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Belfast City Airport

Preliminary Environmental Report

Supplemental Report to BCA Master Plan

September 2025

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1 Introduction

1.1.1 The purpose of this Preliminary Environmental Report (PER) is to inform members of the public and other interested parties of the environmental and sustainability baseline conditions at Belfast City Airport (BCA); to outline potential effects (both positive and negative) of its future development as envisaged by the draft Master Plan 2040; and explain how environmental constraints and opportunities identified through this baselining exercise have been used to inform the draft Master Plan.

1.1.2 The draft Master Plan 2040 sets out BCA's vision of how the airport could grow and develop over the next 15 years between 2025 to 2040, with the physical expansion of the airport (airside and landside areas) to be advanced in several discrete stages, tied to forecast demand of airlines and passengers.

1.1.3 The main components of the draft Master Plan are predicated by the following growth assumptions:

- The progressive physical development of the airport between 2025 and 2040 (as outlined below) to cater for the predicted increase in passengers to 7 million passengers per annum (mppa) by 2040;
- An associated increase in annual air transport movements (ATMs) to approximately 61,000 ATMs;
- Potential adjustments to allow for a limited number of scheduled flights for a set period beyond 21:30;
- Improvements to the efficiency of the airfield to make best use (MBU) of the existing runway;
- Expansion of the terminal building and airfield infrastructure;
- Improvements to Surface Access infrastructure; and
- Other commercial landside development.

1.1.4 Specifically, the draft Master Plan envisages the following physical infrastructure developments at the airport:

- An extension of the existing terminal building and piers;
- A total of up to 21 aircraft stands (up from 13 today), required to accommodate the increased number of passengers and new generation aircraft;
- Extended apron and taxiways to link the new and reconfigured stands to the runway;
- A new holding loop at the end of the runway to improve runway utilisation - this allows multiple aircraft to queue on the airfield ahead of departure and facilitates the flow of departures at the busiest times;
- Surface access improvements including new multi-modal forecourt prioritising public transport, consolidated car parking (i.e. new premium and short stay parking, including car hire facilities) and improved access including the possibility of a new entry slip lane from the Sydenham Bypass for northbound traffic and altering the existing airport entrance to provide a dual right-hand turn lane for southbound traffic;
- The opportunity to deliver a rail halt directly serving the extended terminal (subject to the outcome of a feasibility study with Translink);
- Complementary on-site development to include a new hotel and EV charging forecourt with ancillary convenience facilities; and
- The opportunity to introduce onsite renewable energy, including solar panels.

1.1.5 It is intended that the above physical developments will be unlocked through a substantial private investment of up to £200m over the next 15-years in the airport.

1.1.6 In addition, as described in the draft Master Plan (see page 63), BCA is also considering the need for more flexibility in evening operations. Some flights are currently permitted up to midnight if they have been delayed, but no flights are currently to be scheduled after 21:30. An extension to allow a limited number of scheduled flights beyond the current 15 hour limit would allow more flexibility for airlines to operate and invest in quieter new generation aircraft at BCA. Subject to feedback, this could for example, allow some scheduled movements beyond 21:30 for a set duration, but within the existing shoulder period for delays to 23:59.

1.1.7 There are no current plans to extend or otherwise alter the runway.

Purpose of the PER

1.1.8 It is important to note that this PER is not required by planning legislation and, indeed, has no planning status and is simply intended, therefore, to provide a more detailed and informative account of the environmental, socio-economic and sustainability issues described in the draft Master Plan document (for those who wish to understand such detail). Any quantification of environmental effects presented in this report should be treated as 'provisional findings' only that will be reassessed and confirmed in the context of any future planning application to expand the airport.

1.1.9 This exercise follows a similar approach taken by other airport operators in the development of their master plans and is a component part of the 'Site Evaluation/ Inventory' stage, as recommended by IATA[1]. This PER does not constitute an environmental impact assessment (EIA) of the Master Plan and is not intended to be part of that process. Should planning application(s) be brought forward by BCA following the publication of the final Master Plan, covering any developments that meet or exceed the thresholds set out in The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017, a full EIA will be undertaken culminating in the preparation of an Environmental Statement (ES) submitted with the planning application(s). If that were the case, the technical scope of an EIA would first be defined through a process of scoping and would likely use some of the baseline information contained in this PER, supplemented by additional surveys, modelling and assessments, where necessary. The intention would be to agree the scope of the EIA in consultation with the Department for Infrastructure (DfI), Belfast City Council (BCC) and the statutory bodies including Northern Ireland Environmental Agency (NIEA), Department of Agriculture, Environment and Rural Affairs (DAERA) and Northern Ireland (NI) Water through the request for a Scoping Opinion.

[1] IATA Airport Development Reference Manual -12th Edition, June 2022

2 Belfast City Airport Today

2.1.1 Belfast City Airport commands a prominent strategic location within the city landscape of Belfast. It is three miles north-east of Belfast city centre and the site is bounded by the A2 Sydenham Bypass, a major dual carriageway providing vehicular access to the wider motorway network of Northern Ireland.

2.1.2 The airport can also be accessed by other forms of transport including:

- Airport Taxi - taxis operate from the airport taxi rank outside the terminal building.
- Train - Translink operates a rail service from the adjacent halt at Sydenham train station to Grand Central Station in Belfast city centre
- Bus - the Airport Express 600 operates every 20 minutes from outside the airport to Grand Central Station in Belfast city centre.

2.1.3 The Belfast City Airport campus, as shown in Figure 2.1, is located across a 121-hectare site, which is reclaimed land within the wider Belfast Harbour Estate. Key components of the existing airport include:

- 1,829 metre runway (in a south-west to north-east orientation).
- Main terminal building.
- Aircraft stands.
- Car parks (including overflow).
- Taxi lay-by/drop off.
- Fuel Farm.
- Former terminal building (currently used as offices/warehouse/engineering store for air cargo services).
- Combined air traffic control tower and fire station facility.

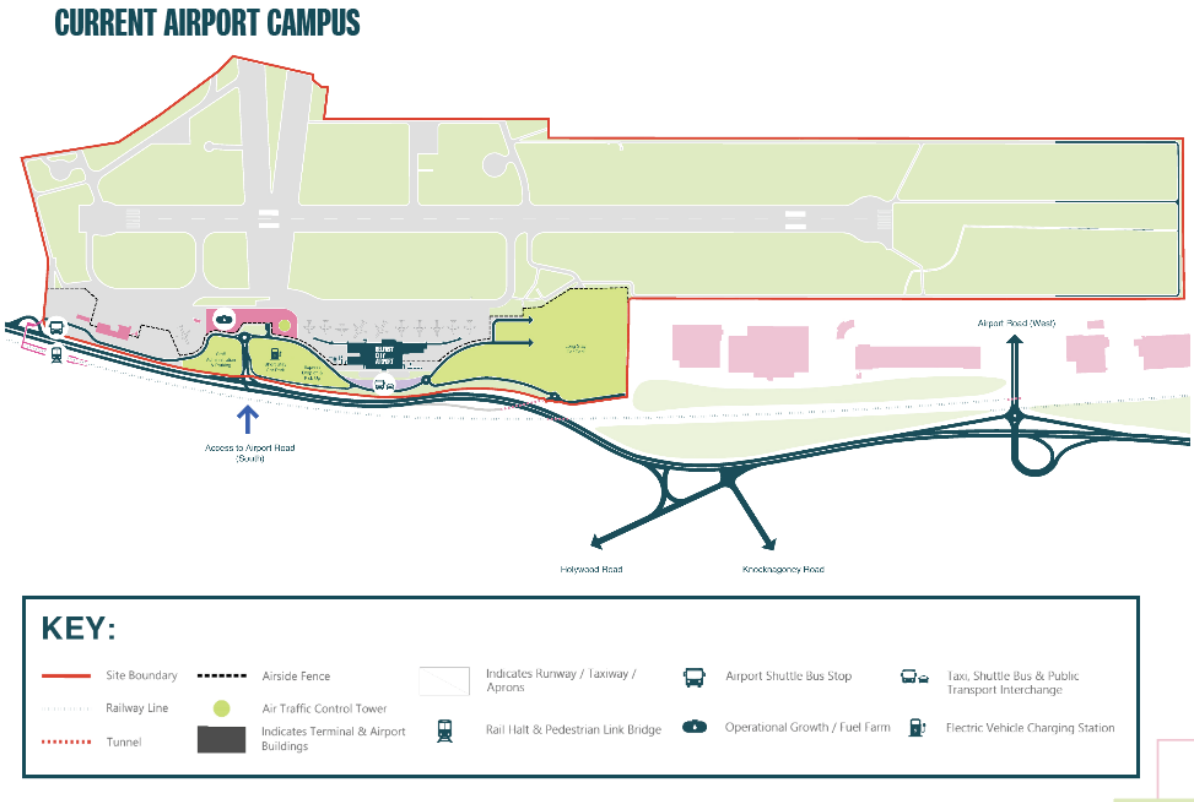


Figure 2.1 Current airport campus

2.1.4 Belfast Harbour Estate (also referred to as Belfast Harbour), in which Belfast City Airport is located, provides maritime access to Britain, Europe and the rest of the world. This gateway location therefore provides an important economic function for Northern Ireland, facilitating the movement of goods and people for both business and leisure purposes by sea and air.

2.1.5 The airport is surrounded by a mixture of land uses and major regeneration areas, including Sydenham Business Estate (office/industrial), Titanic Quarter (mixed use), City Quays (mixed use) and wider port operations.

2.1.6 Belfast has witnessed a stark rejuvenation over the last two decades. A changing political and economic climate has created the opportunity to diversify and move on from a traditionally industrial and manufacturing economic profile. At the forefront of this economic growth, the Harbour Estate has seen the creation of the Northern Ireland Science Park and North Foreshore developments, offering employment in clean-tech and high-tech sectors.

2.1.7 A host of multinational companies spanning FinTech, Software Development, Professional Services, Legal, and Film Production sectors have established a presence in the city.

2.1.8 The regeneration of Titanic Quarter, and more recently City Quays, has also helped establish the Harbour Estate as a major tourist destination and has introduced a more diverse range of uses, including office accommodation, apartments, retail, and education facilities.

2.2 BCA's Current Market

2.2.1 Belfast City Airport already plays a leading role in connecting Northern Ireland with the UK and Europe, with a total of 23 routes operated by six airlines and a variety of charter partners. The airport currently serves more domestic UK destinations than any other airport in the region and has strong international links through major hubs such as Heathrow and Amsterdam, as well as some seasonal leisure routes.

2.2.2 In 2024, the airport welcomed approximately 2.4 million passengers and handled 30,532 flights. Passenger numbers are expected to grow steadily in the years ahead, reaching around 7 million passengers per annum (mppa) by 2040.

2.2.3 The airport's catchment area covers the whole of Northern Ireland, with around 8% of passengers coming from or travelling to the Republic of Ireland (RoI). Expanding the airport's route network would help meet the needs of passengers from across the region, while also supporting Northern Ireland's Regional Development Strategy.

2.2.4 Today, around 27% of air passengers travelling to and from Northern Ireland choose Dublin Airport, largely because of the wider range of direct services available there. Many of these passengers are flying to European destinations not currently served by Northern Ireland's airports.

2.2.5 With its proximity to Belfast's city centre, the airport is of particular importance to the business market, with 26% of all passengers travelling for business. It also brings over 500,000 visitors to Northern Ireland each year. In the UK, only London City Airport and Aberdeen Airports have such a high proportion of business traffic.

2.2.6 The airport makes a significant contribution to both Belfast and Northern Ireland's economy. It is estimated that it currently generates £450 million in Gross Value Added (GVA) and supports 6,420 jobs within Belfast, whilst contributing £800 million in GVA and supporting around 12,050 jobs across the region.

2.2.7 Further information on the market catchment, economic contribution and other socio-economic benefits of Belfast City Airport is set out in the draft Master Plan (see pages 26-31, in particular) and Sections 5 and 6.2 of this report.

2.3 Environmental and Sustainability Objectives

2.3.1 BCA is committed to growing and operating the airport in a sustainable manner and it seeks to continually improve its environmental performance and better manage resources, in conjunction with the airlines and other business partners. To achieve this, it has an existing Environmental Management System (EMS) in place as well as other related environmental/ sustainability initiatives, including those set out in its 2024 Sustainability Strategy – *'our path to a more sustainable future'* published on its website. Key features include:

- BCA has developed a carbon / sustainability roadmap, with the aim to achieve net zero by 2050 at the latest.
- BCA is currently certified to the Airport Carbon Accreditation Level 3 ('Optimisation') with the ambition to achieve Level 4 or 4+ by 3035, which requires the airport to not only reduce its own emissions significantly but also to engage with third parties to reduce their carbon footprint.
- BCA has a stated aim of "*Incentivising the operation of next generation aircraft through reduced airline fees & charges*".
- It achieved Platinum Status in the Northern Ireland Environmental Benchmarking Survey for four consecutive years; and was recognised as a Gold Level CORE company by Business in the Community in 2018.
- It tracks waste generation and water consumption and is in the process of introducing enhanced utilities monitoring systems. It reduced total waste generation by 28% between 2017 and 2023 and has targets for reducing waste to landfill to < 2% and a 50% reduction in site water consumption by 2035.
- It has purchased 100% green electricity since 2013.
- BCA invests significantly in the local community through sponsorships, apprenticeship schemes and its community fund, which has invested over £700,000 in 237 local community projects since 2009. Examples of community investment programmes include IGNITE Youth Leadership, the High Flyers Apprenticeship Scheme, engagement with various local schools, and its 'Autism in the Air' programme delivered in partnership with Queen's University Belfast.
- In 2024 BCA donated £10,000 to a biodiversity project with The Conservation Volunteers at the airport has a stated aim of *"exploring opportunities for onsite biodiversity initiatives".*

2.3.2 Since publishing the Sustainability Strategy, BCA has made progress on delivering on its commitments contained within it. Some highlights include:

- Introducing Hydrogenated Vegetable Oil (HVO) as a replacement fuel to all airside vehicles, reducing the use of diesel and reducing a significant amount of carbon emissions;
- Reducing Scope 1 and 2 GHG emissions (location-based) by 13.29% for 2023-2024;
- Achieving a 93% score in the Global Real Estate Sustainability Benchmark (GRESB), which is an environmental, social and governance (ESG) assessment, allowing BCA to benchmark its performance against other airports and infrastructure assets; and
- Completion of full runway apron LED lighting retrofit

2.3.3 To complement its Sustainability Strategy, BCA aims to produce a Sustainability Action Plan within the next 12 months. This Action Plan will identify the opportunities, targets and actions it will take over the next 5 years to deliver on the key sustainability commitments identified within the Sustainability Strategy.

2.3.4 As part of the development of the draft Master Plan, consideration has been given to how the above environmental and sustainability initiatives and targets could be further enhanced in the next 15 years. These include the following aspirations:

2.3.5 Unlock opportunity to accelerate our net zero target (for airport operations), potentially by 2040 - ten years sooner than we announced last year.

2.3.6 Set targets for future Master Plan development to achieve over 10% of 2040 energy needs through onsite renewables including PV solar on the roof of the terminal buildings and other means across our campus and airfield (subject to detailed feasibility).

1. Partner with Translink to complete the feasibility study for a new rail halt directly serving BCA – this reflects the first public private partnership of its sort in Northern Ireland.

2.3.7 Collaborate with partners on the Future of Flight by working with industry in Northern Ireland to progress pilot initiatives for end users of hydrogen in the future, including airfield operations and zero emissions flight. Belfast City Airport is ideally located adjacent to Belfast Port and its short haul route network is more suited to the early stages of electric and hydrogen fuelled aircraft.

2.3.8 Creation of an employment academy working collaboratively with key supply chain partners and educational organisations to create meaningful training and employment opportunities -15% of all new jobs created which will be apprenticeships".

2.4 Environmental Baseline

2.4.1 The current environmental baseline of the airport, as reported on a topic-by-topic basis in Section 6 of this PER, has been informed by:

(i) regular, ongoing monitoring by BCA (e.g. noise and air quality monitoring);

(ii) specific surveys (e.g. traffic counts, ecology surveys etc);

(iii) through accessing third party data; and

(iv) from a desk-based review of the findings of two previous EIAs undertaken – the first in conjunction with the 2008 application to increase the length of the runway (Application Reference: Z /2008/2306/F) which was eventually withdrawn; and secondly, the 2012 application to vary the planning agreement and remove the 2 million 'seats for sale' condition.

2.4.2 In addition, the BCA Annual Performance Report provides an account of the status of the airport and its compliance with the 2019 Planning Agreement with the DfI, particularly with respect to noise.

2.4.3 The environmental impacts of the airport are already effectively managed, with no significant pollution incidents or breaches of environmental controls or legislative standards having occurred for many years. BCA also receives relatively few complaints from the public by comparison to other airports which often have larger residential populations in their immediate catchment and, unlike Belfast City Airport, do not have the benefit from being found in a predominantly industrial location or having flightpaths over open water. This is evidenced by the fact that BCA received less than 3 complaints per thousand ATMs in 2024; a total of only 79 complaints in this year, of which almost half were from 3 individuals.

2.5 Coverage of the PER

2.5.1 The topics and related environmental factors considered further in this PER include:

- Traffic and Transport (Surface Access)
- Socio-Economics
- Noise
- Air quality
- Greenhouse Gas (GHG) Emissions and Climate Change
- Health and Wellbeing
- Water Resources, Hydrology and Drainage
- Ecology and Biodiversity

- Ground Conditions and Contamination
- Waste
- Archaeology and Built Heritage
- Landscape and Visual

3 Regulatory, Planning and Policy Context

3.1.1 The existing operations and future growth and development of BCA is informed by national, regional and local policy and frameworks as well as the existing regulatory structure within which the airport operates. The main components of this policy and regulatory framework are summarised below.

3.2 Current Operational Controls

3.2.1 Current operational controls for BCA are detailed within a Planning Agreement executed in July 2019. The Planning Agreement is a legally binding agreement between the Department for Infrastructure (DfI) and BCA, securing specific planning obligations to maintain sustainable airport operations. The current Planning Agreement sets out a series of covenants relating to:

- Aircraft noise, including the numbers and types of aircraft operating at the airport.
- The hours within which flights are permitted.
- The noise exposure resulting from aircraft operations.

3.2.2 These covenants are the most comprehensive of any Northern Ireland airport and include:

- Scheduled flights to occur between 06:30-21:30 (defined as 'Permitted Hours') while scheduled flights are not allowed between 21:31 to 06:29 (defined as 'Prohibited Hours'). Delayed flights can only land or take off between 21:31 to 23:59 in exceptional circumstances.
- Air Traffic Movements (ATM) capped at 48,000 per annum.
- A noise contour area limit of 5.2km² - this controls the total envelope of aircraft noise exposure permissible each year (based on the 57 dB LAeq,16h contour during summer months).
- A restriction on aircraft types to those meeting the Chapter 3 standard, as defined by ICAO.
- An annual noise Quota Count limit of 4,655 - this limits the number of ATMs based on the noise performance of the aircraft (i.e. the quieter the aircraft, the larger the number of aircraft that can be flown within the limit) - this incentivises airlines to fly quieter aircraft at Belfast City.
- A 'bias' in favour of approaches and climb outs over Belfast Lough (i.e. away from residential areas).
- Operating and maintaining an integrated noise and track keeping system (NTKS).
- Use of Continuous Descent Approaches (CDA), subject to safety constraints and operational requirements of each aircraft.
- Adoption of maximum Departure Noise Limits (83db LAmax at monitoring terminal MP01 and 87db at monitoring terminal MP02) which are to be reviewed every 5 years.

