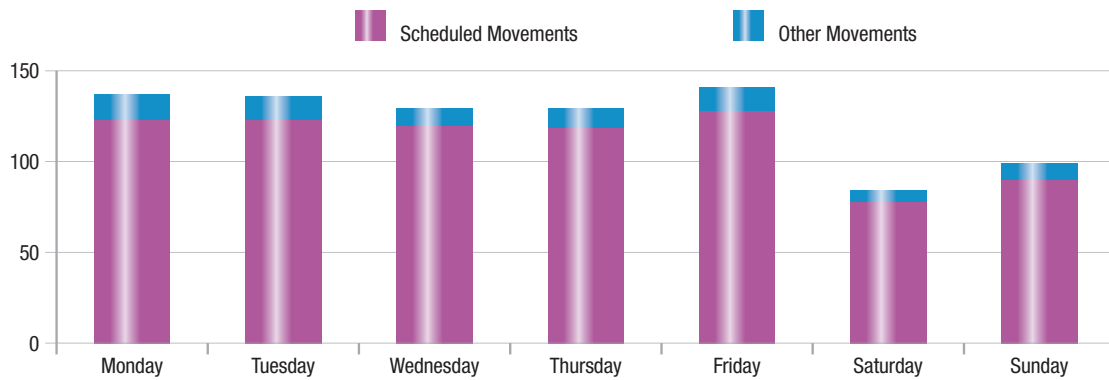


Fig. 8 Daily Aircraft Movements – 2005 Average Week

It is clear that the airline schedules are designed around the needs of the business traveller, with regular daily services throughout the day on weekdays, and slightly reduced services at the weekend. Saturday is typified by a relatively full schedule in the morning with fewer movements in the afternoon and evening. Sunday, on the other hand, experiences reduced frequency of services in the morning and a full service schedule in the afternoon and evening.

Hourly Patterns

With predictable daily patterns, it is unsurprising that hourly patterns of passenger flow and aircraft movements follow regular patterns, changing only in response to variations in airline summer and winter schedules, or short term holiday adjustments which can either increase or decrease traffic volumes depending on the nature of the holiday and the route.

The following Figures, although illustrating the volumes of the ‘average’ Friday in 2005, may be taken as typical patterns of any weekday in 2005.