3.2.3 Each year, the airport provides the DfI with a monitoring report which describes how the controls in the Planning Agreement have been complied with for the previous calendar year. The most recent annual compliance report confirmed that the airport maintained full compliance with the requirements in the Planning Agreement in 2024.

3.2.4 The current operational controls in the 2019 Planning Agreement have been considered in the context of the future growth of the airport as envisaged in the draft Master Plan. Subject to the relevant consenting processes, adjustments to certain existing covenants will be required to facilitate growth to 7mppa and 61,000 ATMs, as described more fully later in this report.

3.3 Policy Context

National aviation policy

3.3.1 This section outlines national aviation policy relevant to the BCA Master Plan which has been taken into consideration in its development. The Civil Aviation Authority (CAA) established through the Civil Aviation Act 2012 and the Department for Transport (DfT) oversee aviation policy and regulation, ensuring UK airports operate within the national framework.

Aviation Policy Framework (2013)

3.3.2 In March 2013, the UK Government published an updated aviation policy in the form of the Aviation Policy Framework (APF). This superseded the 2003 Air Transport White Paper. Although more than ten years old, it continues to form part of national aviation policy and is recognised by DfI as providing the operational policy context for aviation in Northern Ireland. With respect to noise, the APF was amended slightly in 2017 by the issue of 'Airspace Policy: A Framework for Balanced Decisions on the Design and Use of Airspace' (October 2017) which provided an update to certain policies on aviation noise contained within the APF.

3.3.3 The APF makes clear that the Government's primary objective is to achieve long-term economic growth and it recognises the major contribution that aviation makes to economic growth by providing global connectivity. It also states that the Government supports the growth of aviation within a framework that maintains a balance between the benefits that aviation brings and its costs, particularly the contribution to climate change and aircraft noise.

3.3.4 The APF recommends that airport operators continue to produce master plans and to update these at least once every five years. An airport master plan does not have a statutory status, but the APF is clear that the future development of the airport should be transparently considered in the development of local plans and contribute to the plans of others.

Beyond the horizon: The future of UK aviation - making best use of existing runways (2018)

3.3.5 Beyond the horizon: The future of UK aviation, making best use (MBU) of existing runways was published in June 2018. It confirms (at paragraph 1.29) that the Government is supportive of airports beyond London Heathrow making best use of their existing runways and seeking to maximise their existing infrastructure.

3.3.6 This policy acknowledges the local environmental impacts that airports can have and that airports must demonstrate how they will mitigate environmental impacts, particularly noise, air quality and surface access. It is anticipated that most environmental concerns will be addressed through the local planning application process, which will also ensure that local stakeholders can have the opportunity to express their views and provide inputs.

3.3.7 In formulating MBU, the Government made clear that carbon emissions from airport expansion schemes to make best use of existing capacity, was a matter to be considered at a national level. The Government is satisfied (and has confirmed this in subsequent decisions) that growth under MBU would not compromise the UK's ability to meet its national carbon commitments.

3.3.8 MBU still remains the latest policy statement on airport capacity for UK airports other than London Heathrow.

Aviation 2050 The future of UK aviation (2018)

3.3.9 In December 2018 the Government published 'Aviation 2050: the future of UK aviation', which sought views on the long-term vision for aviation to 2050 and was intended to be the final consultation on the policy proposals ahead of a new Aviation Strategy. This emerging policy continued to recognise and highlight the importance of aviation to the UK, and that growth and development continues to be supported, if growth takes place in a sustainable way, and includes actions to mitigate the environmental effects.

3.3.10 Due to the unprecedented challenges that the aviation sector faced because of the COVID-19 pandemic, the Government decided not to issue any further responses to the remaining parts of the Aviation 2050 consultation and instead published '*Flightpath to the Future'* – a medium-term strategic framework to guide and deliver a sustainable aviation sector as it recovers from the pandemic.

Flightpath to the Future (2022)

3.3.11 In Flightpath to the Future (May 2022), the Government reaffirmed that airports have a key role in boosting global connectivity and that it continues to be supportive of sustainable airport growth as well as

building resilience into the sector. Importantly, the strategy underlines that the existing planning regimes for airport growth provide a robust and balanced framework for airports to grow sustainably within strict environmental criteria. Flightpath to the Future also confirmed that statements of national aviation policy continue to have full effect, as a material consideration in decision-taking on applications for planning permission for airport developments.

Jet Zero Strategy (2022)

3.3.12 The Jet Zero Strategy was published in July 2022. In the Strategy, the Government confirmed that sustainable airport growth will continue to be supported and that decarbonisation in aviation to meet the UK's net zero obligations will instead focus on "*the rapid development of technologies*" to deliver reductions in emissions.

3.3.13 In formulating the Jet Zero Strategy, the Government also updated the forecasts of aviation's carbon emissions underpinning MBU to reflect updated airport capacity assumptions and the approach to net zero. In the light of this exercise, the Jet Zero Strategy advises (paragraph 3.57) that: "*it is possible for the potential carbon emissions resulting from these expansion schemes to be accommodated within the planned trajectory for achieving net zero emissions by 2050, and consequently that our planning policy frameworks remain compatible with the UK's climate change obligations*." And further that *"the Government is, and remains, supportive of airport expansion where it can be delivered within our environmental obligations. The existing policy frameworks for airport planning – the Airports National Policy Statement (ANPS) and MBU - provide a robust and balanced framework for airports to grow sustainably within our strict environmental criteria. We do not, therefore, consider restrictions on airport growth to be a necessary measure."*

Government update on airport expansion (2025)

3.3.14 Although primarily focused on underpinning its *in principle* support for a third runway at Heathrow, the Government policy paper titled 'Government update on airport expansion' published on 30 January 2025, expresses strong support for the expansion of aviation in the UK as a whole. For example, the paper states that:

"The government is committed to securing the long-term future of the UK's aviation sector and if the UK is to remain competitive as a global leader in aviation, it's crucial that aviation infrastructure remains world-class".

And:

"The government is committed to ensuring that the economic benefits of airport expansions are delivered in line with our legal, climate and environmental obligations.

It is critical that the government's wider aviation strategy tackles the carbon and environmental impacts of aviation. That is why the government has taken extensive action to tackle these issues. This includes introducing a Sustainable Aviation Fuel (SAF) Mandate and committing to a Revenue Certainty Mechanism to spur investment in UK SAF production, creating jobs, growth and a supply of SAF for UK airlines.

It also includes launching the Jet Zero Taskforce to convene the UK aviation sector and providing the Aerospace Technology Institute (ATI) Programme with nearly £1 billion to support the development of new low and zero carbon emission aircraft".

National and regional planning policy

3.3.15 Airport master plans are crucial for guiding the development and growth of airports in a way that aligns with regional and local planning policy. This is a particularly pertinent time for BCA to update their Master Plan as Belfast City Council (BCC) are currently reviewing their Local Plan, specifically the Local Policies Plan (LPP), and the DfI are also preparing regional transport plans, both of which could be shaped (in part) by the BCA Master Plan.

Northern Ireland Regional Development Strategy 2035 (adopted 2012)

3.3.16 One of the eight aims of the Northern Ireland Regional Development Strategy 2035 (RDS 2035) is to strengthen links between north and south, east and west, with Europe and the rest of the world. This contributes to the Draft Programme for Government (PfG) 2024-2027 priority - *"grow a globally competitive and sustainable economy".*

3.3.17 Gateways and corridors are one of the five key components of the spatial strategy for the region set out in the RDS. Belfast City Airport is identified as one of the gateways to the region as shown in Diagram 2.3, page 28.

3.3.18 The RDS's strategic assessment of the status and future of the region's cities and towns often emphasises how they relate to the gateways. For example, in relation to the Belfast Metropolitan Area, itself a key component of the spatial strategy, the RDS states (para 3.36):

"*The BMUA is at the centre of the regional transport network and the major gateway for national and international trade. It has a major role in the European network of City Regions with vital links to Dublin, Britain and continental Europe. Belfast's airports and sea port serve the Region as gateway links to the world".*

3.3.19 In providing a context for 'Spatial Framework Guidance' Policy SFG15 a direction to 'Strengthen the Gateways for Regional Competitiveness' (p80), para 3.103 of the RDS emphasises the importance of gateways generally for the region:

"To compete globally Northern Ireland needs to be well connected both internally and with the rest of the world. Gateways are strategically important transport interchanges which are important for economic development, freight distribution activities and additional employment generation. The quality of connection from the air and sea ports to the internal transport network is crucial for economic competitiveness and the convenience of the travelling public. Economic and social development depends on modern, efficient infrastructure. The internal connection linking the principal cities, centres of industry and the gateways is the Regional Strategic Transport Network (RSTN)".

3.3.20 The gateways are identified as follows:

Belfast - The major Regional City Gateway with the principal sea port of Northern Ireland and a city airport. In 2009 the sea port handled approximately 1.3 million passengers and 12 million tonnes of goods whilst Belfast City Airport handled around 2.6 million passengers.

Belfast International Airport – In 2009 the main airport of Northern Ireland handled around 30,000 tonnes of freight and 4.5 million passengers.

Larne - The second largest sea port of Northern Ireland behind Belfast handled 0.9 million passengers and 4.3 million tonnes of goods in 2009. It is also an important location for power generation and for gas and electricity interconnectors with Scotland.

Londonderry - The North West City Gateway with a sea port, a regional airport and strategic links to Letterkenny and Donegal. The airport handled just under 0.4 million passengers in 2009 while the port handled around 1.6 million tonnes of goods.

Newry and Warrenpoint form the South Eastern City Gateway with a Harbour and strategic links to Dundalk and on to Dublin.

Enniskillen - The South West gateway with strategic links to Sligo.

SFG15 itself is supported by the following text (para 3.107):"

"Gateways should be able to deal with goods and passenger traffic efficiently and be considered as an asset by potential investors and local firms. Many of the gateways are intrinsically linked to important nature conservation sites or the aquatic environment and their development must be appropriately managed to take account of this.

Provide high quality connections to and from the air and sea ports. As the economy grows, the demand for better connections to the air and sea ports is likely to increase, particularly from the business, tourist and freight markets. Development must be appropriate to ensure no adverse effects on nature conservation sites or the aquatic environment. It must have regard to the Marine Policy Statement and be in accordance with a future marine plan when adopted.

Enhance Gateways and their environmental image. The image of any Region is set within the first few minutes of arrival and is difficult to change once established. Entry points at Gateways should have welcoming arrival areas, be user-friendly and be of a high environmental quality for both the built and natural environment".

3.3.21 Section 4 of the RDS (p82-87) deals with Regionally Significant Infrastructure. Paragraph 4.1 confirms the importance attached by the Executive of growing the economy and investing in the future by improving competitiveness and building a larger more export-driven private sector. Paragraph 4.2 identifies the role of planning and related infrastructure development as essential to enable a working economy and refers to several sources which emphasise the link between good physical infrastructure and economic output.

3.3.22 Paragraph 4.4 states that 'Strategic Projects' which will contribute to economic infrastructure development are considered to be those that (inter alia) deliver strategic improvements in external and internal communications, including transport and telecoms.

3.3.23 Paragraph 4.5 emphasises the 'fundamental importance' of airports as we are part of an island and continues with the theme that our Gateways should be able to cope with the volume and variety of traffic passing through them and are important first impression points which should provide a high-quality experience for the traveller.

3.3.24 Paragraph 4.7 emphasises the importance of high-quality connectivity to and from the air and sea ports given the importance of the movement of people and goods to the future growth of the economy, accounting for Northern Ireland's geographical position.

3.3.25 Under 'Regional Guidance' Policy RG7, which supports urban and rural renaissance, the aim is to reduce noise pollution which can aggravate serious direct as well as indirect, health effects and refers to need to consider the Environmental Noise Directive when development or plans are being prepared

Strategic Planning Policy Statement for Northern Ireland (2024)

3.3.26 The provisions of the Strategic Planning Policy Statement for Northern Ireland (2024) (SPPS) apply to the whole of Northern Ireland. They must be considered in the preparation of Local Development Plans (LDPs) and are material to decisions on individual planning applications.

3.3.27 Furthering sustainable development is the cornerstone of the SPPS. The SPPS states that planning authorities should deliver on all three pillars of sustainable development including economic, social and environmental in formulating policies and plans and in determining planning applications and appeals.

3.3.28 Under the SPPS, the guiding principle for planning authorities in determining planning applications is that sustainable development should be permitted, having regard to the development plan and all other material considerations, unless the proposed development will cause demonstrable harm to interests of acknowledged importance (para 3.8).

3.3.29 Paragraphs 4.1-4.40 set out the core planning principles of the two-tier planning system:

- Improving health and wellbeing;

- Creating and enhancing shared space;
- Supporting sustainable economic growth;
- Supporting good design and positive place making; and
- Preserving and improving the built and natural environment.

3.3.30 In relation to supporting sustainable economic growth, paragraph 4.19 recognises that planning authorities should encourage proposals that could make an important contribution to sustainable economic growth.

3.3.31 In respect of balancing this with the environment, paragraph 4.21 states that planning authorities must balance the need to support job creation and economic growth with protecting and enhancing the quality of the natural and built environment.

3.3.32 Under the principle of improving health and wellbeing, paragraph 4.11 states that the planning system has a role to play in minimising potential adverse impacts, such as noise or light pollution on sensitive receptors by means of its influence on the location, layout and design of new development.

3.3.33 Paragraphs 5.66-5.68 set out the purpose of planning agreements and when they may be considered appropriate.

3.3.34 Paragraph 1.10 of the SPPS states that a transitional period will operate until such times as the LDP Plan Strategy for the whole of a council area has been adopted. During this transitional period, planning authorities will continue to apply existing planning policies contained within the suite of Planning Policy Statements (PPSs) together with the subject policies of the SPPS.

3.3.35 Where a Council adopts its Plan Strategy, existing policy retained under the transitional arrangements outlined above will cease to have effect in the district of that council and shall not be material from that date, whether a planning application has been received before or after that date (para 1.11).

Programme for Government (PfG) 2024 – 2027

3.3.36 The Programme for Government (PfG) 2024 - 2027 from the Northern Ireland Executive Office is structured around three key missions - Prosperity, People, and Planet.

- ***Prosperity***

  Improving our economic productivity while making sure that we have an economy that works for everyone, and our story continues to be an inspiration to others.

- ***People***

  Working to support everyone at all stages of their life to ensure they have the chance to succeed by improving life opportunities.

- ***Planet***

  Harnessing the potential of a green growth economy while ensuring we provide an equitable transition to a sustainable and affordable society as we take responsibility for decarbonising our economy and society.

Page 67 of the PfG states:

"Our airports also play an important role in terms of connecting people, supporting our tourism offering and delivering economic growth. We will look at how we can develop new routes and offer further support to our three airports in terms of this wider agenda."

3.4 Local planning policy

Belfast Urban Area Plan 2001 (BUAP, adopted 1990)

3.4.1 The site is within the development limit of Belfast on white land, meaning that the site is not designated as green belt or other protected status land.

Belfast Harbour Local Plan 1990-2005 (BHLP, adopted 1991)

3.4.2 BHLP Policy AP 1, in respect of the airport, states that the (former) Department of the Environment will establish indicative noise contours against which reasonable growth of airport operations will be assessed. The policy also refers to local consultation about the measures to minimise noise and how they are working in practice. Reference is made to how 'reasonable growth' can take place within a pre-defined 'noise climate'.

3.4.3 BHLP Policy AP 3, in respect of the airport, states that the Department will seek to maintain the airport's present role and character as a regional airport. Airport operations within the framework of indicative noise contours are considered to not alter the character of the airport so long as operators adhere to environmental and specific operational constraints. The policy notes that the Department will seek to establish a basis for local consultation and monitoring to ensure operations can be assessed against these constraints.

Draft Belfast Metropolitan Area Plan 2015 (dBMAP) (adopted 2004)

3.4.4 The dBMAP sets out various designations. The airport is within the Belfast Harbour Area boundary within the settlement development limit.

- It is on land designated as Belfast City Airport and sits within major areas of existing employment/industry.
- Belfast Harbour Estate Site of Local Nature Conservation Importance (SLNCI) is located to the northeast and Tillysburn Local Landscape Policy Area (LLPA) is identified nearby.
- The draft Plan also identifies the protection afforded to Belfast Lough as a Ramsar Site, Special Protection Area (SPA) and an Area of Special Scientific Interest (ASSI) and other areas in the vicinity.

Belfast Metropolitan Area Plan 2015 (BMAP, unlawfully adopted, v.2014)

3.4.5 The designations set out in the (unlawfully adopted) version of BMAP mirror those set out in dBMAP.

Belfast City Council Local Development Plan – Plan Strategy 2035 (LDP Plan Strategy, adopted 2023)

3.4.6 The LDP Plan Strategy has been prepared to guide future investment and development decisions to enable the sustainable spatial growth of Belfast up to 2035. It is guided by an overall vision, which provides an overarching context for the plan to ensure that economic, social and environmental issues are holistically considered to deliver sustainable developments up to 2035.

3.4.7 The LDP Plan Strategy supports the *Belfast Agenda* - an ambitious community plan that promotes inclusive balanced economic growth to reduce social inequalities to deliver a thriving city and connected sustainable neighbourhoods.

3.4.8 Para 4.1.1 sets out the vision of the LDP which explicitly refers to Belfast as a 'Gateway'

"In 2035, Belfast will be a globally successful, smart regional city that is environmentally resilient with a vibrant economic and social heart. As a centre of learning and business, the knowledge economy flourishes where collaboration and innovation attract investment, talent and jobs. We will value and conserve our unique natural and built heritage to enhance and develop tourism.

Thriving socially inclusive well connected neighbourhoods, that encourage a healthy active lifestyle with well-designed homes where people love to live. A strong, inclusive local economy will support progressive, safe and vibrant communities. The city will provide a Gateway to opportunities locally, nationally and worldwide".

3.4.9 To help deliver this vision, the LDP Plan Strategy sets out four main strategic aims which are each supported by their related objectives:

1. *Shaping a liveable place.*
2. *Creating a vibrant economy.*
3. *Promoting a green and active place.*
4. *Building a smart, connected and resilient place.*

3.4.10 Paragraph 5.0.3 highlights the regional economic importance of Belfast stating as the capital city, it is the engine of the regional economy and supports the wider metropolitan area beyond the plan area boundary.

3.4.11 In respect of the airport, paragraph 5.0.3 states Belfast's Harbour area via the port and Belfast City Airport provides a Gateway to Britain, Europe and the rest of the world. They will continue to act as an enabler of wider economic growth throughout the plan period.

3.4.12 Policy SP 1 – Growth Strategy of the LDP Plan Strategy seeks to support economic growth over the plan period to enable the city to compete with similar sized cities elsewhere in the UK and Ireland, to attract investment, to grow a modern economy and create jobs.

3.4.13 Under Policy SP 2 – Sustainable Development, the LDP Plan Strategy promotes inclusive economic growth whilst protecting and enhancing the city's built heritage and the natural and historic environment.

3.4.14 Under the Spatial Development Strategy, Policy SD 2 – Settlement Areas, identifies the Harbour and Belfast City Airport as providing a high-quality Gateway by sea and air for goods, visitors and tourists.

3.4.15 The Plan Strategy sets out several subject operational policies in respect of the airport, as follows:

- Under the topic of transportation, Policy *TRAN 1* – Active Travel – Walking and Cycling, seeks to take account of the needs of walkers and cyclists in new development proposals by providing: (a) safe and convenient walking and cycle access; (b) safe, convenient and secure cycle parking having regard to the DfI's published standards; and (c) safe, accessible and convenient walking and cycle links to existing or programmed networks and public transport services where they adjoin the development site.