Hourly Passenger Throughput - “Average Friday” 2005

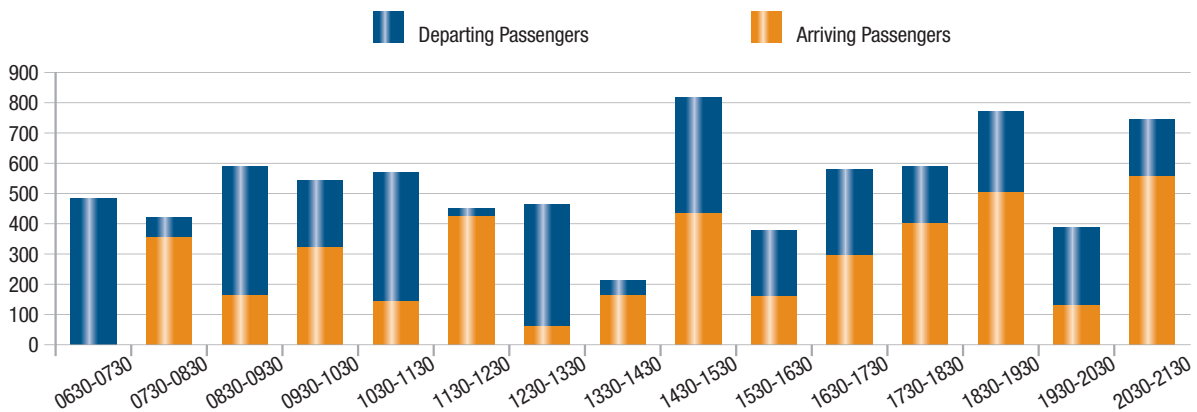


Fig. 9 Hourly arriving and departing passengers, 2005

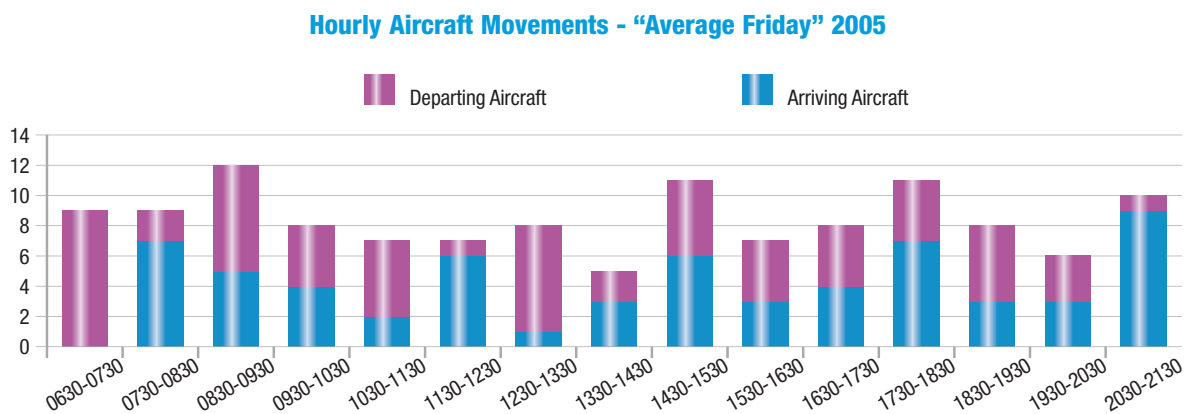


Fig. 10 Hourly aircraft movements, 2005

7.2 Forecast Assumptions

The outcome of the review of the form of the Planning Agreement will determine the future parameters within which Belfast City Airport may operate. In the absence of a final determination on the form of the reviewed Planning Agreement, BCA has based its current forecast projections on an assumption that the 'seats for sale' limitation will be removed and the current limitation of 45,000 ATM's will be retained. The forecast scenario outlined below would indicate that the limit of 45,000 ATM's may be reached in 2020.

7.3 Passenger Forecasts to 2030

	2005	2010	2015	2020	2025	2030
Domestic Scheduled Passengers	2190000	2400000	2700000	2940000	2940000	2940000
Domestic Charter Passengers	0	0	0	0	0	0
International Scheduled Passengers	21000	70000	83000	93000	93000	93000
International Charter Passengers	6000	40000	117000	140000	140000	140000
TOTALS	2217000	2510000	2900000	3173000	3173000	3173000

Fig. 11 Passenger Forecasts to 2030

Passenger forecasts for this period [Fig. 11] have been broadly based on a scenario of 2% - 3% annual growth with adjustments for potential new routes until 2020, when the limit of 45,000 ATM's may be reached. While some development is foreseen in the charter market, the airport's core business of domestic scheduled passengers will remain. As a result, the basic traffic patterns of the past, as outlined above, are expected to remain with only marginal variations.

This forecast scenario is based on our assumptions that while political stability and a strengthening tourist market are contributing to Northern Ireland experiencing levels of economic growth which are above the UK average⁶, other factors will increasingly constrain growth through BCA.

Northern Ireland has a limited population of approximately 1.7 millions but without doubt the introduction of "low cost / no frills" carriers has contributed to the increased propensity of the population to fly, with a resultant expansion of the airline passenger market. However, growth in the aviation market has largely been confined to the "low cost" sector and it is our

opinion that future high growth potential will be confined mainly to this sector. Recent market trends have seen the migration of “full service” operators to BCA, with Belfast International Airport [BFS] experiencing high passenger growth, particularly through “low cost” operators. It is our opinion that these trends will continue, although flybe has re-positioned itself in the market as a low cost airline. Given this and the continued competition from other airports in Northern Ireland it is our assumption, in line with that of the Aviation White Paper, that the bulk of growth in aviation passengers from the province will be experienced at BFS.

The other constraint to BCA growth is the limitation of the airport operating hours. While foreseeable demand for domestic scheduled services can be accommodated within the permitted operating hours of 6:30 am to 9:30 pm, opportunities to develop charter services from BCA will be curtailed. Nevertheless, BCA has identified potential for some further growth in charter services within the existing operating hours and has made the assumption in the passenger forecasts that some re-configuration of the runway, either through runway lengthening or the addition of a ‘starter strip’, may occur within the period of this plan to facilitate these services. In effect, the re-configuration of the runway would enable the current aircraft types to extend their range from BCA. Some further details of the options to re-configure the runway are discussed in Section 8.

These constraints and the volatility of the air transport industry where an airline can start or suspend services on a route virtually overnight, have led us to base the airport Master Plan on a moderate passenger growth scenario of 2% - 3% per year up to 2020, in the knowledge that such long-term forecasts are highly susceptible to change and will therefore be periodically updated.

7.4 Air Traffic Forecasts to 2030

A forecast of air transport movements over the period has also been compiled, based on an extrapolation of the current movements on existing routes. These, like passenger forecasts are susceptible to change. For example, the forecast of aircraft types in the Outline Plan published in 2004 was based on the assumption that flybe would re-equip their jet fleet with A319’s, but flybe subsequently announced the phased replacement of their 112 seat BAe 146 fleet with the 118 seat EMB 195 aircraft. From this it is possible to illustrate the assumed mix of aircraft types that may operate through the period.

Aircraft Type	2005	2010	2015	2020	2025	2030
A321	4600	5000	5000	5000	5000	5000
A320	740	800	800	800	800	800
A319	200	300	500	800	800	800
Emb 195	0	4000	8500	9550	9550	9550
BAe146-300	6400	2500	0	0	0	0
BAe146-200	1100	0	0	0	0	0
Dash8-400	16100	21500	22250	23750	23750	23750
Dash8-300	4100	0	0	0	0	0
ATR 72 and 42	1400	1800	1500	1200	1200	1200
Other Types	2460	3000	2500	2100	2100	2100
General Aviation	2100	2100	1900	1800	1800	1800
TOTALS	39200	41000	42950	45000	45000	45000

Fig. 12 Forecast Aircraft Movements Mix to 2030

It will be noted that on this projection, the limit of 45,000 annual air transport movements would be reached in 2020.

8. Landuse and Development

BCA is a busy regional airport and strategic gateway to Northern Ireland. As with all airports, we must continually develop our products and services to reflect the changing needs and expectations of both the local community and foreign visitors.