- Policy *TRAN 2* – Creating an Accessible Environment, states planning permission will be granted for development proposals open to the public or to be used for employment or education purposes where it is designed to provide suitable access for all. The council will also seek to ensure that access to existing buildings and their surroundings is improved as opportunities arise through alterations, extensions and changes of use.

- Policy *TRAN 3* – Transport Assessment, states this assessment will be required in order to evaluate the transport implications of the development proposal, where it is likely to have significant travel generating uses.

- Policy *TRAN 4* – Travel Plan, states this will be required for development proposals with significant travel generating uses.

- Policy *TRAN 7* – Access to Protected Routes, states the council will restrict the number of new accesses and control the level of use of existing accesses onto protected routes.

- Policy *TRAN 8* – Car Parking and Servicing Arrangements, states proposals will be required to provide adequate provision for car parking and appropriate servicing arrangements, however the emphasis will

be to allow parking provision that will assist in reducing reliance on the private car in particular for commuting into the city, help tackle growing congestion and bring about a change in travel behaviour.

- Under the topic of environmental resilience, Policy *ENV 1* – Environmental Quality, states planning permission will be granted for development that will maintain and, where possible, enhance environmental quality, and protects communities from materially harmful development. Development must not result in an unacceptable adverse impact on the environment, including the following considerations: (a) ground contamination; (b) air quality; (c) water quality; (d) noise; and (e) light pollution.

- Policy *ENV 2* – Mitigating Environmental Change, states planning permission will be granted for development that incorporates measures to mitigate environmental change and reduce Greenhouse Gases (GHG) by promoting sustainable patterns of development.

- Policy *ENV 3* – Adapting to Environmental Change, states planning permission will be granted for development that incorporates measures to adapt to environmental change, in order to support sustainable and enduring development.

- Policy *ENV 4* – Flood Risk, states planning applications in flood risk areas must be accompanied by an assessment of the flood risk in the form of a Flood Risk Assessment (FRA). The SPPS sets out the planning policies for flood risk to minimise flood risk to people, property and the environment and the council will take full account of these in assessing development proposals.

- Policy *ENV 5* – Sustainable Drainage Systems (SuDS), states all built development should include, where appropriate, SuDS measures to manage surface water effectively on site, to reduce surface water runoff and to ensure flooding is not increased elsewhere.

- Under the topic of natural heritage, Policy *NH1* – Protection of Natural Heritage Resources, states that the council will adopt the precautionary principle when considering the impacts of a proposed development on local, national or international natural heritage resources, including designated sites, protected species and the other important interests of biodiversity and geodiversity.

- Under the topic of landscape and coast, Policy *LC 1* – Landscape, states new development should seek to protect and, where appropriate, restore or improve the quality and amenity of the landscape. Policy *LC1C* – states that development proposals that have a significant adverse impact on the amenity, character, environmental quality or natural, built and cultural heritage features (including their settings and views) of LLPAs will not be supported by the LDP.

Supplementary Planning Guidance

3.4.16 Relevant Supplementary Planning Guidance (SPG) that provides additional advice and guidance specific to the policies identified in the LDP Plan Strategy include:

1. Transportation
2. Planning and Flood Risk
3. Sustainable Drainage Systems (SuDS)

Belfast Agenda

3.4.17 The Belfast Agenda[2], published in 2023, aims to deliver a strong and vibrant city with a *"thriving and prosperous economy"*. As part of this vision, Belfast seeks to support 46,000 additional jobs. The Belfast

[2] Belfast City Council, Belfast Agenda, September 2023.

Agenda identifies the importance of maximising the use of resources and assets to deliver the desired outcomes. The Agenda highlights that *"a thriving and prosperous economy is our city's engine for change"*, with a focus in particular on creating more and better jobs. The Agenda also stresses that it is important to *"create the right conditions to accelerate inclusive and sustainable growth"*. Key sectors are identified, including digital, ICT and creative industries, financial services and FinTech; life and health sciences and MedTech; and advanced manufacturing and engineering, many of which have a high dependency on air connectivity, including to the rest of the UK.

3.4.18 As well as supporting these growth sectors directly, creating jobs and opportunity and investing in economic infrastructure are seen as key foundations for delivering the desired outcomes. BCA is part of the economic infrastructure of Belfast and needs to be able to play its part.

4 Summary of Key Elements of Draft Master Plan and Likely Phasing

4.1 Master Plan

Overview

4.1.1 The draft Master Plan has been carefully shaped by the opportunities and constraints within the airport campus and its surrounding area.

4.1.2 The potential layout of the airport campus in 2040 is set out in the draft Master Plan (see pages 50 to 51) and is supported by a series of illustrations based on computer-based images (CGIs) to show how the infrastructure could look. This vision could be unlocked through a substantial private investment of up to £200m over the next 15-years.

4.1.3 The key infrastructure could include:

- An extension of the existing terminal building and piers;
- New aircraft stands, aprons and taxiway;
- Surface access improvements including new multi-modal forecourt prioritising public transport, consolidated car parking, and improved access and internal road layouts;
- An opportunity to deliver a transformational rail halt directly serving the extended terminal;
- Complementary on-site developments which could include a new hotel, EV charging forecourt with a convenience shop and associated ‘drive-thru’ opportunities; and
- Opportunity to maximise onsite renewable energy, including roof mounted PVs on the terminal building and a discrete ‘renewables zone’ in the north-east corner of the airfield.

Airport Terminal & Piers

4.1.4 The existing terminal building would be restructured and reorganised internally to better accommodate future passenger demand of 7mppa as well as meeting modern requirements for security, baggage handling, and screening. As part of these improvements, the terminal footprint would be extended - more than doubling its current size.

4.1.5 A new two-storey pier would be delivered to the east of the extended terminal to provide access to the new aircraft stands. This new pier would be connected to aircraft stands on the expanded Apron allowing for faster, more efficient boarding and a clearer, more intuitive journey through the terminal building.

4.1.6 As shown in the illustrative CGI’s in Figure 4.1, the extended terminal building could serve passenger demand to 2040 while also becoming an iconic landmark - the new ‘front door’ to the city.

Figure 4.1 Illustrative CGI images of the terminal

4.1.7 The design principles to inform any future terminal would align with BCA's strong desire to:

- Create an iconic first impression of Northern Ireland through the creation of a gateway that reflects the rich industrial heritage of the city but in a contemporary way;
- Use inspiration from the local mills and factories and Harland & Wolff (H&W) cranes;
- Maintain the existing buildings while delivering phased expansion wrapping around the terminal to protect customer experience;
- Maximise use of sustainable building materials to include timber structures and renewable technologies throughout - for example, use of a 'saw-tooth' roof providing daylight while also accommodating solar/photovoltaic panelling;
- Adopt natural materials and indigenous species throughout wider landscaping proposals; and

- Use transparent design to improve passengers experience and wayfinding - a prominent new main entrance could be co-located to link into any future development of a rail halt directly serving the extended terminal.

Airfield

4.1.8 To support future passenger growth, the Master Plan includes upgrades to airfield aprons and taxiways as follows:

- A total of up to 21 aircraft stands (11 new and reconfigured stands) required to accommodate the increased number of new generation aircraft;
- Extended apron and taxiways to link the new and reconfigured stands to the runway; and
- A new holding loop at the end of the runway to improve runway utilisation – this will allow multiple aircraft to queue on the airfield ahead of departure and will facilitate the required flow of departures at busy times of the day.

4.1.9 BCA does not propose to extend the existing runway or build a new one. Instead, the draft Master Plan seeks to make best use of the existing runway consistent with Government policy.

Proposed surface access improvements

4.1.10 To unlock and accelerate the move towards more sustainable forms of travel to and from the airport, the draft Master Plan includes measures to facilitate improved use of public transport as well as capping the amount of future parking as the Master Plan is delivered.

4.1.11 BCA also intends to introduce a Surface Access Strategy (SAS) which will set out a series of near-term measures and targets aimed at increasing public transport use and reducing the proportion of car trips to and from the airport between 2026 and 2030.

4.1.12 Further surface access improvements by 2040 could include:

- A new multi-modal forecourt outside of the newly extended terminal which will provide enhanced facilities for travel by pedestrians, cyclists, bus, coach and taxis; ensuring convenient access to the terminal buildings for all modes of travel. The forecourt could also incorporate a designated public pick-up and drop-off (PUDO) zone.
- Some reconfigurations to the access and road layouts. Subject to further investigation with DfI, these could include measures such as:
    - A new entry slip lane from the A2 Sydenham Bypass for northbound traffic, providing more direct access to the airport and reducing congestion on the surrounding network; and
    - Further examining feasibility of altering the existing airport entrance to provide a dual right-hand turn lane for southbound traffic (vehicles travelling from Bangor) to improve capacity and avoid delays during peak periods.

4.1.13 These enhancements could improve overall traffic flow, reduce journey times, and support better integration with the wider transport network while complementing efforts to increase the use of sustainable transport modes. The benefits of such enhancements are considered further in Section 6.1 of this PER.

Car Parking

4.1.14 BCA is committed to encouraging as many passengers as possible to access the airport via public transport. In that regard, any future additional parking would be capped to achieve a reduction in the overall number of spaces available per passenger over the Master Plan period. This will directly limit supply and encourage modal shift to achieve future aspirations, albeit the absolute number of car parking spaces will need to be increased to meet underlying demand as the airport grows towards 7mppa.

4.1.15 The draft Master Plan layout incorporates a range of parking solutions to meet the diverse needs of airport users including a blend of short and long stay options and additional Electric Vehicle (EV) charging capabilities.

4.1.16 Premium and Short Stay parking, including car hire facilities, could be located close to the terminal building to provide maximum convenience for passengers requiring quick access.

4.1.17 Long Stay and staff parking could be situated at the northern end of the airport estate, supported by a dedicated electric shuttle bus service. This service could operate in a similar manner to those in place at other leading airports, ensuring efficient and reliable transfers between the car parks and the terminal.

Explore opportunity for Direct Connection to new Rail Halt

4.1.18 Currently, the airport has no direct connection to the Northern Ireland Rail (NIR) network. The nearest station to the airport is Sydenham Halt on the Bangor to Belfast line which can be accessed via a 1.2km walk along the western footpath of the A2 Sydenham Bypass. The airport also provides a shuttle bus service (on call) to the end of the airport site where access is provided to the halt via a footbridge over the Sydenham Bypass. Both solutions are sub-optimal and do not encourage passengers or staff to use the train.

4.1.19 BCA and Translink continue to work jointly to improve access to strengthen public transport links to Belfast City Airport. This includes short term improvements to bus and walking connections between the airport and Sydenham Halt, as well as continued investment in the Translink bus services to and from the city centre.

4.1.20 The Master Plan vision provides a significant opportunity in the longer term, to 2040, to deliver a more fundamental modal shift to rail to complement the airport's efforts to increase the numbers of passengers and staff using public transport to and from the airport.

4.1.21 In 2022, Translink initiated a study to understand the methods available to improve connectivity between the NIR network and the airport. This feasibility study included a number of options, including a new rail halt directly serving the airport terminal.

4.1.22 A new rail halt directly connected into the newly extended terminal buildings could transform passenger journeys to and from the airport with direct access to the city centre via Grand Central Station. Therefore, BCA and Translink intend to jointly partner on the next stage to complete the feasibility study and business case for this new rail halt. This proposed partnership is a 'statement of intent' and an indication of how the airport is willing to contribute towards building a more sustainable future and improved experience for its staff and passengers who would be able to travel direct from Belfast City Centre to Belfast City Airport within 5 minutes via rail. The move would align with regional transport priorities identified by the DfI and could play a key role in encouraging a shift away from private car use.

Complementary Airport Uses

4.1.23 The draft Master Plan also provides for ancillary commercial development that will support the redeveloped airport campus. These include, but are not limited to:

- A new state of the art hotel immediately adjacent to the extended airport terminal buildings, only a minute's walk away. This would enhance the range of services provided at the airport, offering passengers important overnight accommodation before or after their flights.
- An EV charging forecourt with a convenience offering could also be delivered on the airport campus. This would help BCA further the drive to encourage more sustainable forms of transport to and from the airport while also supporting other complementary convenience and drive-thru opportunities.

4.2 Phasing

4.2.1 The full physical redevelopment of the airport campus, as described in the draft Master Plan, will be delivered in a phased manner between the late-2020's and the mid-2030's. The exact timing of the construction and delivery of different components of the Master Plan has not yet been finalised as this will depend on a range of factors such as: the requirements of the airport's business partners, its airlines and the rate of growth in passenger numbers, together with the timing of securing all necessary planning permissions and the implementation of a sustainable capital investment programme by BCA.

4.2.2 More immediate interventions to reconfigure the inside of the terminal building and parts of the external apron may be necessary in the short term (2025-2030) in order to increase the passenger processing capacity, preserve service standards and flight reliability, as demand steadily increases. Such localised interventions/ improvements could be pursued under the airport's existing permitted development rights to enable the timely delivery of essential infrastructure upgrades over the short term.

4.2.3 As part of any future planning application and associated EIA, due account will be given to the likely phasing and associated environmental effects of the development of the airport over time.

5 Passenger and aircraft movement forecasts

Previous forecasts and recent trends

5.1.1 Demand forecasts for Belfast City Airport (BCA) were produced in 2013, prior to the application to vary the Seats for Sale (SFS) condition and replace it with a noise contour limit. These indicated the scope for BCA to grow its share of the Northern Ireland (NI) market from around 30% of passengers using it in 2012, to c.37.5% or 3.7 million passengers (mppa) by 2025 if the 2 million SFS limit was lifted. The seat for sale limit was eventually removed in 2017.

5.1.2 There were no separate ATMs or overall aircraft movement forecasts published as part of the SFS application, but it was envisaged that the anticipated growth could be achieved within the existing permitted number of 48,000 annual aircraft movements.

5.1.3 As can be seen from Figure 5.1, BCA did not in fact achieve the anticipated growth in passenger numbers beyond 2016. From that time, the airport experienced difficulties due to the underlying problems being faced by Flybe, which by then had been providing around 75% of the flights from the airport and around 65% of all of the seats. Flybe ceased its operations entirely in the early part of 2020, following the onset of the Covid-19 pandemic.

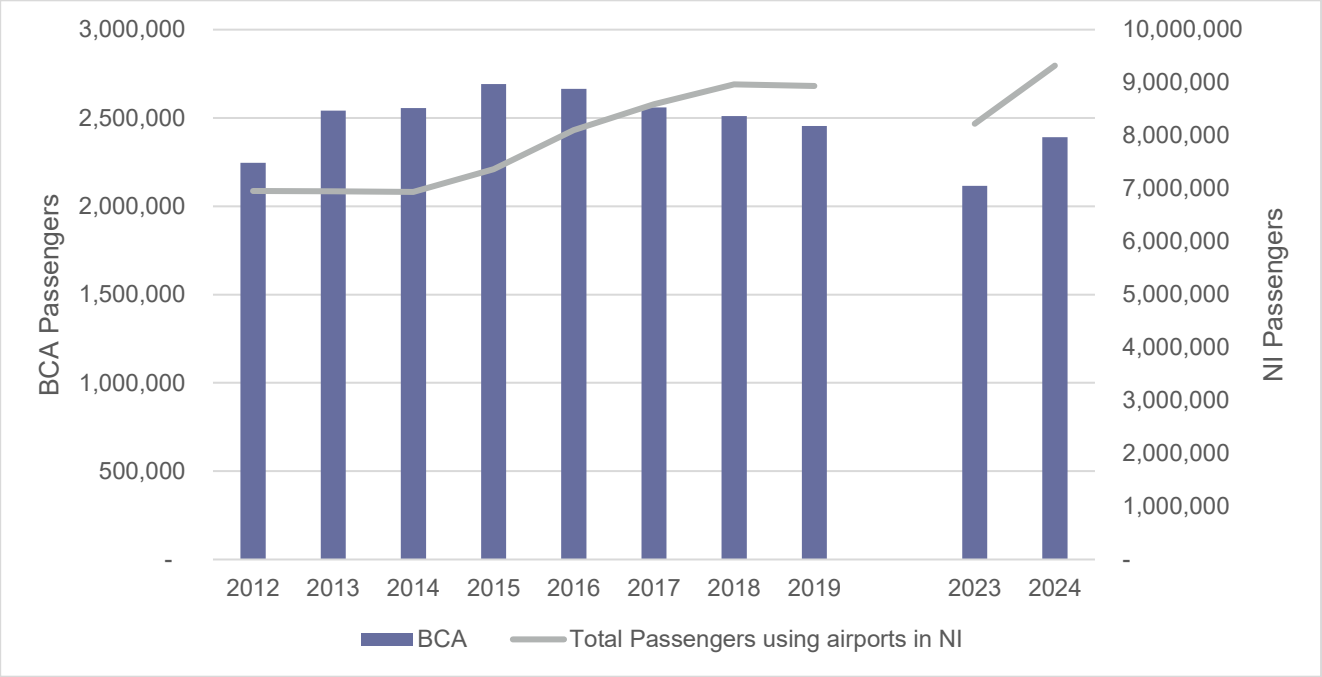


Figure 5.1 Passengers at BCA and at all NI airports 2012-2024 (excluding the pandemic period)

Source: CAA Airport Statistics

5.1.4 A further factor in the performance of BCA has been the rapid growth of air services and passengers using Dublin Airport - from 19mppa in 2012 to 32.9mppa in 2019. The increased range of services that Dublin has been able to provide, fuelled by rapid growth in the Republic of Ireland's (RoI) economy, has resulted in an increasing number of NI residents and visitors choosing to use that airport rather than those in NI. The focus on UK domestic markets, whilst being a strength at BCA, has limited its ability to compete with the greater range of international services offered at Dublin. It is estimated that Dublin Airport currently attracts over 26% of all NI passenger demand[3].

[3] York Aviation for Northern Ireland Government, Air Connectivity to Support Inbound Tourism and Business Growth, March 2024, Figures 2.2 and 2.23

5.1.5 BCA has now almost recovered to pre-pandemic passenger levels, but with a much more balanced mix of airlines. Although Aer Lingus Emerald operates over half of the flights, it only provides 37% of the seat capacity, with British Airways providing 27% and easyJet 30% of the seat capacity in 2024. This provides the airport with a much more robust and stable platform for growth in the future, as it is less reliant on any single airline.

5.1.6 Its current regular route network is shown in Figure 5.2.

Figure 5.2 BCA Route Network Summer 2025[4]

Source OAG

5.1.7 Figure 5.3 illustrates BCA's catchment area when it was last surveyed in 2019. This shows that 36% of all passengers had origins or destinations in Belfast and around 72% within the Belfast City Region. However, to a large degree, this reflects the distribution of population within NI.

5.1.8 BCA also attracts around 8% of passengers from RoI, including from districts in the corridor between Belfast and Dublin and from the northwest of RoI. While no more up-to-date data exists, it is not anticipated that the current catchment area varies substantially from that surveyed in 2019.

[4] The orange pins shown in the figure depict seasonal routes instead of year-round routes as shown in blue.

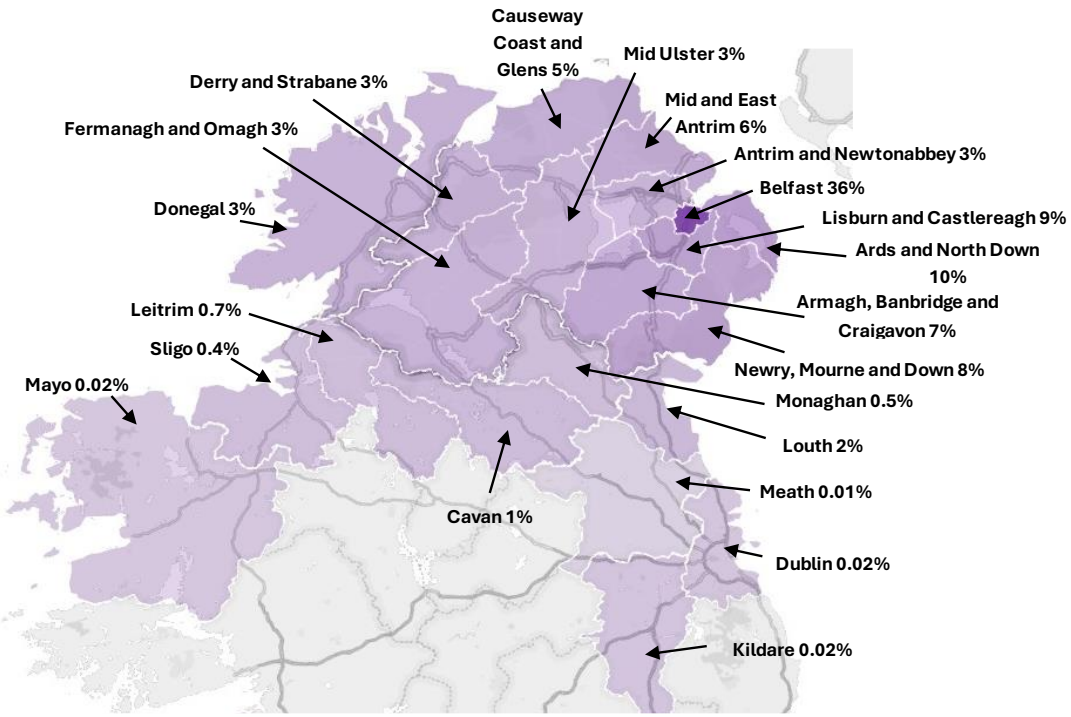


Figure 5.3 BCA passenger catchment area, surveyed in 2019

Source: CAA Survey data

Market Context

5.1.9 BCA and the other Northern Ireland airports provide a breadth of connectivity to key UK cities. This market is critical for business and leisure purposes. Whilst the breadth of destinations served is currently strong, the demand for these connections will continue to grow throughout the period to 2040 and frequency is key to serving this market.

5.1.10 A key business connectivity gap exists in terms of connections to global cities. BCA already makes a material contribution to providing such connectivity with its connections to Heathrow and Amsterdam but could do more to deliver an improved range of connections, both directly and through hubs, if it was able to grow and realise its potential, diversifying its portfolio of airlines and routes alongside expanding its existing network.

5.1.11 Leakage of NI demand to Dublin Airport represents a lost opportunity for Northern Ireland. Currently, just over 9.3 million passengers use airports in NI but there is a net loss of 1.1 million passengers a year that cannot fly direct to/from NI due to limitations in the range and frequency of air services. Around 26% of these passengers currently fly from BCA but the airport could do more to meet demand if it was able to increase its operations, as per the aspirations of the draft Master Plan.

5.1.12 Much of the NI passenger demand that currently travels through Dublin Airport is travelling for leisure purposes. This includes Northern Ireland residents as well as inbound tourists. Increased passenger demand will require Belfast City Airport to provide a broader range of services for tourists and residents alike. This will complement the services provided at Belfast International Airport and ensure that there is effective airline and airport competition within NI, delivering lower fares and ensuring convenient access for residents and visitors alike, especially given the proximity of Belfast City Airport to the city centre and key visitor attractions.

5.1.13 Creating the conditions where airlines can base more aircraft at Belfast City Airport will enable them to develop a broader portfolio of routes, delivering new European city connections, facilitated by strong local demand within Belfast, and a broader range of services to leisure points. This will support inward investment and trade within Northern Ireland.

Master Plan forecasts

5.1.14 New forecasts of the demand to use BCA have been produced by York Aviation considering current market conditions. These have been developed using an econometric model adopting the UK Department for Transport's aviation forecasting elasticities by market segment (domestic, Europe, long haul, business, leisure). Up to date forecasts for NI and RoI economic growth and key factors influencing air fares, such as fuel and carbon costs from spring 2024. This projects the overall scale of the market, not just for NI but also for the RoI due to the overlap in catchment areas between the NI airports and Dublin in particular.

5.1.15 The overall air passenger market for the island of Ireland is expected to double in size from 45.1mppa in 2023 to 90.7mppa by 2040. Within this, the NI market is expected to grow from 10.4mppa to 18.8mppa at an average annual growth rate of 3.4%, with the overall Irish market growing by 4.2% per annum reflecting stronger economic growth projected for RoI.

5.1.16 A demand allocation model has been produced to examine how the share of demand might vary between airports dependent on the availability of capacity and the removal of constraints. This has allowed the interaction between BCA, Belfast International Airport and Dublin Airport to be modelled more holistically.

5.1.17 A key consideration in assessing the potential for BCA has been the likelihood of capacity constraints at Dublin Airport. It is assumed that the current short-term planning constraint of 32mppa will be lifted in the near future as stated by the government of the RoI[5]. Current plans for Dublin Airport envisage delivering capacity for 40mppa by 2030[6]. However, delivery of capacity beyond 40mppa is less certain. Irish aviation policy supports expansion of Dublin Airport as a secondary hub airport[7] and work to support that policy[8] identified the need for it to be able to accommodate 55mppa by 2050. On balance, given the level of growth currently projected for the RoI, it is considered reasonable to assume that 55mppa capacity at Dublin would be realised by 2040, but that growth above that level is unlikely to be accommodated by that date. On this basis, it has been identified that the airports in NI require capacity to accommodate c.21mppa of passenger demand in 2040 if growth to and from Ireland is to avoid being constrained. The implications of the former would inevitably lead to limitations on economically beneficial air connectivity for the island.

5.1.18 Given the above, it is anticipated that BCA could be handling 7mppa by 2040. This forecast is informed by the airport's close proximity to the key market in Belfast and also its position close to the economic corridor between Dublin and Belfast. In this scenario, Belfast International would also see significant growth with its passenger demand - doubling over the same period to meet the overall demand for air travel from NI and beyond with reduced dependence on Dublin Airport.

5.1.19 BCA's ability to meet its share of this demand is mainly influenced by:

- Its infrastructure;
- The 48,000 annual aircraft movement limit; and
- Its operating hours

5.1.20 Hence, the draft Master Plan sets out how some of these constraints could be addressed to enable the airport to play its part in meeting overall demand and delivering improved connectivity to Northern Ireland.

[5] Department of the Taoiseach, Programme for Government 2025 – Securing Ireland's Future, January 2025, page 79
[6] Fingal County Council, Dublin Airport Local Area Plan, January 2020
[7] Department of Transport, Tourism and Sport, A National Aviation Policy for Ireland, August 2015.
[8] Oxford Economics, Review of Future Capacity Needs at Ireland's Airports, August 2018

5.1.21 The passenger forecast for BCA is shown in Figure 5.4 and the air transport movement forecast[9] in Figure 5.5. BCA is projected to grow from around 2.4mppa in 2024 to about 7mppa by 2040. Currently, around 95% of passengers are travelling to and from the rest of the UK but this includes passengers travelling to Heathrow, many of whom connect onwards to global destinations. UK domestic markets are more mature and expected to grow more slowly, highlighting the importance of NI airports being able to provide a broader range of international air connections.

5.1.22 If the airport were able to attract a broader range of airlines, for which it may need to be able to offer more flexible operating hours, it expected that up to 47% of its passengers could be travelling to international destinations by 2040. This would include an increased range of services connecting to hubs that would provide more global connections and increase the international connectivity of Northern Ireland. The airport would also be expected to provide an increased number of services to leisure points in and around the western part of the Mediterranean. This would benefit passengers in Northern Ireland by providing greater choice and a competitive air service offer, helping to claw back passengers from Dublin.

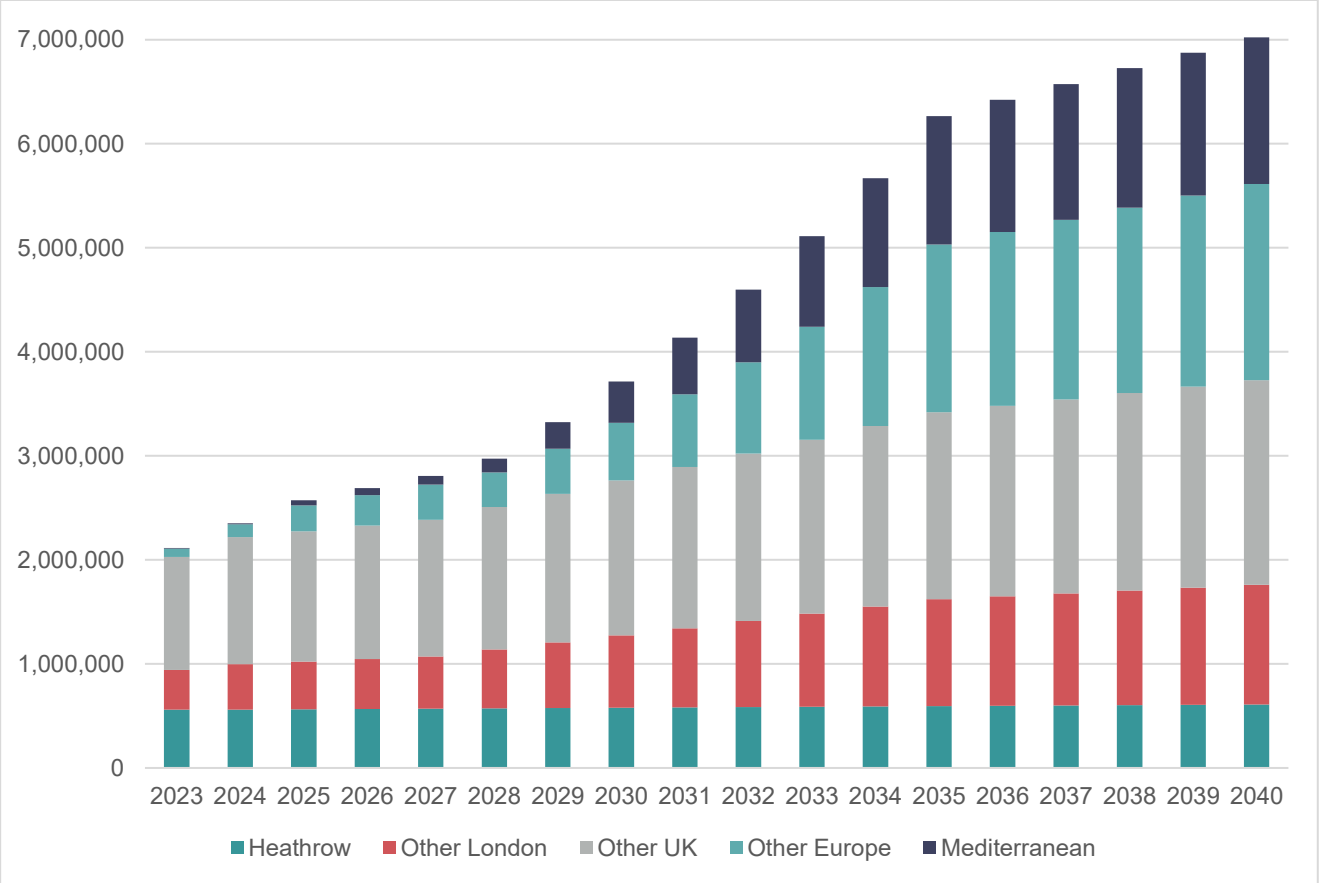


Figure 5.4 Passenger Forecasts for BCA by market segment

Source: York Aviation

5.1.23 The number of aircraft movements is predicted to grow to around 61,000 movements by 2040 (including GA aircraft), with the current limit of 48,000 annual aircraft movements being reached in 2032.

[9] This excludes a small number of c.1,000 business aviation movements each year that are outside of the main demand forecast

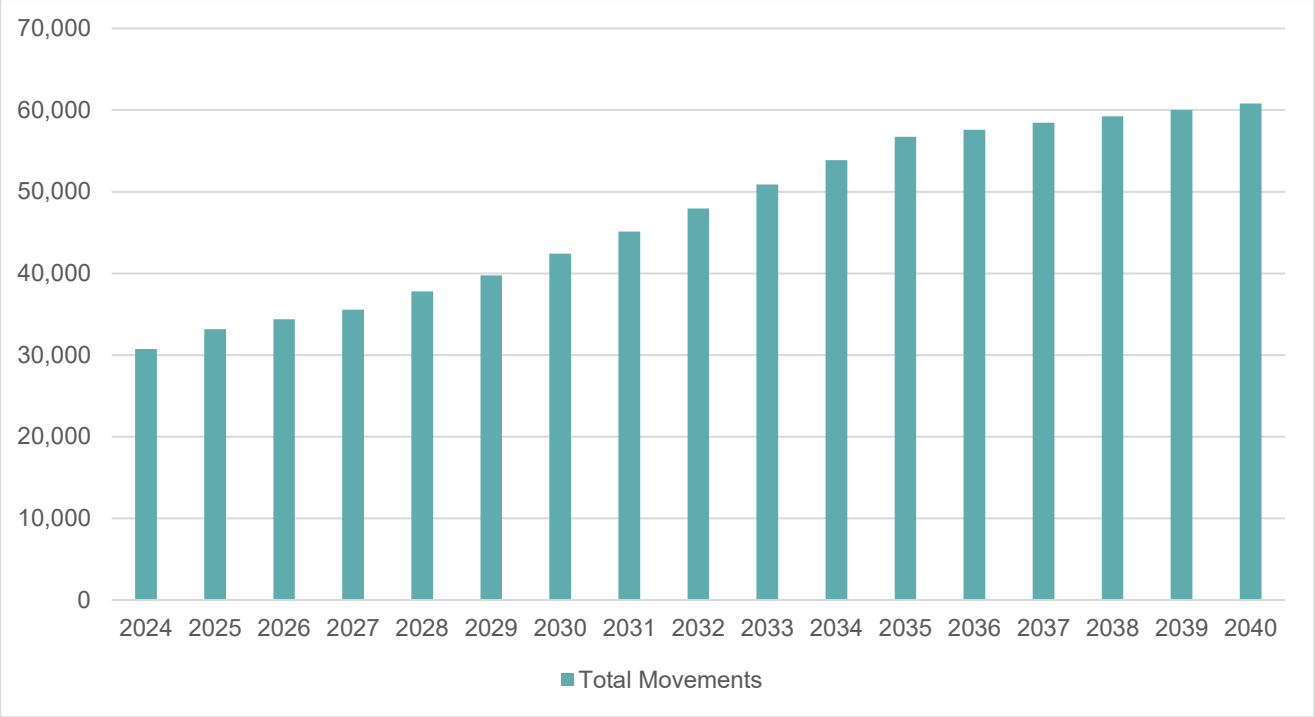


Figure 5.5 Total Aircraft Movement Forecasts for BCA

Source: York Aviation

Constrained Forecasts

5.1.24 If BCA were required to continue to operate entirely within its existing operating limits, its ability to attract new air services and airlines would be heavily constrained. In this constrained scenario, it is only projected to reach 3.9mppa by 2040 and would still largely be reliant on domestic passenger demand (c.80% of its throughput). Moreover, its ability to attract new airlines operating international services, in competition with Dublin, would be severely hampered. The number of annual aircraft movements would remain within the 48,000 limit, at under 43,000 in 2040.

5.1.25 With BCA operating so constrained, it is likely that there would be excess passenger demand that could not be accommodated at airports in Northern Ireland or at Dublin. Consequently, there would be a real loss of connectivity and an increase in air fares as airlines would be likely to price off demand. This would give rise to broader and damaging economic implications, including a potential regression in the route network and available destinations - directly impacting business and leisure travellers alike.

Implications of the updated forecasts

5.1.26 Detailed outputs from the current forecasts have been produced to inform the initial environmental assessments reported in this PER and to inform the development of the draft Master Plan. These include:

- Indicative busy day and typical day timetables to determine new infrastructure requirements
- Illustrative annual and 92 summer day fleet mix forecasts for noise assessment purposes

5.1.27 The illustrative/ preliminary forecast fleet mix for key years is given in Table 5.1. In addition, the existing level of business and general aviation (GA) activity is assumed to continue at circa 1,200 aircraft movements each year, thereby given a total of around 61,000 ATMs by 2040.

Table 5.1 Illustrative Fleet Mix for Commercial Scheduled Operations at BCA

Aircraft Name	2024	2030	2035	2040
Airbus A319	4,072	3,393	0	0
Airbus A320	3,789	4,142	972	0
Airbus A320 Neo	2,071	7,403	24,840	25,814
Airbus A321 Neo	25	831	2,868	4,782
Embraer 190	2,030	1,994	1,091	0
Embraer 195-E2	106	1,366	2,228	4,367
Embraer 175	473	1,139	932	0
Embraer 145	383	218	0	0
ATR 72	16,345	20,484	21,956	23,600
ATR 42	405	274	100	0
Boeing 737 Max8	0	118	704	1,190
Total	**29,699**	**41,363**	**55,691**	**59,753**

6 Key Environmental issues

6.1 Transport including surface access

Baseline context

6.1.1 BCA is located to the northeast of Belfast, adjacent to the Belfast Harbour and is accessed off the Sydenham Bypass (A2). The airport is currently serviced by all modes of transport, as described below.

Cycle and Pedestrian Routes

6.1.2 There are existing pedestrian facilities in the form of a footpath on the northern side of the A2 Sydenham Bypass which provides linkage to / from Belfast City Centre to BCA. This footpath extends further eastwards towards Holywood.

6.1.3 There is a pedestrian footbridge linking the Sydenham Rail Halt and the associated residential developments on the southern side of the Sydenham Bypass to the pedestrian facilities on the northern side of the bypass.

6.1.4 Within the airport boundary there is an extensive network of internal pedestrian facilities connecting the historical access (and therefore the existing footbridge and footway on Sydenham Bypass) to the terminal building and car parking facilities. These pedestrian routes are indicated in the image below.