The opening of the new terminal building and the associated airfield developments in 2001, transformed the airport into a modern, efficient and attractive airport projecting a positive first impression for visitors to the province.

Our aim is to maximise the returns to our shareholders through the maintenance of standards that enable our airlines to develop and grow their businesses within a sustainable framework. This aim will be achieved through the development of airport facilities and the mitigation of the adverse effects of aviation on local communities.

8.1 Landuse

BCA occupies just over 121.3 hectares of the Belfast Harbour Estate. Approx. 9.7 hectares of this land is currently un-developed or underused. BCA does not therefore envisage additional land been required from the Harbour Estate for future airport operations.

Land Use	Current Area [hectares]	2015 Area [hectares]	2030 Area [hectares]
Airfield	96.385	96.385	96.385
Aircraft Aprons	5.279	5.781	5.800
Terminal	0.638	0.728	0.728
Car Parks & Surface Access	8.268	12.233	15.914
Ancillary Service & Taxi park	1.016	1.700	2.500
Available development land	9.741	4.500	0
TOTAL	121.327	121.327	121.327

Fig. 13 Forecast Land Use Area

The changes in land use indicated in the Table above are discussed here under the following headings:

- Airfield
- Terminal
- Car parking
- Ancillary facilities

Surface Access strategy is discussed in Section 9.

8.2 Airfield

(i) Runway

While the runway is fully compliant with current standards, we have taken the view that industry standards may be further developed during the period up to 2030. It is therefore prudent that BCA explore options as to how the company may respond to any such changes.

BCA has also declared an intention to explore opportunities for developing services in selected areas of the air charter market. Some potential destinations that might be of interest to air charter operators are beyond the range of those aircraft types currently using the airport and carrying a full load of passengers. Should a viable business case be made to BCA for the operation of such services, BCA would initiate a detailed study of all the implications, including cost, construction, environmental and operational, of re-configuring the runway to accommodate the services. Were it then considered that the project had merit, a planning application would be submitted.

The forecasts within the Plan are predicated on the assumption that some form of runway re-configuration will take place to accommodate some further charter operations.

Options for changes to the re-configuration of the runway include:

- Option 1:** The addition of a ‘starter strip’ at either or both ends of the runway. A ‘starter strip’ is an area at the end of the runway to provide additional length for aircraft take off only. This has the result of extending the runway for aircraft taking off, without extending the length for landing. This option would increase the flying range of aircraft operating from BCA with a full load of passengers.
- Option 2:** The addition of a runway extension at the north east end of the runway. This option would increase the length of runway available for both take off and landing.
- Option 3:** A combination of Options 1 and 2.

(ii) Taxiways

Taxiway development in 2001 included the construction of two additional taxiways. These are considered adequate for traffic levels within the forecasts of this Plan.

Given that existing taxiways are deemed adequate, it is unlikely that a full parallel taxiway will be constructed. However, should future traffic schedules lead to significant increases in the time taken by aircraft to ‘back track’ on runway 04 in order to prepare for take off on runway 22, a holding loop may be installed at the north eastern end of the runway to expedite departures on runway 22 at periods of peak movements.

(iii) Aprons

The current main apron can accommodate 10 aircraft parked ‘nose in’. It is envisaged that the projected growth will require approximately two additional aircraft stands. The site layout has been designed to facilitate such expansion to the east of the existing main apron. The timing of such development will be dependant on the evolution of airline flight schedules. Further additional capacity is also available on the current General Aviation apron in front of the old terminal building, and on the north side of the runway on the Short’s apron. It should be noted that the use of these remote aprons for passenger traffic involves the ‘bussing’ of passengers to and from the terminal building.

8.3 Terminal

The terminal building currently has a capacity of approximately 2.5 million passengers per annum.

The following Table illustrates the assessment of the terminal capacity at current peak hour flows, and the thresholds that may trigger elements of terminal development.

Passengers	2.2 million	2.5 million	3.0 million	3.5 million
Check in Desks	Amber	Red	Red	Red
Check in Hall	Green	Amber	Red	Red
Security Combs	Green	Red	Red	Red
Security Areas	Green	Amber	Amber	Red
Departure Lounge	Red	Red	Red	Red
Bag Reclaim Belts	Amber	Red	Red	Red
Bag Reclaim Hall	Amber	Red	Red	Red
Retails	Green	Green	Green	Green
BCA Accommodation	Green	Green	Green	Green
Airline Accommodation	Green	Green	Red	Red

Legend to Table:

GREEN: Meets or exceeds requirements.

AMBER: Does not meet requirements but is within an acceptable margin. Affects service quality that will fall to a lower level of acceptability for some periods.

RED: Does not meet requirements and the level of service is not acceptable.

Fig. 14. Assessment of Terminal Capacity

With passenger numbers beginning to approach this design capacity and some areas already assessed at Amber or Red status, an assessment has been made of the areas allotted to the various functions carried on within the building, and consideration is already being given to the further development of the terminal.

In considering how further passenger growth may be accommodated, three scenarios are being studied:

1. Accommodating growth within the current 'footprint' of the terminal building.
2. Accommodating further growth within the current 'footprint' of the terminal building and re-locating 'back office' functions to another building on the airport site.
3. Extending the terminal building.