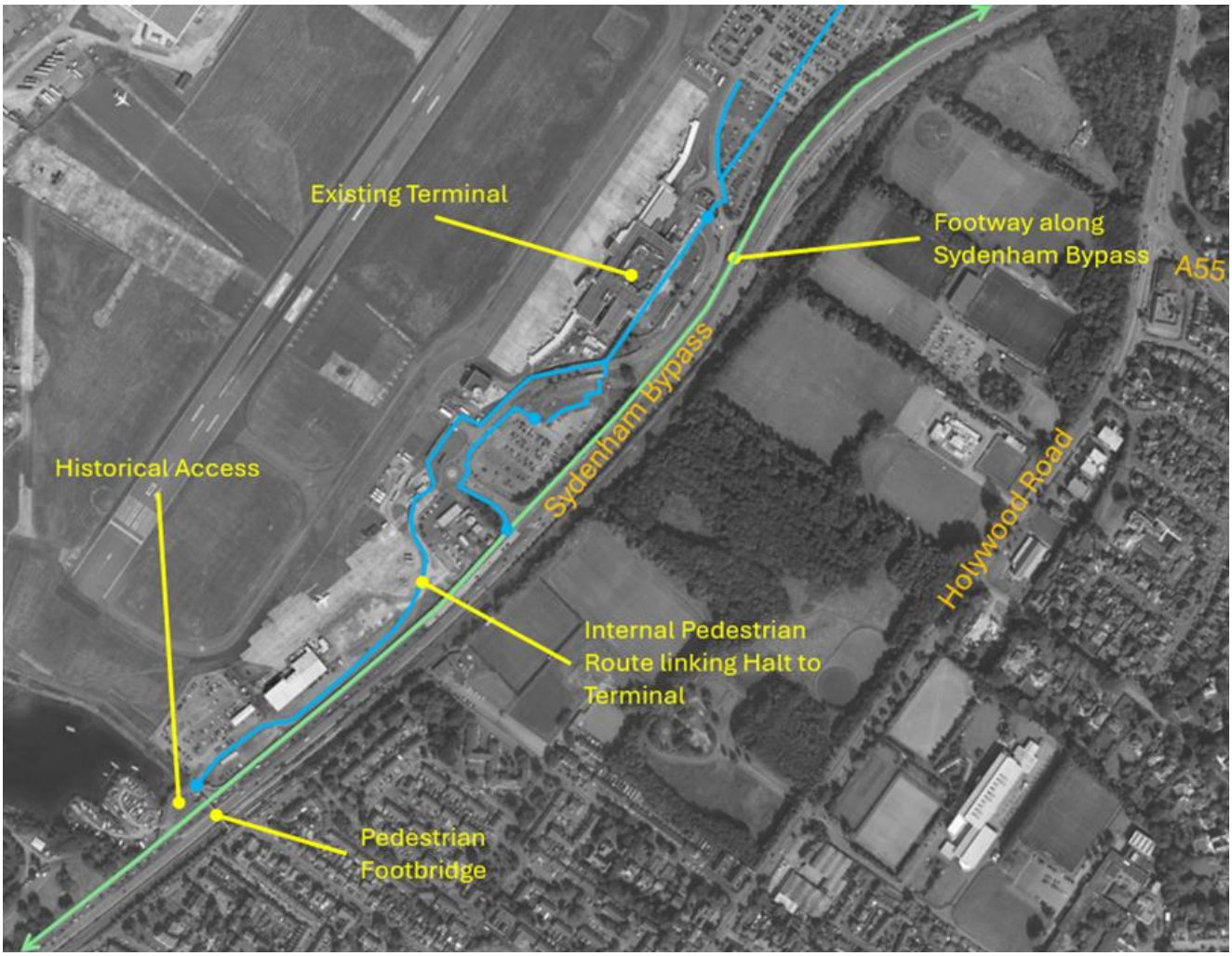


Figure 6.1 Pedestrian Facilities at Belfast City Airport

6.1.5 There is a mix of cycling routes within the vicinity of BCA including an 'on road painted' advisory cycle lane along both the northern and southern sides of A2 Sydenham Bypass, although on the northern side of the carriageway there are also small sections of 'shared use footway'.

6.1.6 The cycle provision on the northern carriageway connects into the 'traffic free cycle route' in Victoria Park, which provides further connectivity to the Connswater Greenway which then connects to Comber Greenway and other cycling facilities within Belfast.

6.1.7 From Victoria Park, the Sam Thompson Bridge provides linkage to the cycle provision within Belfast Harbour, which connects to Titanic Quarter and Belfast City Centre. This existing cycling provision is indicated in the image below.

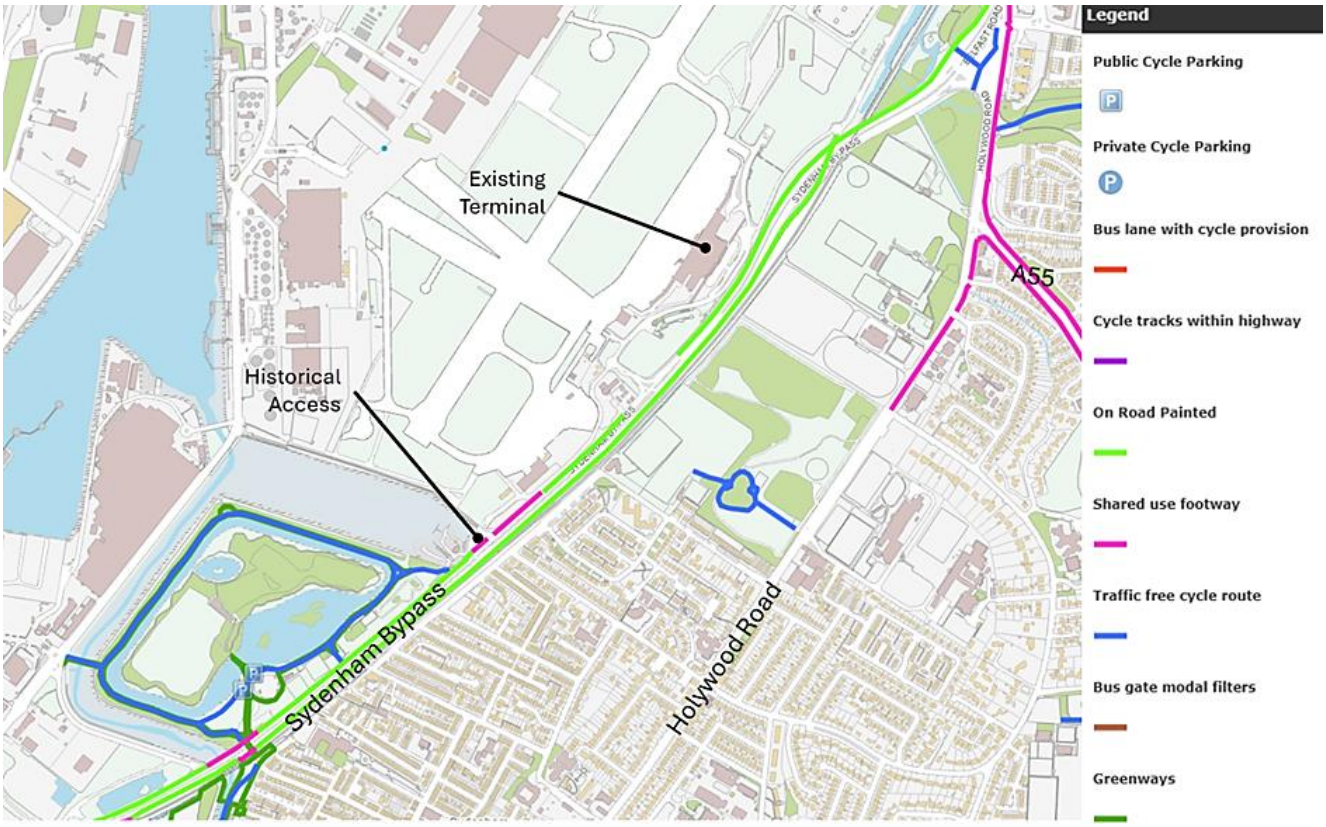


Figure 6.2 Pedestrian Facilities Belfast City Airport

Bus & Rail Provision

6.1.8 BCA is served by Translink service 600 which drops off and picks up adjacent to the terminal building within the site and connects to locations within Belfast City Centre and Grand Central Station. This service currently operates on a 20-minute frequency (3no. times per hour) from 0700 to 1800 hours. Outside of these core hours there is a less frequent service, as follows:

- Departs Grand Central at 0515, 0550 & 0625 then core services and then a 30-minute frequency from 1830 to 2130 hours.
- Departs BCA at 0530, 0605 & 0640, then core services and then a 30-minute frequency from 1830 to 2200 hours.
- This bus service also operates on Saturdays and Sundays (~30-minute frequency).

6.1.9 BCA is also served by Sydenham Rail Halt on the Bangor Line, which connects Bangor Train Station to Grand Central Station. Connectivity to the Sydenham Rail Halt is via the pedestrian linkage indicated above and the footbridge across the A2 Sydenham Bypass.

6.1.10 The frequency of the rail service varies throughout the day as follows:

- Departs Sydenham Rail Halt at 0636, 0708, 0728, 0741, 0802, 0821, 0841, 0901, 0908, 0937, 0953, 1007 then a 30-minute frequency until 1701, then a 20-minute frequency until 1841, then from 1907 a 30-minute frequency until 2207 hours.
- Departs Grand Central Station at 0620, 0645, 0730, 0735, 0800, 0820, 0835, 0850, 0905 then a 30-minute frequency until 1535, then 1555, 1605, 1620 then a 20-minute frequency until 1840, then from 1905 a 30-minute frequency until 2135, with final trains at 2235 & 2340 (Monday to Thursday) and 2355 (Friday).
- This train service also operates on Saturdays (~30-minute frequency) and Sundays (hourly frequency).

6.1.11 This connection to / from Grand Central Station provides further connectivity to the wider public transport services from this location and the local Glider / Metro Services from Belfast City Centre. The public transport facilities which serve BCA are indicated in the image below.

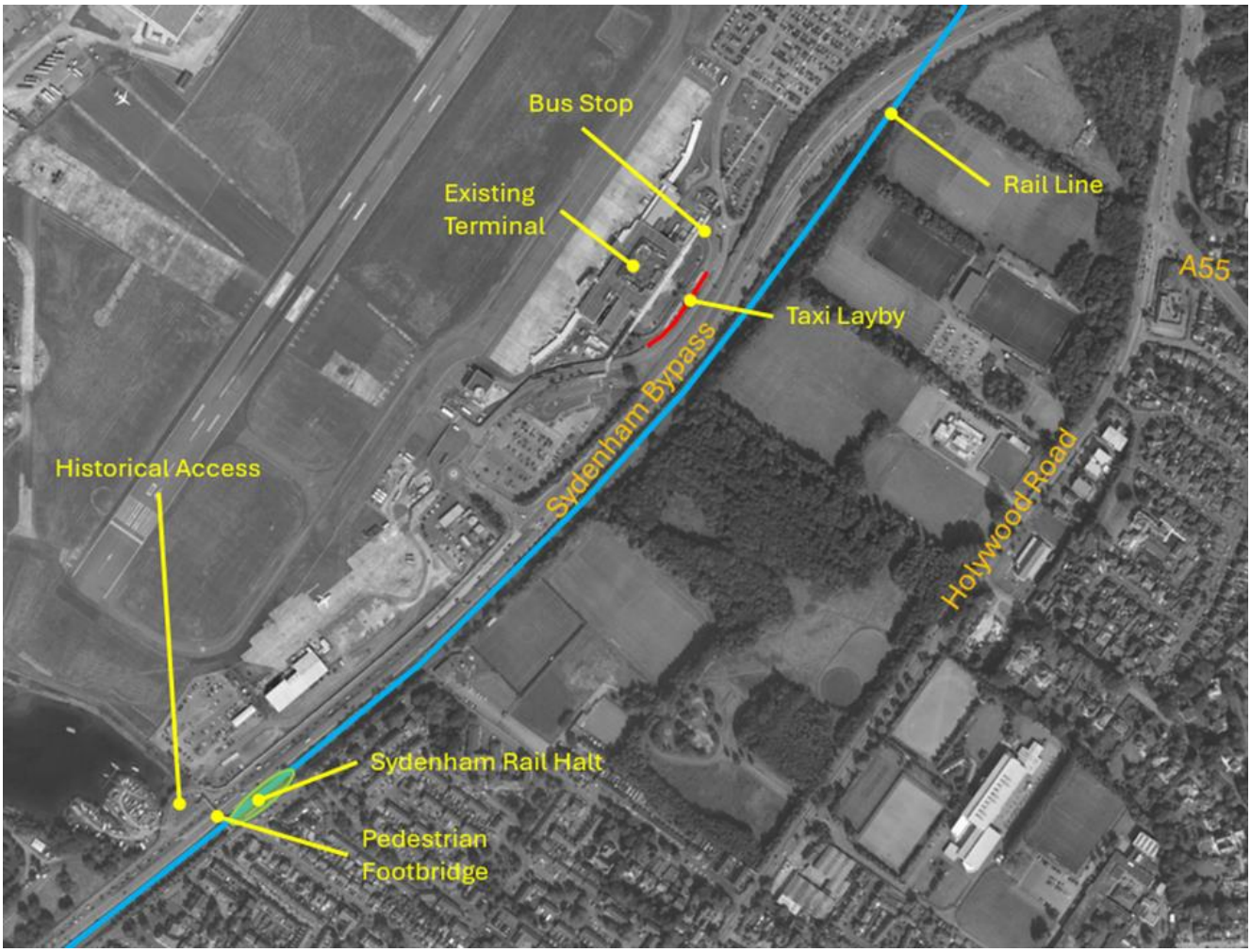


Figure 6.3 Public Transport Facilities Belfast City Airport

Road Access

6.1.12 The Sydenham Bypass forms part of the trunk road network within Northern Ireland and is classified as a Protected Route (*'Dual carriageways, Ring Roads, Through-Passes and By-Passes')*. Protected routes comprise of the following:

- Primary Routes;
- Routes between the principal town in each district and/or cross border;
- Routes to ports and **airports**; and
- Selected routes with high traffic flows.

6.1.13 The existing access to the airport operates as a left in (from Belfast) / left out (to Tillysburn), with a signalised right turn lane (from Tillysburn) which stops traffic progression on Sydenham Bypass eastbound when activated. Traffic to Belfast from BCA is via an underpass and merge onto Sydenham Bypass westbound. Westbound traffic flow on Sydenham Bypass is not impacted by the traffic signal controlled right turn lane.

6.1.14 Sydenham Bypass (westbound) provides access to the strategic road network of the M2 (northbound), A12 Westlink and M1 (west and southbound) as well as the local road network. Sydenham Bypass (eastbound) provides access to the Bangor and Holywood via the A2 and the A55 (outer ring road) as well as the local road network.

6.1.15 Based on the information presented above, it is considered that BCA is well served by pedestrian, cycling, public transport and the strategic and local road network.

Baseline Mode Share

6.1.16 The baseline mode share has been derived from the last CAA passenger surveys undertaken at Belfast City Airport in 2019 (the latest available CAA survey data).

6.1.17 The table below illustrates the mode share; patronage of public transport options was 6.2% in 2019. Since then, and in the absence of further CAA surveys, BCA has sought to understand how passenger mode share has changed. This understanding has been informed by passenger surveys in the terminal, as well as Airport Express patronage data and actual parking data. Indications are that the baseline public transport mode share is on an increasing upward trend.

Table 6.1 2024 Belfast Mode Share

Final Mode	CAA 2019 Mode Share (Final Mode)
Drop Off	31.7%
Taxi / Uber	26.0%
Private Car – Parked	22.7%
Rental Car	13.2%
Public Transport	6.2%
Other	0.2%

6.1.18 The airport is well served by all modes of transport. The CAA 2019 passenger data showed that the public transport (final) mode share was 6.2%, which is comparable to other airports in Northern Ireland but below the average of UK airports as a whole, and which does not meet current transport policy aspirations.

6.1.19 Of the 93.6% of trips made by car, nearly 60% of passengers were dropped off by a friend or family member (31.7%) or by taxi/Uber (26.0%), i.e. trips that do not have a final destination within the airport. The remaining 35.9% were made by private car – parked (22.7%) and rental car (13.2%). These trips have a final destination within the airport.

6.1.20 As indicated above, the airport express bus patronage has grown strongly, and by around 29% between 2023 and 2024. In 2024, a total of 94,682 passengers travelled to the airport on the Airport Express, accounting for 4.0% of all passengers. Many more passengers (164,201) travelled from the airport to Grand Central which suggests that there is potential for future patronage growth.

Baseline Traffic Data

6.1.21 Baseline traffic data has been informed by a number of sources of data as follows.

- Traffic Surveys on surrounding highway network between 28th & 29th November 2024 (MHC Traffic Limited).
- Data from internal loops (provided by BCA) – 28th November 2024.

6.1.22 The traffic data collected by MHC Traffic Limited indicate that the peak hour periods for the surrounding highway network are 0800 – 0900 and 1615 – 1715 hours.

6.1.23 The daily profile of arrival and departure vehicles at the airport, based on the data provided by BCA, is set out in Table 6.2 and Figure 6.4 below.

Table 6.2 Arrival / Departure Vehicle Profile – Belfast City Airport

28th November 2024 (BCA Dataset)			
Time	**Arrivals**	**Departures**	**Totals**
00:00	3	5	8
01:00	1	4	5
02:00	2	0	2
03:00	10	0	10
04:00	109	44	153
05:00	182	102	284
06:00	231	111	342
07:00	244	286	530
08:00	293	323	616
09:00	315	309	624
10:00	296	338	634
11:00	289	290	579
12:00	341	282	623
13:00	310	342	652
14:00	278	349	627
15:00	350	322	672
16:00	288	301	589
17:00	300	452	752
18:00	372	476	848
19:00	322	491	813
20:00	253	408	661
21:00	119	187	306
22:00	89	213	302
23:00	7	26	33

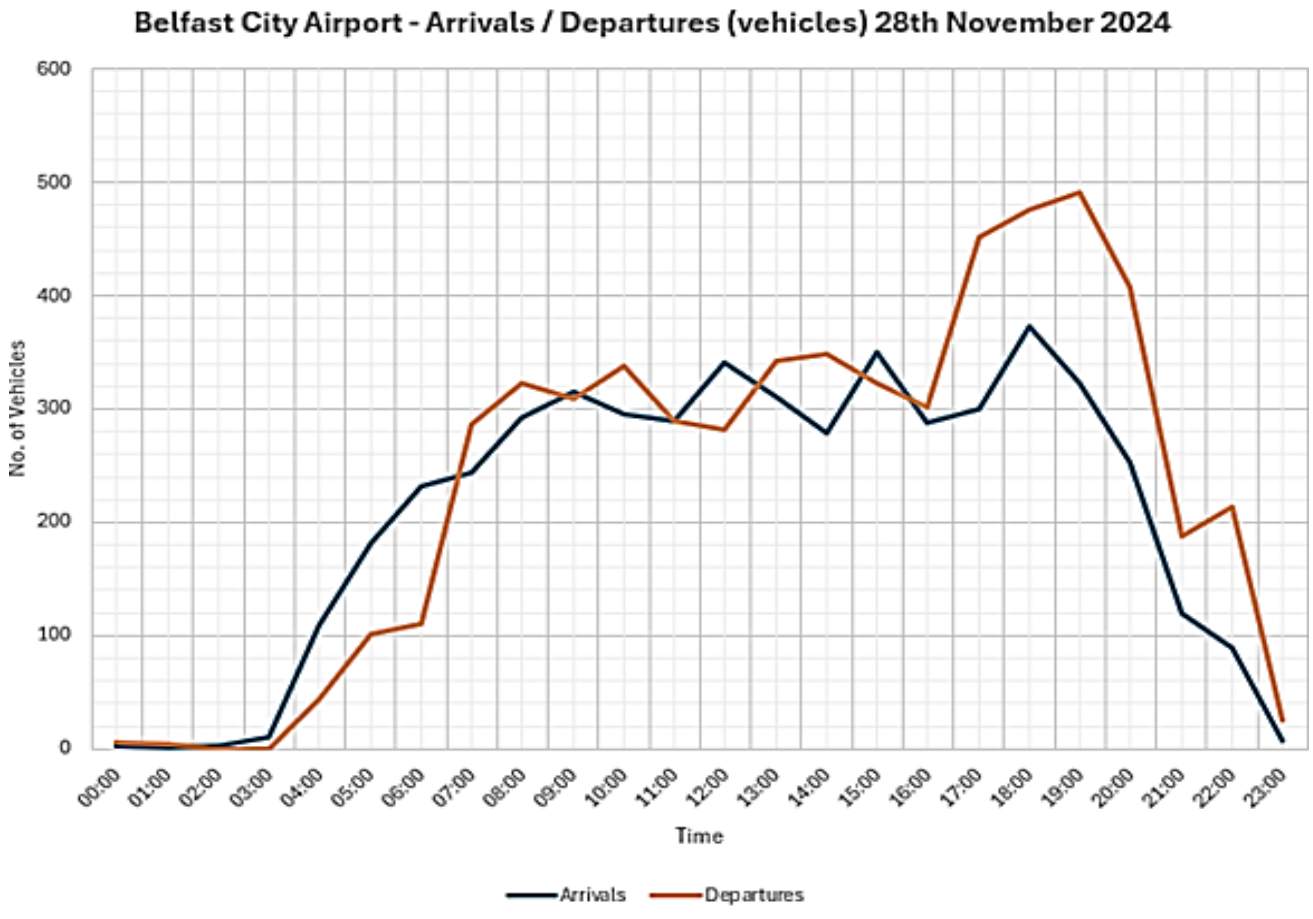


Figure 6.4 Arrival / Departure Profile - Belfast City Airport

6.1.24 As indicated in the image above, the existing peak hour for vehicle arrivals to BCA occurs at 1800 – 1900 hours and the peak hour for vehicle departures from BCA occurs at 1900 – 2000 hours, which is outside of the traditional commuter peak hour periods on the surrounding highway network (Sydenham Bypass).