Scenario 1

The capacity of the terminal may be altered within the existing footprint of the building by, for example, a change in the passenger mix to include greater proportions of international and charter passengers, which would have the effect of reducing capacity; technological improvements in the processing of passengers, which would have the effect of increasing capacity; or the reconfiguration of the internal layout of the building, which would also have the effect of increasing capacity.

Some of the options that exist within the current building footprint of 0.638 hectares to cater for increased passenger numbers include:

- Increasing passenger check in capacity through the introduction of additional self-service check in kiosks. An assessment of the effectiveness of self service check in kiosks has been completed and 4 additional kiosks will be installed in the coming months.
- Increasing departure lounge capacity through the re-configuration and re-allocation of existing ground floor and first floor spaces.

Scenario 2

BCA and airline administrative support staff currently occupy a considerable area of floor space within the terminal. This scenario envisages some or all of these staff being re-located within the airport site to land set aside for the expansion of ancillary services.

Scenario 3

Potential also exists to enlarge the terminal building, subject to planning approval, as the modular design of the terminal lends itself to relatively easy expansion.

The options for extending the terminal building include:

- Increasing the facility to sort departing baggage through the construction of additional capacity either at first floor level or at ground floor level, on the south side of the building.
- Increasing the capacity of the baggage arrivals hall by extending the building to the north in a single storey.
- Increasing the capacity of the departures lounge by extending the building to the north in two stories, with baggage arrivals on the ground floor and departures lounge on the first floor.

The merits of each development option are currently being examined in detail.

8.4 Car Parking and Car Hire Facilities

(i) Car Parking

Existing car parking provision is for 2250 passenger, 300 car hire and 260 staff cars. This is sufficient to meet current demands. However, it is predicted that as the airport grows the car parking provision is likely to be inadequate. Future demand will be met by extending existing car park facilities within the existing airport boundaries, and may include decking some of the existing car parking areas.

Options for meeting future car park demand include:

- Provision of additional car park spaces on currently underused land.
- Relocation of staff and car hire parking to currently underused land.
- Construction of 'one storey' decking within areas of the existing car parks.

(ii) Car Hire

Five car hire companies currently operate from the airport. They currently occupy allocated space within the 300 car parking spaces dedicated to the car hire companies. As growth in passenger numbers, particularly leisure passengers, inevitably increases demand from car hire providers for additional capacity to both park and prepare cars for hire, consideration of the future provision and location of car hire facilities is already underway.

8.5 Ancillary Services

It is anticipated that land currently underused within the airport site will be required to facilitate expansion of car parking and airport ancillary services. However, provision has been made for the regular review of the Master Plan when the potential to release some of this land for other airport related retail and commercial developments will be discussed. A summary of the current and planned provision for ancillary services is given here.

(i) ATC / Fire Service

The air traffic control and airport fire services are likely to remain in their current location. This building houses all ATC services, air traffic engineering, the airport fire service and motor transport garage. No significant developments are envisaged in the provision of ATC and Fires services, but a study considering the potential benefits of re-locating the motor transport garage is underway.

(ii) Fuel Farm

The current location of the fuel farm to the west of the Control Tower, results in inefficiencies in the transporting of aviation fuel. Investigations are currently underway with the operators of the fuel farm to determine if the fuel farm will remain in its current location or be re-located to another area designated for ancillary services.

(iii) Old Terminal Building

The old terminal building is partially used for freight handling and airline engineer accommodation. It is expected that the section of the building which houses the cargo operation will be retained, but that the remainder of the building will be demolished and the area utilised as expansion capacity for ancillary services and car parking.

(iv) Airline Engineers

Airline engineering services are currently split between the old terminal and some temporary accommodation. The provision of future airline engineer accommodation will be reviewed in a general review of the area vacated by the partial demolition of the old terminal building.

(v) Freight Handling

BCA does not actively promote cargo flights to use the airport. However, a small volume of cargo does pass through the airport and is currently handled by a cargo handling company based in the old terminal building. No significant developments are envisaged in the provision of cargo facilities.

(vi) Aircraft Catering and Cleaning services

Dedicated aircraft catering kitchens and stores and aircraft cleaning facilities are provided. The siting of these facilities may not change, but given the reduction in demand for aircraft catering services, the assumption has been made that even with forecast growth in passenger numbers, the area devoted to these facilities will not increase.

(vi) General Aviation

General Aviation traffic currently makes up 5% of air transport movements [6% of all aircraft movements] at BCA. Our forecast assumption is that General Aviation will remain at or below 5% of air transport movements and is, therefore expected to continue to operate from the apron in front of the old terminal building.

There are no flying schools or air taxi operators based at BCA. BCA does not seek to establish such operations.

(vii) Taxi / Coach holding area

With BCA being located close to the city, and with over 50% of passengers travelling on business, there is a high demand for taxis. Currently 34% of passengers access the airport by taxi. BCA makes no provision for private hire taxis, which passengers book in advance and which merely pick up or drop off passengers in front of the terminal. However, a public hire taxi rank is located in front of the terminal. Taxis waiting to join the rank do so at a holding area to the south west of the terminal where a driver's rest room is also available. Coaches waiting to pick up parties may also be held in this area.

This area is considered adequate to accommodate waiting taxis and coaches, but will be kept under review as passenger numbers increase.

Indicative Land Use Plan

Areas for each of the above land uses are shown on the Indicative Land Use Plan in Appendix 1.

9. Surface Access

We recognise that the preferred mode of transport for passengers, staff and visitors to the airport is the private car. However, we also recognise that the Aviation White Paper in 2003 highlighted two specific surface access policies in relation to airports:

- Ensuring easy and reliable access for passengers, which minimises environmental, congestion and other local factors; and
- Increasing the proportion of passengers who access airports by public transport to help reduce road congestion and air pollution.

As a key stakeholder in the development of the Belfast Metropolitan Transport Plan [BMTP], BCA is committed to working with others to pursue the policies of the White Paper through the co-ordinated implementation of the BMTP.

9.1 Recent Belfast City Airport Initiatives

The opening of the new terminal building in 2001 led to a re-design of the road traffic access point to the airport and road traffic flow within the airport site, e.g. the re-location of the road junction serving the airport entrance, the construction of an 'underpass' to take road traffic exiting the airport in the Belfast direction underneath the A2, and a resultant re-phasing of traffic lights on the A2 to speed traffic flows.

Further initiatives were also taken between 2002 and 2005 to:

- Support the development of a direct bus service between the airport and Belfast city centre. This initially ran at 40 minute intervals but in 2003 frequency was increased to 30 minute intervals and in 2005 frequency was again increased to 20 minute intervals. This service terminates at the Europa Bus Centre in Belfast where it links with coach and rail services throughout the province.
- Encourage the development of an express coach service between the airport and Londonderry city in the north west of the province, which now operates 9 times daily.
- Increase the number of taxis available on the airport taxi rank.
- Provide a courtesy bus service between the terminal building and the footbridge leading to the nearby rail halt at Sydenham.
- Provide cycle racks for the public and staff.

Consideration will also be given to the feasibility of the provision of an additional road enabling access to the airport through the Hollywood Exchange retail park, thereby avoiding the increasingly busy Tillysburn junction.

9.2 Current Modal Split

As the result of these initiatives, current means of accessing the airport are:

Mode	Percentage
Private car - Drop off	34%
Private car - Parking	17%
Taxi	34%
Car Hire	8%
Bus / Coach / Train	6%
Cycling / Walking	1%

Fig. 15 Current Surface Access Modal Split

It is notable that at the beginning of 2005, when the Airlink direct bus service to Belfast ran at 30 minute intervals, bus passenger numbers equated to 3% of air passenger numbers. An increase in the frequency of the Airlink to 20 minute intervals has resulted in bus passenger numbers now equating to over 4.5% of air passenger numbers.

As stated earlier, BCA will work with the relevant authorities and key stakeholders to implement the Belfast Metropolitan Transport Plan [BMTP]. If the BMTP were to be implemented in full, there would be a significant increase in the percentage of those accessing the airport by public transport.

9.3 The Belfast Metropolitan Transport Plan 2015

The Belfast Metropolitan Transport Plan₅ [BMTP] is now nearing completion. It is envisaged that any future surface access initiatives taken by Belfast City Airport will compliment the proposals set out within the BMTP.

Proposed within the BMTP are a number of projects which, if implemented, would positively impact on surface access to Belfast City Airport and environs, i.e.

- Capacity enhancement of the A2 Sydenham By Pass. - The proposal is to construct an additional lane in each direction of this existing dual carriageway, which is the primary access road to the airport.
- Construction of new rail halt. - While it might be assumed that the proposal to construct a new rail halt to serve both Belfast City Airport and the Hollywood Exchange retail park on the north east boundary on the airport would be beneficial to the airport, BCA would view a new rail halt directly opposite the airport terminal as having greater potential to encourage airport users to switch from cars to public transport. BCA intends to continue to argue for the new rail halt to be located opposite the terminal, with a connecting covered footbridge.
- Development of a Rapid Transit system. - The proposal is to develop a bus based rapid transit system across Belfast, with one of the main routes running from Belfast city centre, through the airport site, to the Hollywood Exchange retail park.

It should be noted that the BMTP programme envisages some of these developments being undertaken prior to 2015, subject to governmental budgetary approval.

10. Safeguarding & Public Safety Zones

10.1 Aerodrome Safeguarding

All major civil aerodromes in the UK are subject to ‘Safeguarding’. This is a process of consultation between airport operators and planning authorities. The basis of Safeguarding is the Safeguarding Map which identifies a series of obstacle limitation surfaces. This map, drawn to Civil Aviation Authority requirements, defines maximum acceptable heights for buildings and other structures such as telecommunications masts which may impair the safety of aircraft or determine the usable length of runway. The process is intended to:

- Ensure that proposed developments of buildings or other structures do not infringe the obstacle limitations of the Safeguarding Map.
- Protect visual flight paths, e.g. by ensuring that runway approach lighting is not obstructed by development and that lights elsewhere cannot be a cause of confusion.
- Protect the accuracy of radar, Instrument Landing Systems and other electronic aids to navigation and to identify wind farm developments whose turbine blades could generate ‘returns’ on air traffic controller’s radar displays.
- Reduce the hazard from bird strikes to aircraft, by identifying such land uses as waste disposal, etc.