Baseline Car Parking Provision

6.1.25 BCA currently accommodates 3,178 car parking spaces on site, as set out in Table 6.3 below. This also identifies the existing usage figures for each of the car parking areas. The usage figures are based on the assumption that the PUDO, Car Hire / Staff / Terminal (taxi & bus) spaces are fully occupied.

Table 6.3 Capacity and usage figures for parking at BCA

Car Park	2024 Capacity	2024 Usage
Staff	318	318
Passenger	2,191	1,337
Car Hire	576	576
PUDO	30	30
Taxi / bus	63	63
Total	3,178	2,324

6.1.26 Based on 2024 passenger car parking data, occupancy across all available car parking space is 73%.

Existing Initiatives at the Airport

6.1.27 The airport operates a courtesy shuttle bus (available on request) which provides connectivity from the Sydenham Rail Halt to BCA. A total of 28,000 people used this service between February 2024 and January 2025; the majority being passengers, as the staff travel surveys revealed that very few staff use the shuttle.

6.1.28 There are also two existing cycle parking shelters within the site – each providing 20 cycle parking spaces. However, currently there are limited shower and changing facilities provided for staff for operational reasons.

Policy Context

6.1.29 As described previously, the Belfast LDP Plan Strategy 2035 (adopted May 2023) stresses that Belfast City Airport provides a gateway to Britian, Europe and the rest of the world and will continue to act as an enabler of wider economic growth throughout the plan period.

6.1.30 There are a number of transport related policies within the LDP that need to be considered as part of any development proposals. These are described in detail in Section 3.4 of this report and so are not repeated in full here. They include:

Policy *TRAN 1* – Active Travel (Walking & Cycling);

Policy *TRAN 2* – Creating an accessible environment; and

Policy *TRAN 8* – Car parking and servicing arrangements

Belfast Agenda

6.1.31 The Belfast Agenda has set a target of a 15% increase in the use of sustainable transport by 2035. The draft BCA Master Plan proposition of reduced car parking provision relative to the number of passengers in the future, and the promotion of active / sustainable modes of travel to and from the airport, will assist with the delivery of this objective.

Belfast Resilience Strategy

6.1.32 The Belfast Resilience Assessment (published December 2020) makes a number of references to sustainable development, including the following:

"Belfast's future resilience is dependent on its transition to a low carbon economy. This will only be possible with a material shift in the balance of its travel choices away from cars and towards sustainable public transport, walking and cycling as advocated in the approach to future growth in the LDP".

6.1.33 The draft Master Plan supports the objectives of the Resilience Strategy through a proportionate reduction in car parking provision and the promotion of active and sustainable travel.

Planning for the Future of Transport – Time for Change

6.1.34 Planning for the Future of Transport – Time for Change[10], outlines the DfI priorities for the future of transport in Northern Ireland and how it can be supported by the improved planning, management and development of the transport networks over the next 10 to 15 years.

6.1.35 This document highlights that a modal shift requires a new focus on the movement of people and goods rather than on private vehicles. Therefore, for longer journeys in particular, there needs to be an increased focus on public transport options. New development proposals should prioritise sustainable transport using the following hierarchy:

- Firstly, providing for walking / wheeling,
- Then providing for cycling,
- Then providing for public transport,
- Then providing for taxis and shared transport and goods vehicles, and
- Finally providing for private cars and motorcycles.

6.1.36 Figure 6.5 below illustrates this hierarchy:

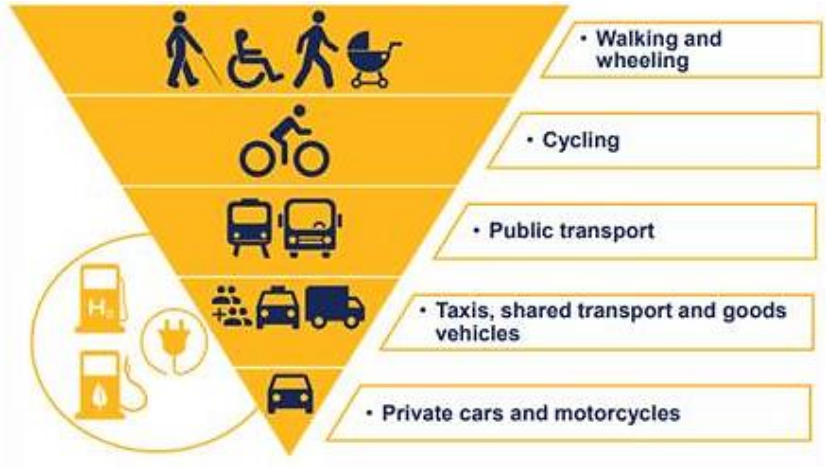


Figure 6.5 Time for Change Sustainable Transport Hierarchy

6.1.37 BCA supports the Sustainable Transport Hierarchy and has adopted a similar approach in developing its emerging Surface Access Strategy (2026 to 2030), as discussed below. It has built on this framework to prioritise cars which come to the airport and park in preference to cars which come to the airport and drop off passengers before leaving empty.

Draft Transport Strategy 2035

6.1.38 The draft Transport Strategy to 2035 sets out DfI's new vision and strategic priorities for Northern Irelands transport system through to 2035. It articulates the role of transport as a social, economic and

[10] Department for Infrastructure, Planning for the Future of Transport – Time for Change, June 2021

environmental enabler and establishes a set of transport priorities for the Department to deliver against. The Strategy aims to deliver a cleaner, smarter, and more inclusive transport network by 2035, with an emphasis on sustainability, innovation, and accessibility.

6.1.39 This document recognises that the aviation sector is inherently global in nature, making it one of the most challenging modes of transport to decarbonise. Alongside the UK Government who are leading in decarbonisation through the Jet Zero strategy, DfI commits to working with air operators and other public authorities, such as the Department for the Economy to ensure gateways such as BCA have the necessary support and legislative basis to sustainably grow its operations, meet climate change commitments and other regulatory requirements.

Potential effect of the Master Plan

6.1.40 The Master Plan will assist in delivering the objectives of the LDP and act as an enabler of wider economic growth throughout the plan period. The Master Plan will aim for a transformational shift towards sustainable transport, reducing reliance on private car travel to the airport, in particular drop-offs. This is in line with current and emerging strategies from BCC & DfI in relation to reduced private car-based travel.

6.1.41 BCA is preparing a Surface Access Strategy (SAS) that will be produced alongside the final version of the Master Plan, and which will have ability to take account of the feedback from the current draft Master Plan consultation process. The SAS will set out the vision for how passengers and staff will access the airport as it develops in accordance with the Master Plan and will explain how BCA will work with partners and stakeholders such as TransLink to achieve this vision. The SAS will initially establish targets to increase the proportion of passengers and staff accessing the airport by sustainable modes of travel by 2030. This will in turn set a benchmark upon which future, more ambitious targets can then be established through updating the SAS at least every 5 years (2030, 2035 & 2040) as the airport grows.

6.1.42 The SAS will focus on making surface transport more attractive, sustainable and efficient for passengers and staff alike. It will consider various measures that could be employed (by BCA and its partners) to increase passenger public transport mode share and to reduce staff single occupancy car journeys, as well as how passenger drop off & pick up car journeys can be actively discouraged over time.

6.1.43 The Master Plan includes for several commercial uses including a hotel, EV charging station with a shop and drive-through uses (fast food & coffee) which will assist in enhancing the passenger experience to / from BCA and provide key local facilities on an existing strategic route to / from Belfast.

6.1.44 The Master Plan will result in a significant increase in passenger and staff numbers over the lifetime of the plan. This will result in increased trips by all modes of transport; whilst it is predicted that there will be an increased volume of trips by non-car modes, car trips will still be highly utilised and remain the dominant mode of transport to / from BCA, in common with most other airports. The anticipated traffic impact upon Sydenham Bypass in 2040 is predicted to be less than 10% based on the assumptions considered within the analysis. The Guidelines for Traffic Impact Assessments (Chartered Institution of Highways and Transportation (CIHT)) would indicate that traffic flow on roads can vary by 10% on a day-to-day basis. As such, the predicted impact is within the standard variation of daily traffic volumes.

6.1.45 Any future additional parking would be capped to achieve a reduction in the overall number of spaces available per passenger. This will directly limit supply and encourage modal shift to achieve future aspirations.

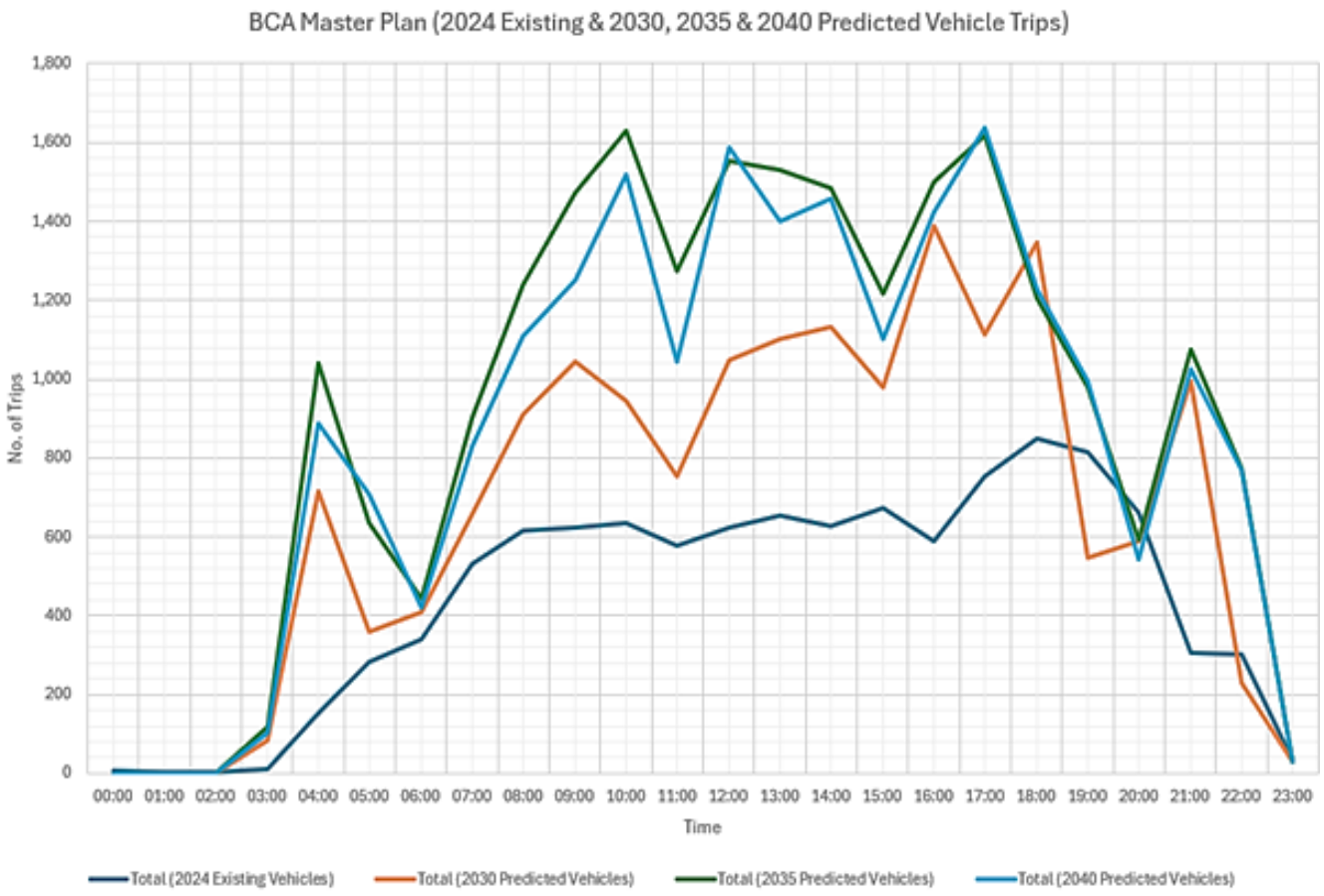


Figure 6.6 2024 Existing and 2030, 2035 and 2040 predicated vehicle trips

6.1.46 The increased volume of non-car mode trips will require an increased frequency of public transport services providing connectivity to / from Grand Central Station, which provides further connectivity to destinations throughout NI and the RoI.

Future Benefits of the Master Plan

6.1.47 The Master Plan will assist in delivering the objectives of the Belfast City Local Development Plan (2035 LDP) in that it will continue to act as an enabler of wider economic growth throughout the plan period and help promote sustainable transport options for accessing the airport.

6.1.48 The Master Plan will provide a strategic framework for the long-term sustainable development of the airport, ensuring appropriate surface access enhancement measures (both road infrastructure and green measures including walking, cycling and public transport) are delivered in a timely manner and ensure that modal split ambitions set out in the 2026-2030 SAS (and its subsequent revisions) can be achieved.

6.1.49 The publication of the draft Master Plan facilitates a wide-ranging stakeholder engagement process by providing information in relation to BCA's future growth aspirations. For surface access (i.e. all modes of surface traffic and transport) this will include Belfast City Council, DfI Roads, Translink and other transport forums/ stakeholders, and will ensure that all key issues are considered and that an agreed strategy is identified going forward. In particular, the airport and Translink will continue to work jointly to strengthen public transport links to Belfast City Airport. This includes short term improvements to bus and walking connections between the airport and Sydenham Halt, as well as continued investment in the Translink bus services to and from the city centre.

6.1.50 The Master Plan will incorporate a number of further improvements aimed at providing improved connectivity to and from BCA by all modes of transport. In particular, the existing public transport frequency

and service times (between Grand Central and BCA and vice versa) will be increased as the Master Plan progresses, and passenger numbers increase.

6.1.51 This Master Plan vision provides a significant opportunity in the longer term to 2040 to deliver a more fundamental modal shift to rail to complement the airport's efforts to increase the numbers of passengers and staff using public transport to and from the airport.

6.1.52 Realisation of the transformational rail halt directly connected into the newly extended terminal buildings could reshape passenger journeys to and from the airport with direct access to the city centre via Grand Central Station. This could equate to over 6,000 journeys a day by 2040 if Belfast City Airport grows to 7mppa. That figure could further increase when the direct connections across Northern Ireland and Republic of Ireland, which are facilitated by bus and rail through Grand Central Station, are considered.

6.1.53 The potential to further explore a new rail halt directly connected to the newly extended terminal buildings is underway with Translink. The two organisations have partnered to complete and publish a study that confirms a new halt directly serving the airport is feasible and the preferred approach following the completion of feasibility testing a number of options. The next stage for this pioneering public private initiative is to further explore the business case and outline design. This partnership is a 'statement of intent' and an indication of how the airport is willing to work with the public sector and contribute towards building a more sustainable future and improved experience for its staff and passengers.

6.1.54 Apart from this, both organisations will also work closely to ensure enhanced public transport provision in the form of increased frequency of bus services to accommodate the increased demand in the early stages of the Master Plan.

Preliminary Traffic Assessment

6.1.55 Irrespective of the potential modal shift towards rail and other public transport use by passengers and staff, preliminary transport modelling by BCA's transport consultants (RPS) has quantified the likely impact of additional vehicular traffic on the surrounding highways network from the predicted increase in passengers to 7mppa by 2040. This modelling indicates that there will be no significant adverse impact (<10%) on the capacity of the wider road network. However, in order to ensure the smooth passage of vehicles into and out of the airport, road infrastructure enhancements to existing accesses from the A2 Sydenham Bypass are being considered. Subject to further investigation with DFI, these could include:

- A new entry slip lane from the Sydenham Bypass for northbound traffic, providing more direct access to the airport and reducing congestion on the surrounding network.
- Further examining the feasibility of altering the existing airport entrance to provide a dual right-hand turn lane for southbound traffic (vehicles travelling from Bangor) to improve capacity and avoid delays during peak periods.

6.1.56 These enhancements could improve overall traffic flow, reduce journey times, and support better integration with the wider transport network while complementing efforts to increase the use of sustainable transport modes.

6.1.57 The infrastructure proposals also allow for a wide range of commercial uses to be provided at BCA in the form of hotel, EV charging station, shop and drive-thru opportunities which will provide additional facilities; not only for users of BCA but also passing traffic on the Sydenham Bypass. The hotel in particular will offer an opportunity for travellers to be based at BCA and make use of the existing and proposed public transport links.

Overall Conclusions with regards to Surface Access

6.1.58 The preliminary analysis of the effects of the growth of the airport, in accordance with the draft Master Plan, on all modes of transport, indicates that there will not be any significant adverse impacts on the

surrounding highways network or other existing transport infrastructure which cannot be mitigated through localised enhancements. Moreover, the Master Plan presents a strong opportunity to develop and promote sustainable surface access options, for the benefit of both passengers and staff alike.

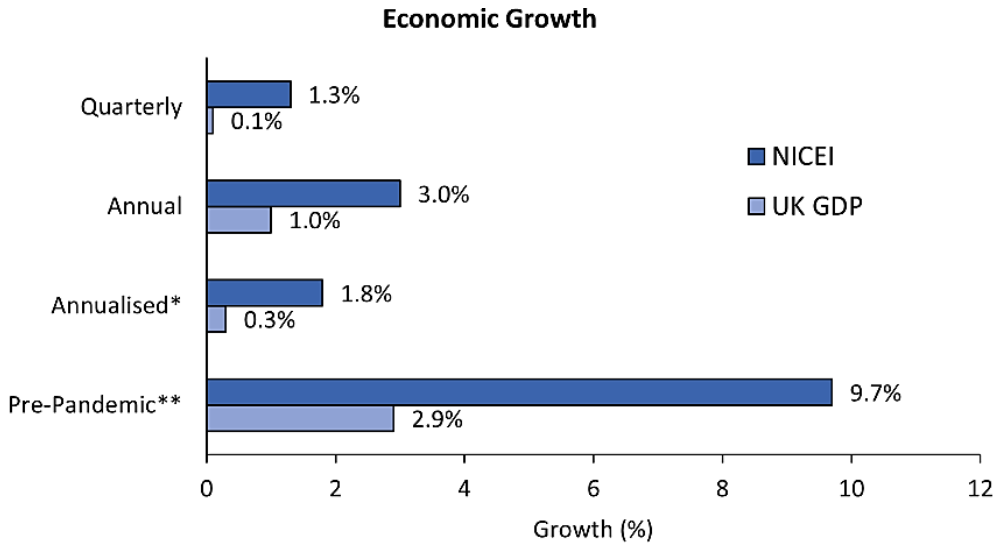
6.2 Socio-Economics

Baseline context

6.2.1 Northern Ireland (NI) had a population of 1.9 million in 2022, of which 348,000 were resident in Belfast and 947,000 in the wider Belfast City Region, i.e. some 50% of the total population of NI. The concentration of population and passenger demand around Belfast indicates the importance of the connectivity provided by the two Belfast airports (BCA & BFS) and the important role that BCA plays in supporting economic activity in Belfast due to its proximity to the city centre.

Productivity

6.2.2 Although the NI economy has been growing more rapidly than the rest of the UK since the Covid-19 pandemic, its performance is below that of the RoI, which grew by over 30% over the same period[11]. The relative performance of the NI economy and that of the UK is illustrated in Figure 6.7, which shows that economic performance still lags behind the UK as a whole[12] in several critical respects.



*The annualised rate compares four consecutive quarters with the preceding four quarters, making it less prone to short-term volatility than the annual rate.
**Growth since the onset of the Covid-19 Pandemic (Q3 2024 vs. Q4 2019).

Figure 6.7 Comparative economic growth NI and the UK as a whole

Source: Department for the Economy

6.2.3 Based on the most recent comparative data for UK countries and regions[13] from 2022, GDP[14] per head, NI lags that of the UK as a whole - at £29,674 compared to £36,844 for the UK. However, based on the Northern Ireland Composite Economic Index (NICEI), which is a quarterly measure of NI economic performance, it does outperform some UK regions and countries, including Wales, the East Midlands and the North East.

[11] World Bank
[12] DfE Monthly Economic Update January 2025.
[13] Office for National Statistics, Gross domestic product by UK country and region, April 2024.
[14] GDP is a measure of all goods and services produced

6.2.4 Within NI, Belfast outperforms the remainder of the country in terms of Gross Value Added (GVA)[15] per head at £46,513[16] compared to equivalent data for NI at £26,119, with the UK as a whole at £33,227 (all in 2022 current prices). In practice, GVA per head in Belfast is higher than some other UK cities such as Bristol or Leeds. This performance is also reflected in GVA per job, with Belfast performing broadly in line with the UK as a whole, whilst the average across NI is around 10% lower.

6.2.5 Notwithstanding the relative economic performance of Belfast compared with other parts of the country, there remains a need to improve economic performance to maintain NI's competitiveness with the ROI and to drive improvement across other areas of the country. This requires improved connectivity and some rebalancing of the air connectivity between that provided by Dublin Airport and that provided by the airports in NI.

Labour Market

6.2.6 Although the unemployment rate in NI is below the UK average[17] as well as that in the Republic of Ireland, it is notable that the Employment Rate is lower than that of the UK or the Republic as a consequence of a much higher inactivity rate, as show in Table 6.4. This is an indicator of some of the economic challenges facing Northern Ireland.

Table 6.4 Comparative Unemployment and Employment Rates

Indicator	NI	UK	IE	Euro Area
Unemployment Rate (16+)	1.5	4.4	4.3	6.2
Employment Rate (16-64)	72.2	75.0	74.2	70.6
Inactivity Rate (16-64)	26.6	21.5	22.4	24.7

Source: Department for the Economy

6.2.7 Despite unemployment rates being relatively low, NI has the highest proportion of employee jobs that earn below the real living wage by UK nation or region, which was around 20.5% in 2024 vs UK average of 15.7%[18]. Although this is significantly lower than in 2014, where the proportion was around 27.9%, the gap over and above the UK average has been consistent, measuring around 5% over the UK average.[19]

6.2.8 In part, this reflects a skills gap, with relatively lower levels of skills in NI compared to the UK as a whole, as shown in Table 6.5.

Table 6.5 Proportion of population aged 16-64 with a Regulated Qualification Framework (RQF) 1+, 2+, 3+, 4+ in 2023

	Northern Ireland	UK
% with RQF4+ - aged 16-64	39.7%	47.1%
% with RQF3+ - aged 16-64	62.7%	67.7%
% with RQF2+ - aged 16-64	82.7%	86.4%
% with RQF1+ - aged 16-64	84.2%	88.8%

Source: NOMIS

6.2.9 Notably, when it comes to the proportion of population with both Level 2 and Level 3 qualifications and above, Belfast has the lowest proportion of people with qualifications across the NI districts, lagging behind the national average, as show in Table 6.6.

[15] GVA measures the value added in terms of goods and services and is often used as a proxy for GDP.
[16] ONS Regional gross value added (balanced) per head and income components
[17] DfE Monthly Economic Update March 2025
[18] NISRA Employee earnings in NI 2024
[19] Proportion of employee jobs with hourly earnings (excluding overtime and shift premium pay) less than the living wage, UK, April 2014 to 2024

Table 6.6 Proportion of population aged 16-64 with Level 2 or more and Level 3 or more qualifications in Belfast and Northern Ireland[20]

	Belfast	Northern Ireland
Level 3 & above	55.8%	59.2%
Level 2 & above	73.3%	78.1%

Source: NISRA

Economic Makeup

6.2.10 Compared with the UK, NI has a greater share of economic activity in production and construction in its broad industry mix, with a special focus in food manufacturing. There are a few agribusiness clusters outside Belfast, whilst some R&D collaborating clusters surround the city.

6.2.11 Belfast on the other hand, has a significant services industry, with financial services and insurance being the single biggest service group by GVA, accounting for roughly 12% of the City's GVA. This creates a greater need for air connectivity as the services sector has a higher dependence on international connectivity than other sectors of the economy.

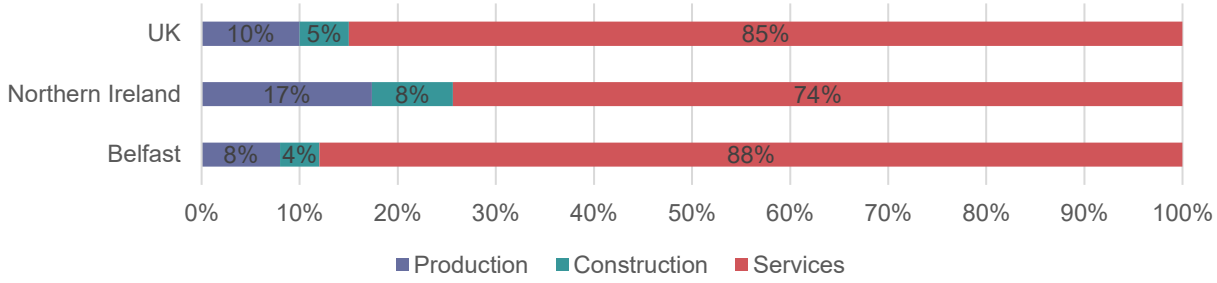


Figure 6.8 GVA breakdown by broad industries (2022)

Source: York Aviation Analysis of ONS Subnational Data

6.2.12 It is also evident that recent growth is being fuelled by services related growth, alongside construction related activities. This is shown in Figure 6.9 below, compared to the overall index of economic activity in NI (NICEI).

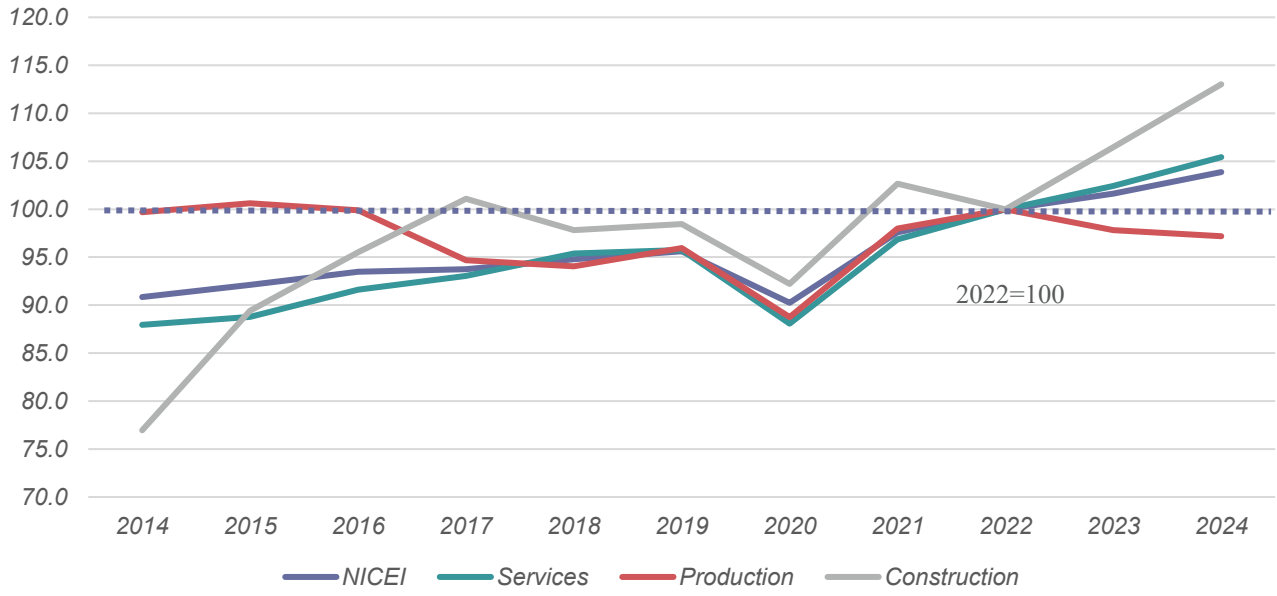


Figure 6.9 Northern Ireland Composite Economic Index: Measure of Economic Activity by Industry (NICEI)

[20] NISRA Northern Ireland Labour Market Insight Qualifications and Skills November 2024

Source: NISRA

Foreign Direct Investment (FDI)

6.2.13 In 2024[21], there were around 1,500 foreign owned businesses operating in Northern Ireland, employing around 116,00 people in the region. When taking into account the overall workforce of 806,000 in September 2024, this represents close to 15% of Northern Ireland's total PAYE employees, which is significant. Firms from the United States of America (USA) alone account for around 27.5% of employment in foreign owned businesses, making USA the single biggest investor nation.

6.2.14 In more recent years, NI has been recognised as the number one international investment location for US cyber security firms[22] and has attracted significant investments in the Financial & Technology (FinTech) and Advanced Manufacturing sectors[23]. This has led to further clustering, whereby Northern Ireland now has the highest concentration of FinTech employment in the UK - 1 in 5 people working in the financial and tech sectors in Northern Ireland[24].

6.2.15 FDI is of significant importance to Northern Ireland as it has been identified that over 70% new investors choose to continue investing in the region[25].

6.2.16 Given the more limited international direct connectivity currently, the hub connections provided by BCA are vital to supporting FDI activity.

Trade

6.2.17 For several years, the USA has been the single biggest international export market for NI, accounting for around 28% of all international exports (excluding RoI) at £1.9 billion in 2023[26]. Exports to the rest of the EU are also significant. As a region, the rest of the EU accounted for around 38% of all international exports (excluding RoI) at £2.6 billion in 2023. It is worth noting that NI still enjoys dual market access when it comes to trading with the EU or as part of the EU and trading as part of the UK economy. However, to date, exports have been stronger from the more traditional strengths of the NI economy in terms of manufacture of food products, manufacture of transport, machinery, computer, electronics and electrical equipment, with a lower propensity to export from the services sector.

6.2.18 NI export concentration is still lower than UK average, with exports only accounting for around 26% of NI's GDP vs UK average of 29%[27]; this is one significant factor that can certainly help address the productivity gap. The Productivity Institute have cited the positive correlation between exporting intensity and productivity:

"Firms that export have higher productivity. This can be due to higher productivity firms being more able to export, but it can also be due to firms learning from exporting and becoming more innovative. Increasing the export intensity of firms in Northern Ireland has been identified as important given the strong, positive link between exporting, innovation, and productivity."[28]

6.2.19 A well-connected BCA will be able to assist this change, contributing to a smaller gap. It is likely that air connectivity will become more important as the services sector, which is faster growing than the more traditional industries, seeks to expand its export activity. Generally, the services sector makes more intensive use of air services than traditional manufacturing industry, indicating that improved air services are likely to be key to driving growth and productivity.

[21] NISRA IDBR Northern Ireland Business; Activity, Size, Location and Ownership, March 2024
[22] UK Government Investment opportunity RegTech in Northern Ireland
[23] UK Parliament Investment in Northern Ireland First Report of Session 2022–23
[24] Ibid
[25] Belfast City Council Belfast Facts and figures 2022
[26] NISRA NIETS: Trade by REU and ROW Country 2023
[27] The Productivity Institute NI Productivity 2040: Addressing Northern Ireland's productivity gap for greater prosperity January 2025
[28] Ibid

Tourism

6.2.20 Tourism is a major contributor to the NI economy. A significant proportion of NI's tourism markets are domestic - GB market and RoI, due to the shared borders (together accounting for around 80% of tourism expenditure and 84% inbound trips), which highlights the importance of the domestic air connectivity that BCA already provides. This connectivity was fundamental during the pandemic, given the rise in domestic tourism and the shifting patterns towards more cost-effective destinations in the UK. As a result, NI was the first region in the UK to achieve near full recovery in tourism spend compared to its 2019 levels, whilst other regions were still lagging.

6.2.21 The Northern Ireland Statistics and Research Agency (NISRA) published NI's first ever tourism satellite account, which outlined that the tourism sector in Northern Ireland alone (Tourism Direct GVA (TDGVA)), accounted for around £0.9 billion in GVA, or 2.1% of its entire GVA.

6.2.22 Outside the UK and the RoI, it is the USA, again, that is the single biggest inbound tourist nation of origin, accounting for around 4% of all inbound trips and 6% of inbound expenditure in 2023. Mainland Europe (excluding RoI) accounted for roughly 7% of all inbound trips 8% of all inbound expenditure[29]. These markets are significant as it was found that both Europeans and Long Haul tourists tend to stay longer in Northern Ireland and thus have a greater spend per trip in comparison to GB and the RoI, which translates to greater economic activity.

6.2.23 Currently, NI benefits from significant marketing from Tourism Ireland, which sells the Northern Ireland tourism product as part of visiting and experiencing the Island of Ireland, bringing in more inbound tourists that fly into Dublin Airport to later visit Northern Ireland as part of its tour. However, spending is lower than if more tourists could be encouraged to fly direct to NI. Improving direct air connectivity would contribute to developing the tourism sector.

Deprivation

6.2.24 Figure 6.10 shows a map of the Index of Multiple Deprivation[30] in Northern Ireland by Super Output Areas (SOAs), as of 2017[31].

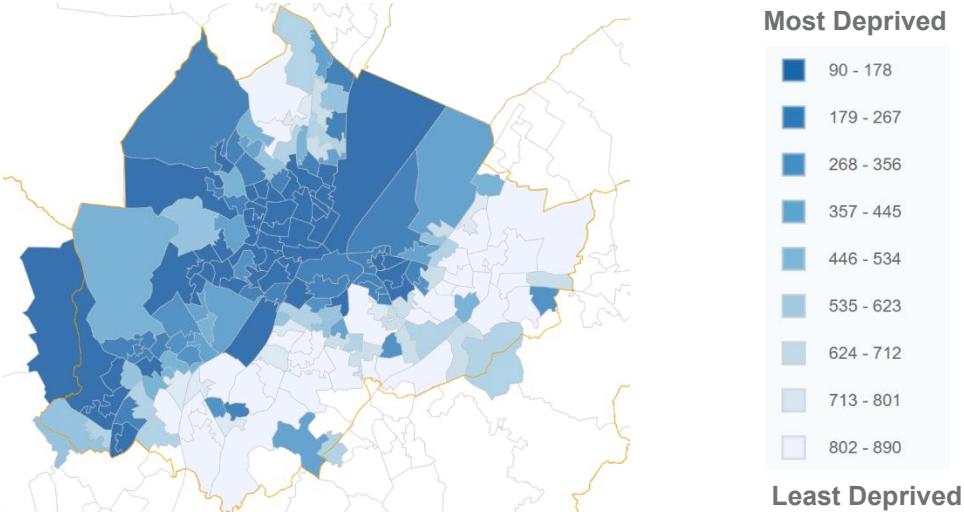


Figure 6.10 Deprivation in Belfast by SOA 2017

Source: NISRA

[29] NISRA Tourism Northern Ireland 2023 Northern Ireland Tourism Performance
[30] NISRA Northern Ireland Multiple Deprivation Measure 2017 November 2017

[31] NISRA Research Paper Multiple Deprivation in Northern Ireland June 2018. There are 890 SOAs in Northern Ireland and are ranked based on colours, with red being the most deprived and blue being the least.

6.2.25 Within Belfast, a high proportion of the SOAs are in the top 20% most deprived areas. This includes part of Sydenham in close proximity to the airport. A factor in deprivation is a deficit in education, training & skills across Belfast, with 38.1% of working age adults (aged 25-64) with no or low qualifications compared to 35.6% in NI as a whole. This is where the creation of employment and initiatives taken by the airport to improve the skills of its workforce can make a material contribution to reducing deprivation locally.

Existing initiatives at the Airport

6.2.26 BCA supports local employment and contributes to diversity in the local labour market by helping local people find a route back to employment and by creating new career paths. It engages with and supports neighbouring communities in several ways; including through the Community Fund, education, employment and skills development initiatives. The 4 'People' pillars of BCA's Sustainability Strategy are:

- Cultivating a diverse & inclusive workforce;
- Attracting, developing and retaining diverse talent;
- Engaging our employees; and
- Promoting health, safety and wellbeing

6.2.27 As previously described in Section 2 of this PER and as set out further in the draft Master Plan, BCA supports local employment through a variety of initiatives, including the following:

- IGNITE Youth Leadership Programme
- Adopted Schools Programme
- Partnership with Business in the Community and its Work Experience Charter Programme.
- High Flyers Apprenticeship Scheme

6.2.28 The airport launched its Community Fund in 2009 and have awarded over £700,000 to more than 210 local charities and community initiatives. The Community Fund is aimed at nurturing community wellbeing, enhancing environmental sustainability and empowering the people of Greater Belfast and North Down. The Fund has helped schools, sports teams, community centres, choirs, educational campaigns and event programmes to thrive.

Potential effect of the Master Plan

Baseline Impacts

6.2.29 Table 6.7 shows the current estimated economic footprint of BCA in terms of GVA and employment in Belfast and Northern Ireland at present.

6.2.30 In overall terms, when the benefits of air connectivity are included, within the City of Belfast, it is estimated that the airport supports around £450 million in GVA and around 6,420 jobs. The majority of this impact is the business productivity effect, which accounts for around £255 million in GVA and 3,520 jobs, reflecting the vital role of the airport as connector for business travel and its close proximity to Belfast City Centre as a key location for business activity. The operational impacts are also significant. Direct, indirect and induced impacts account for around £195 million in GVA and 2,250 jobs, of which 1,120 are direct on-site jobs at the airport.