BCA is, therefore, automatically consulted by the Planning Service on all planning applications in the vicinity of the airport that may result in obstacles which would breach or alter the Safeguarding area.

The Safeguarding area would also be altered if BCA were to alter the ‘declared runway distances’ of the airport. The declared runway distance is the length of runway available to aircraft to permit both a safe take off and landing and the safe clearance of obstacles in the vicinity of the airport. As the declared runway distance is related to obstacles in the vicinity of an airport, it is not unusual to find that the declared runway distance is shorter than the total runway length, or that the declared runway distance differs according to the direction of traffic on the runway. For example, the total runway length at BCA is 1829 metres. However, the declared runway distances for runway 04 [landing over the city and departing down Belfast Lough] are 1737 metres for landing and 1829 metres for takeoff. The declared runway distances for runway 22 [approaching over the lough and departing over the city] are 1767 metres for both landing and take off.

A review of Safeguarding will be a necessary part of any future alterations to declared runway distances, whether this is to be achieved by a Planning Application to extend the physical length of the runway or alter the declared runway distances of the existing runway. Any such review which is undertaken within the timescale of this Master Plan will be done in accordance with the CAA Guidelines in place at the time of the review, and in consultation with key stakeholders.

10.2 Public Safety Zones

Public Safety Zones are designated areas of land at the end of runways within which development is restricted in order to minimise the risk of casualties on the ground in the event of an aircraft accident. The form of Public Safety Zones has recently been reviewed. They are based on areas of risk that are specific to the type and volumes of air traffic using a particular runway. However, in general terms, the Public Safety Zone is characterised by an elongated isosceles triangle, with its base at the end of the runway and extending outwards beyond the airfield boundaries.

At the time of publication, BCA is in discussions with relevant bodies to determine the shape and size of the PSZ at each end of the runway through the application of the revised guidelines.

On their determination, the Public Safety Zones will be published and will contribute to the body of information used by the Planning Service in assessing planning applications for development within the areas covered by the PSZ's.

11. Mitigation Measures

BCA generates positive economic benefits but as with every form of transport, there is an environmental impact. As a responsible airport operator we are committed to minimising these impacts and support the Government's sustainability objectives. BCA is also committed to the UK Sustainable Aviation Strategy⁷ including the mitigation of the adverse affects of aviation on local communities.

11.1 Noise

Noise is the issue which most directly affects the greatest number of people in the vicinity of the airport and under the flight paths. BCA is committed to continuing its pro-active strategy of working in close co-operation with statutory authorities, local authorities, residents groups and others to mitigate the impact of noise.

Recent improvements in the noise climate have been achieved by a programme of airline fleet replacement, where older aircraft types have been systematically replaced by new equipment such as the Bombardier DH8-400. This process is set to continue with the recent announcement by flybe of the phased replacement of their fleet of BAe146-300 aircraft with the Embraer EMB 195. It is however acknowledged that, while the total noise climate around the airport has improved, since 2001 when the Airbus A320 and A321 began operating on a regular basis, some public concerns have being raised by the maximum noise levels being experienced from these aircraft.

In response, BCA is committed to maintaining high standards of noise management. In the past, BCA was an industry leader in accepting only those aircraft types which meet the standards of ICAO, Annex 16, Chapter 3. ICAO has now defined a new higher standard termed 'Chapter 4'. All aircraft currently operating scheduled services through BCA meet the Chapter 4 standard and BCA will be seeking a voluntary agreement with airlines to operate only Chapter 4 compliant aircraft at BCA.

Noise Contour L_{eq}	Area Covered, in Sq. km.		
	1999	2002	2005
16hr			
57	4.54	3.71	2.77
60	2.48	2.02	1.37
63	1.34	1.11	0.85

Fig. 16 Extent of the Averaged Noise Contour

A study of the projected noise environment based on the forecast movements shows the potential for a slow increase in the area covered by the averaged noise contour. However, it must be stressed that these projections are modelled on existing aircraft types and make no allowance for technology improvements over the next 15 to 25 years.

Noise Contour, L_{eq} 16 hr	Area Covered, in Sq. km. 45,000 ATM's Forecast around 2020
57	3.78
60	1.68
63	0.98

Fig. 17 Possible Extent of future Averaged Noise Contours

Airlines, through investment in new aircraft, have made a significant contribution to the mitigation of the effects of noise. BCA also has a central role in noise management. The airport's responsibilities are defined within a Planning Agreement but BCA has gone further than the requirements of the Agreement and instigated a further series of operating restrictions to mitigate noise. Collectively these make up the Noise Management System which is based on the following controls:

- Under the airport's Planning Agreement, only those aircraft types which meet the standards of ICAO, Annex 16, Chapter 3, are accepted at the aerodrome.
- Under the Aerodromes (Noise Restrictions)(Rules and Procedures) Regulations, 2003, those aircraft types which are only 'marginally compliant' with Chapter 3 standards are prohibited from using the airport.
- Under the airport's Planning Agreement, aircraft may only be scheduled to operate between the permitted hours of 0630 and 2130 local time. Permitted hours may be extended between 2131 and 2359 local time to permit delayed aircraft to use the aerodrome.
- Under the airport's Planning Agreement, not more than 45,000 air traffic movements shall be accepted in any twelve month period.
- Under the airport's Planning Agreement, a bias shall be maintained of approaches and climb outs over Belfast Lough.
- Under the airport's Planning Agreement, Belfast City Airport shall produce an annual Noise Contour and compare it with the indicative noise contours prepared by the Department of the Environment (NI).
- Local aircraft noise abatement procedures are in force.
- Restrictions on aircraft engine ground running are also in force.
- Fixed Electrical Ground Power is installed on all stands on the main apron.

BCA is committed to continually reviewing its Noise Management System and to implement appropriate industry good practice. For example:

- It is expected that the determination on the current review of the Planning Agreement will include a significant modernisation of the noise management controls available to the Department of the Environment (NI) and others in regulating the airport's operation. BCA is anxious to engage positively with stakeholders to adopt changes in a full and transparent fashion.
- On the determination of the review of the Planning Agreement, BCA will review the appropriateness of installing an active noise and track monitoring system.
- Located within the greater Belfast agglomeration, BCA is to be included within the 2007 noise mapping exercise required under EU Environmental Noise Directive 2002/ 49 / EC, and will positively contribute to any subsequent noise management Action Plan.
- BCA has always been an industry leader in its acceptance of only Chapter 3 aircraft, then its prohibition of 'marginally compliant' aircraft. BCA will seek first a voluntary agreement with our airline customers to operate only Chapter 4 noise complaint aircraft through BCA, then seek the powers to accept only Chapter 4 compliant aircraft.

11.2 Air Quality

In the past, air quality in and around the airport has been periodically monitored by Belfast City Council where it has been determined that the operation of the airport has had minimal impact on air quality across the city. This result is reinforced by the Belfast City Council assessment of air quality across the city, undertaken as part of the UK Local Air Quality Management system. This assessment has identified four areas where national air quality objectives are unlikely to be achieved. None of these are in the vicinity of the airport or access roads to the airport.

The four Air Quality Management Areas [AQMA], where Action Plans are being developed, are:

- Belfast AQMA No 1 An area encompassing the M1 / Westlink corridor.

- Belfast AQMA No. 2 An area encompassing Cromac Street, East Bridge Street, Ravenhill and Albertbridge Roads and Short Strand.

- Belfast AQMA No. 3 An area encompassing Upper Newtownards Road from North Road to Knock Road and the Ulster Hospital.

- Belfast AQMA No. 4 An area encompassing the Ormeau Road from Donegall Pass to the Belfast City boundary.

Each of these AQMA's either follows or is intersected by a main arterial road into the city. Aircraft only partially overfly areas 2 and 4 but it is notable that Belfast City Airport has not been asked to contribute to the development of the Action Plans being developed for these areas.

As noted above, the area of the airport, including the A2 Sydenham By Pass and the railway, which together form a main transport corridor into the city and the surface access route into the airport, has not been designated an Air Quality Management Area.

Nevertheless, BCA pro-actively manages air quality on the airport site. For example, a number of the noise abatement procedures previously noted also serve to control emissions:

- Not more than 45,000 air traffic movements shall be accepted in any twelve month period.
- A bias shall be maintained of approaches and climb outs over Belfast Lough.
- Fixed Electrical Ground Power is installed on all stands on the main apron.

In addition, Belfast City Airport:

- a. Operates an airside fleet of electrically powered baggage tractors.
- b. Has since 2001, constructed two additional taxiways to reduce both the holding time for aircraft entering and exiting the runway, and runway 'back tracking'.
- c. Has since 2001, contributed to the construction of an additional road for surface traffic exiting the airport. This has removed, for traffic exiting the site, all road junctions controlled by traffic lights, enabling all road traffic exiting the site to do so without stopping.
- d. Through its commitments under the UK Sustainable Aviation Strategy, will undertake future air quality monitoring exercises and reviews of industry good practice.

Belfast City Airport is committed to periodically assessing air quality in the vicinity of the airport.

11.3 Water Quality

No water courses cross the BCA site. However, water run off from the airport hard surfaces enters a freshwater stream at the north end of the site and a tidal lagoon at the south end of the site. Hard surfaces on the airport site include runway, taxiways and aircraft aprons; car parks and internal roadways.

Where surface runoff water exits the site to the freshwater stream, a containment and monitoring regime have been in place for some years. A similar regime will shortly be installed where water runoff exits the site to the tidal lagoon.

11.4 Appraisal of further Measures

BCA is committed to the UK Sustainable Aviation Strategy⁷ and will seek to maintain appropriate good practice in the mitigation of those aspects of air transport that adversely impact on local communities and the environment. BCA will continuously monitor and benchmark our environmental management systems against industry good practice.

Consideration of further mitigation measures will be undertaken at the conclusion of the review of the airport's Planning Agreement which is currently underway.

12. Review and Update

The Master Plan will be reviewed after the Department of the Environment (NI) make a determination on the review of the form of the Planning Agreement, currently underway. The Master Plan will be amended to reflect any changes in the Planning Agreement. Thereafter, the Master Plan will be reviewed and updated annually, to take account of changes in market forecasts and Company strategic objectives.

13. Consultation

We are aware of the value of consultation and maintain a policy of openness to encourage and facilitate discussions with all of our 'stakeholders'. In addition, the Company is engaged in a pro-active and continuous programme of dialogue with elected representatives, community groups, airlines and business leaders. We are committed to utilizing both these formal and informal networks to consult with all our 'stakeholders' on the future development of Belfast City Airport.

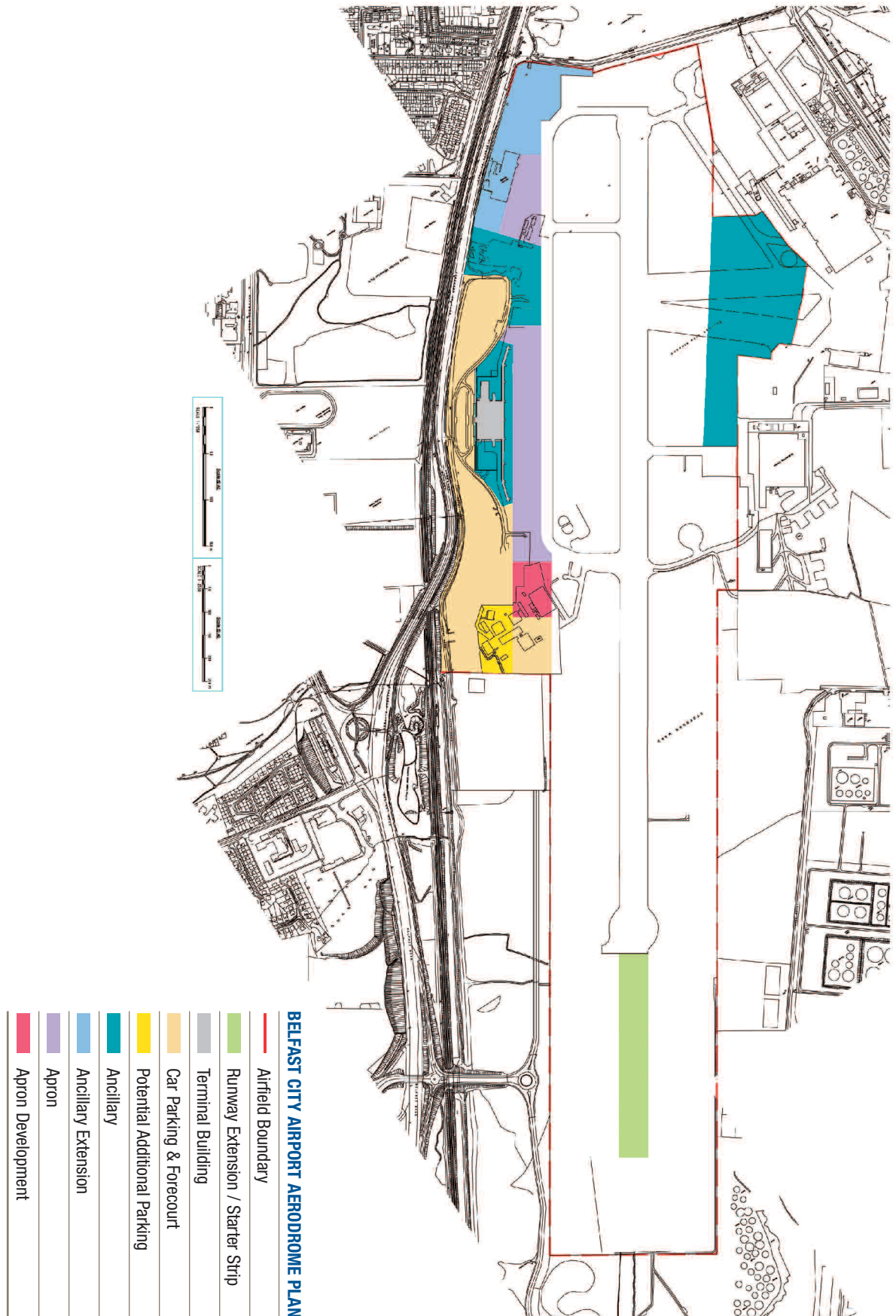
We welcome any comments you may have in respect of this Master Plan. If you have any comments or questions on any aspect of this plan, please use the postal or e-mail addresses that appear on the Contents page to contact us.

14. References

1. The Regional Strategic Transport Network Transport Plan 2015, Department for Regional Development, Northern Ireland, 2004.
2. The Economic and Social Impact of Airports, York Aviation, September 2005.
3. The Planning (Northern Ireland) Order 1991, Article 40 Agreement, as amended January 1997.
4. The Future of Aviation, Department for Transport, December 2003.
5. Proposed Belfast Metropolitan Transport Plan 2015, Department for Regional Development, Northern Ireland, 2004.
6. Belfast: Competitive City, Belfast City Council Economic Development Unit Report, Summer 2004.
7. A strategy towards sustainable development of UK aviation, June 2005

15. Appendices

Appendix 1 Indicative Land Use Plan



**This Master Plan has been compiled by
Belfast City Airport
and lodged with the Department for Transport.**