6.2.31 Across Northern Ireland as a whole, Belfast City Airport contributes nearly £800 million in GVA and supports around 12,050 jobs. It is the wider impact of the airport, again, that makes up the largest of the impacts accounting for around £580 million in GVA and 9,420 jobs. Business productivity impacts account for around £520 million in GVA and around 8,200 jobs, with tourism adding a further £60 million in GVA and 1,230 jobs. The airport's operational impacts in Northern Ireland as a whole, are £220 million in GVA and supporting around 2,630 jobs, reflecting the additional supply chain expenditure and induced impacts captured in the wider area.

Table 6.7 Economic Impact of Belfast City Airport in Belfast and Northern Ireland 2024 (in 2025 prices)

Study Area	Belfast		Northern Ireland	
Impact Type	**GVA (£m)**	**Jobs**	**GVA (£m)**	**Jobs**
Direct	£120	1,120	£120	1,120
Indirect & Induced	£75	1,130	£100	1,510
Operational Impacts	**£195**	**2,250**	**£220**	**2,630**
Business Productivity	£225	3,520	£520	8,190
Inbound Tourism	£30	650	£60	1,230
Wider Impacts	**£255**	**4,170**	**£580**	**9,420**
Total Impacts	**£450**	**6,420**	**£800**	**12,050**

Source: York Aviation

6.2.32 With growth to 7mppa, BCA will support more economic activity through both its operations and through the additional connectivity it will provide to the NI economy.

6.2.33 In terms of the operational impacts of the airport:

- Within Belfast, the airport is expected to support 3,200 operational jobs and £305 million in GVA by 2030, growing to 5,150 operational jobs and £575 million in GVA by 2040 (see Table 6.8). In 2040, this represents an increase of 2,900 jobs and £380 million in GVA compared to the current baseline.
- Within NI, the airport is expected to support 3,720 operational jobs and £340 million in GVA by 2030, growing to 6,020 operational jobs and £640 million in GVA by 2040 (see Table 6.9). In 2040, this represents an increase of 3,390 jobs and £420 million in GVA compared to the current baseline.

6.2.34 The airport's impact on the wider economy will also increase markedly through improvements to business productivity driven by improved air connectivity and the ability to attract more tourists and more tourism spending to NI by reducing the dependence on air services from Dublin for visitors to NI:

- Within Belfast, the airport is expected to support 6,090 wider impact jobs and £375 million in GVA by 2030, growing to 10,250 wider impact jobs and £630 million in GVA by 2040 (see Table 6.8). In 2040, this represents an increase of 6,080 jobs and £375 million in GVA compared to the current baseline.
- Within NI, the airport is expected to support 12,230 wider impact jobs and £755 million in GVA by 2030, growing to 17,330 wider impact jobs and £1,055 million in GVA by 2040. In 2040, this represents an increase of 13,160 jobs and £475 million in GVA compared to the current baseline.

6.2.35 In total, by 2040, the airport will support 15,400 jobs and £1,250 million in GVA in Belfast and 23,350 jobs and £1,695 million in GVA across NI as a whole. This represents an increase of 8,980 jobs and £800 million in GVA in Belfast compared to the current baseline and 11,300 jobs and £895 million in NI.

Table 6.8 Future Economic Impact of Belfast City Airport in Belfast

	2030 (3.7m passenger (pax)		**2035 (6.3m pax)**		**2040 (7.0m pax)**	
Impact Type	**GVA (£m)**	**Jobs**	**GVA (£m)**	**Jobs**	**GVA (£m)**	**Jobs**
Direct	£190	1,490	£320	2,100	£355	2,260
Indirect & Induced	£115	1,710	£195	2,730	£220	2,890
Operational Impacts	**£305**	**3,200**	**£515**	**4,830**	**£575**	**5,150**
Business Productivity	£330	5,140	£495	7,780	£555	8,650
Inbound Tourism	£45	950	£60	1,440	£75	1,600
Wider Impacts	**£375**	**6,090**	**£555**	**9,220**	**£630**	**10,250**
Total Impacts	**£680**	**9,290**	**£1,070**	**14,050**	**£1,205**	**15,400**

Source: York Aviation

Table 6.9 Future Economic Impact of Belfast City Airport in Northern Ireland

	2030		2035		2040	
Impact Type	**GVA (£m)**	**Jobs**	**GVA (£m)**	**Jobs**	**GVA (£m)**	**Jobs**
Direct	£190	1,490	£320	2,100	£355	2,260
Indirect & Induced	£150	2,230	£255	3,550	£285	3,760
Operational Impacts	**£340**	**3,720**	**£575**	**5,650**	**£640**	**6,020**
Business Productivity	665	10,430	825	£12,990	910	14,310
Inbound Tourism	90	1,800	135	£2,720	145	3,020
Wider Impacts	**755**	**12,230**	**960**	**£15,710**	**1,055**	**17,330**
Total Impacts	**1,095**	**15,950**	**1,535**	**£21,360**	**1,695**	**23,350**

Source: York Aviation

Future benefits of the Master Plan

6.2.36 Investing in airport infrastructure is a high-impact lever for driving regional growth, productivity, and international competitiveness. The proposals detailed in the draft Master Plan have the potential to deliver transformational economic benefits, not only within the immediate vicinity of the airport and Belfast but across Northern Ireland.

6.2.37 By aligning infrastructure development with future demand, technological innovation, and environmental objectives, the Master Plan can drive investment, support high-value employment, enhance trade and tourism, and improve accessibility for businesses and communities alike.

6.2.38 BCA will continue to develop its initiatives within the local community and ensure it supports local employment as it grows. Through its initiatives to develop the skills in the local labour market, it will contribute to upskill the workforce more generally.

6.2.39 As part of the Master Plan, BCA will target investment to offer new opportunities for bespoke pathways to training and employment - especially for young people and the long-term unemployed. In particular, BCA intends to create of an employment academy working collaboratively with key supply chain partners and educational organisations to create meaningful training and employment opportunities (15% of all new jobs created will be apprenticeships).

6.2.40 BCA will also increase funding to over £1 million within the next three years to enable it to support a greater number of local schools, charities, and community projects, particularly those focused on education, environmental sustainability, wellbeing, and youth development. BCA's Community Fund will continue to grow towards 2040 in order to realise the aspirations for growth and investment set out within the masterplan.

6.2.41 Growth at the airport will deliver a greater range and frequency of air services, as explained in Section 5 of this PER, to support the NI economy, including enhancing connectivity to the key economic driver that is Belfast.

6.2.42 Overall, growth at BCA will deliver strong benefits locally, including in areas of Belfast that suffer from deprivation as well as leveraging wider connectivity benefits to drive growth in productivity, FDI, trade and tourism.

Overall Conclusions with regards to Socio-Economics

6.2.43 The growth of the airport in accordance with the aspirations set out in the draft Master Plan will lead to significant socio-economic effects on the local, regional and wider NI economy and population. These effects

will be overwhelmingly beneficial and would be consistent with all relevant socio-economic policy including Northern Ireland's Programme for Government (PfG) 2024 – 2027.

6.3 Noise

Introduction

6.3.1 This section considers the potential effects of the Master Plan with respect to air noise, ground noise, surface access noise and construction noise and vibration.

6.3.2 **Air noise** is that generated by airborne aircraft, including take-off and landing. This is the main source of noise exposure from airport operations at any airport.

6.3.3 **Ground noise** is that generated by airport activities on the ground. This includes non-airborne aircraft taxiing and running engines or auxiliary power units (APUs) on the airfield and the use of operational infrastructure such as ground support vehicles and equipment. This does not include aircraft take-off or landing.

6.3.4 **Surface access noise** is that generated by the ground transportation systems which provide access to and from the airport. In the case of BCA, access is primarily gained by road, with passenger traffic split between both private transportation and public transportation.

6.3.5 BCA has for many years operated under a comprehensive noise management framework which has sought to balance the operational needs of the airport with the interests of the community. This includes proactive action taken under the Airport's Noise Action Plan, compliance with operational controls imposed by local planning agreements and engagement with the community. The Noise Action Plan is updated every five years. As described in Section 3 of this PER, BCA reports noise performance annually.

Baseline context

Local Soundscape

6.3.6 The immediate surroundings of BCA are dominated by commercial and industrial land use, see Figure 6.11 In this context, BCA is part of a wider city soundscape of aviation, road, rail and industrial noise.

Figure 6.11 Airport Location

6.3.7 To the west of the airport are the city docks which contain a variety of industrial operations including manufacturing and distribution. As such, the immediate area is not sensitive to noise from the airport, being a source of noise itself from some of the industrial processes and associated freight traffic.

6.3.8 To the north of the airport, there is a sewage works and the former Kinnegar Army Barracks. Beyond these is part of the Holywood residential neighbourhood and then Belfast Lough. The majority of the Holywood residential neighbourhood is to the north-east of the airport. Aside from general activity in the

residential areas, a key source of existing noise is traffic on the busy A2 Holywood Bypass which runs through the area.

6.3.9 To the east of the airport, along much of perimeter, are large retail developments including the Holywood Exchange Retail Park. These are of low sensitivity to noise, and while generating some noise principally due to road traffic to and from them, also provide screening to some airport activities. The Sydenham rail line and A2 Sydenham Bypass also run to the east of the airport. This section of the A2 is one of the busiest roads in the area and so is a significant source of noise. Residential properties to the east of the airport are generally set back with less sensitive uses, such as retail and sports clubs, between them and the airport.

6.3.10 To the south of the airport are Victoria Park and a number of residential areas, the closest being Sydenham and Ballymacarrett. The busy A2 Sydenham Bypass runs between the airport and these communities.

BCA Air Noise

6.3.11 Air noise is typically greatest close to the aircraft arrival and departure routes. Arrivals follow a straight route on final approach. Those from the north, which are the majority, are therefore over Belfast Lough for much of their approach before overflying the western part of Holywood. Arrivals from the south overfly residential areas in Belfast including Ballymacarrett and then Victoria Park before reaching the airport. Departures overfly the same areas close to the airport, although those heading north conduct an early left turn which gets them over Belfast Lough sooner and so increases their separation from residential receptors.

6.3.12 The established and proven measure of community response to air noise is the equivalent continuous noise level, the L_{Aeq}. The L_{Aeq} is the measure used in the current BCA Planning Agreement and in UK aviation noise policy.

6.3.13 Exposure to air noise is typically illustrated using noise contours, which graphically connect locations with the same noise exposure. In the UK, noise contours are generally produced for the 92-day summer period (16th June to 15th September inclusive). This is normally a busy period at airports, and it is a period where people are more likely to have their windows open and be outdoors and therefore be more sensitive to external noise. The 92-day summer period is generally considered to represent a worst-case. Summer noise levels are usually given as averages over the 16-hour daytime period 07:00 – 23:00 (denoted $L_{Aeq,16h}$) or 8-hour night-time period 23:00 – 07:00 (denoted $L_{Aeq,8h}$).

6.3.14 The BCA current summer day noise contours, based on activity in 2024, are shown in Figure 6.12 from 54 dB to 69 dB in 3 dB steps. Details about the contours are summarised in Table 6.10 in terms of dwellings, population and contour area.

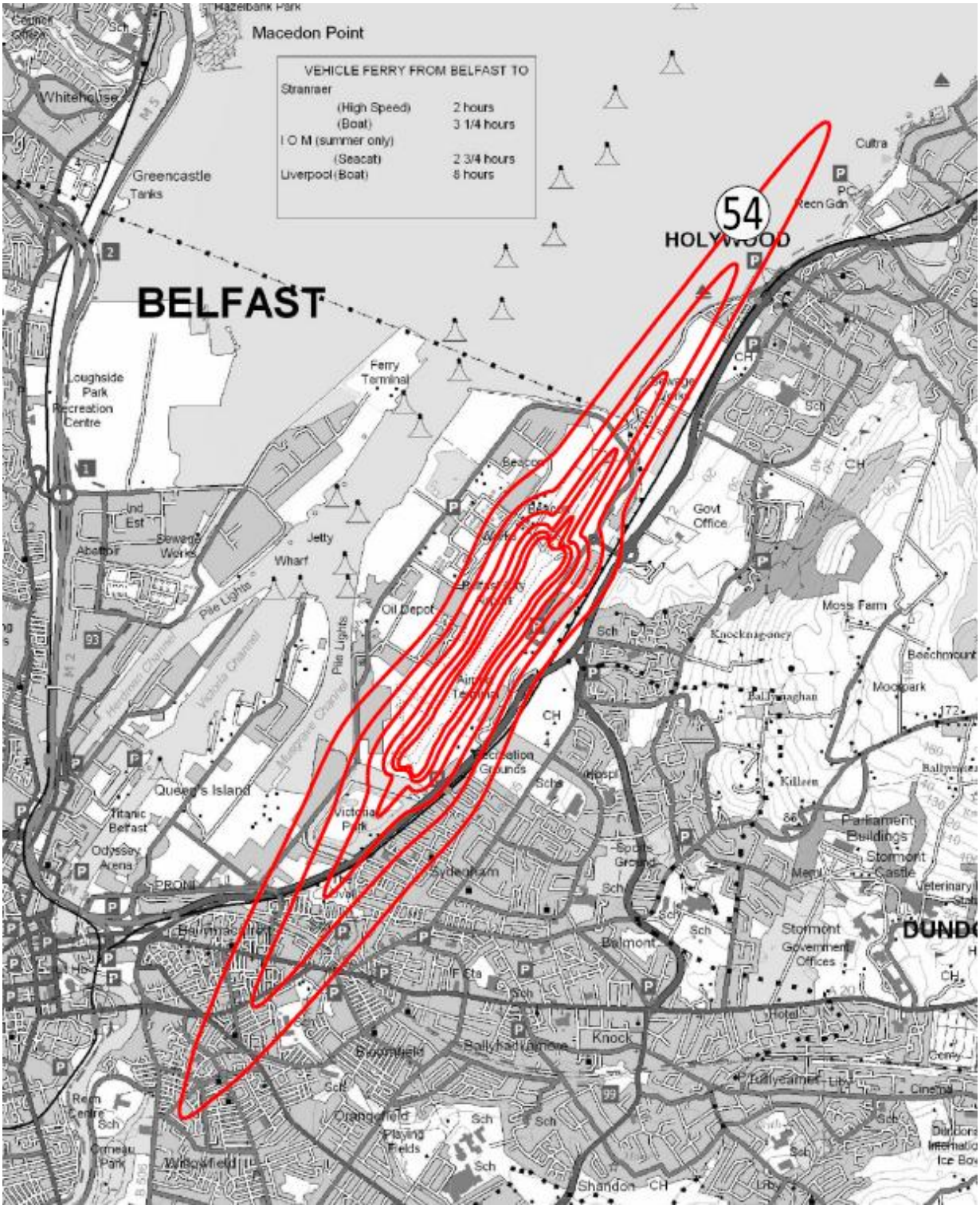


Figure 6.12 2024 summer day air noise contours

Table 6.10 Summary of 2024 summer day air noise contours. Counts and areas are cumulative.

Noise Level (dB $L_{Aeq,16h}$)	Dwellings (Count)	Population (Count)	Contour Area (km^2)
54	5,540	11,835	5.86
57	1,455	3,252	3.09
60	0	0	1.60
63	0	0	0.89
66	0	0	0.51
69	0	0	0.31

6.3.15 Several of these noise contours are of note, as summarised in Table 6.11 below.

Table 6.11 Summary of summer noise contour level benchmarks

Noise Level (dB $L_{Aeq,16h}$)	Description
54	Based on extensive surveys of community response to air noise, the UK Government accepts this as *"the average level of daytime aircraft noise marking the approximate onset of significant community annoyance".*
57	This is a long-established noise level used to manage, monitor and limit noise emissions from airports. A single noise contour is used because all contours change consistently as overall noise emissions change at a single runway airport. At BCA, the area of this contour is limited to 5.20 km^2 by the existing Planning Agreement.
63	The Government expects airports to offer financial assistance towards sound insulation to residential properties and community buildings exposed to this noise level or higher. This level is accepted as the threshold for significant adverse effects on health and quality of life under UK and NI noise policy.

6.3.16 At BCA, the contours corresponding to exposures of 63 dB or higher are limited to the airport site or the immediate surrounding area. Consequently, they do not contain any residential areas.

6.3.17 The contours representing lower levels of exposure extend further from the airport. The 54 dB contour, reaches into Belfast Lough to the north of the airport, widens either side of the runway, and extends south into Sydenham and Ballymacarrett. In doing so, it encompasses a small number of residential properties in west Holywood to the north and properties in Sydenham and Ballymaccarrett to the south.

6.3.18 At 3.09 km^2 the 57 dB contour is currently well within the limit area of 5.20 km^2. That limit is less than the area of 7.5 km^2 sought at the Hearing In Public to replace the previous Seat for Sale (SFS) condition, mentioned earlier in this report.

6.3.19 Table 6.12 shows that compared to some other UK airports where, like BCA, aircraft fly over or near densely populated areas at one end of their runways and more sub-urban and rural areas at the other, the number of dwellings impacted by air noise from BCA is relatively low. That is despite the figure for Belfast City being for the busy summer period, whereas for the other airports it is for the year as a whole.

Table 6.12 Summary of noise exposure by dwelling count at a selection of other UK airports[32]

Airport	Dwellings exposed to at least 54 dB $L_{Aeq,16h}$	Dwellings exposed to at least 63 dB $L_{Aeq,16h}$
Belfast City (2024)	5,540	0
London City (2019)	44,000	1,850
East Midlands (2019)	1,050	100
Birmingham (2019)	16,600	800
Manchester (2019)	30,100	1,300

BCA Ground Noise

6.3.20 Ground noise is more localised than surface access noise and air noise because sources of ground noise are restricted to the airfield. The dominant sources of ground noise are non-airborne aircraft, which produce relatively high noise levels compared to other vehicles and equipment on the airfield. The airport terminal and retail units on the eastern side of the airport serve to screen the surrounding area from the airfield and, consequently, ground noise is limited to areas close to the airport perimeter where it is heard in the context of other industrial and commercial noise sources.

BCA Surface Access Noise

6.3.21 Access to the airport is primarily gained by road, with passenger traffic split between both private transportation, e.g. cars, taxis and public transportation, e.g. buses. The main road link to the airport is the A2 Sydenham Bypass which is one of the most heavily trafficked roads in Belfast. Traffic to and from the airport

[32] Latest information for BCA compared to Airport Noise Action Plans, 2024-2028 for other airports

contributes to this existing noise source, although the effect is limited as non-airport traffic constitutes the bulk of traffic.

Existing noise control initiatives at the airport

6.3.22 BCA has in force a range of measures designed to reduce noise.

6.3.23 The current Noise Action Plan (NAP) covers the period 2019-2024 in line with the requirements of the Environmental Noise Regulations (Northern Ireland) 2006, and consultations are underway on an updated NAP to cover the period 2025 – 2029. The NAP provides detailed information on the measures in place and their monitoring and implementation.

6.3.24 Of note are the operational restrictions and limits that the airport must comply with due to its existing planning agreements, detailed in Section 3.2 of this report, and the operational noise abatement procedures set out in the Aeronautical Information Publication (AIP).

6.3.25 BCA operates a noise and track keeping (NTK) system which enables automatic detection of non-conformances with the airport's noise abatement procedures. BCA provides its airlines with reports on conformance and has set a target of 95% conformance. Penalties are levied against late flights and flights breaching departure noise limits and these penalties feed into a Community Fund, which is used to support a variety of projects in Belfast, as described in the draft Master Plan and Section 2 of this report.

6.3.26 There is also the potential for the provision of mitigation via a noise insulation scheme (NIS) for dwellings and community buildings as, required. The NIS offers assistance with the costs of relocation to households exposed to noise levels of 69 dB $L_{Aeq,16h}$ or more and acoustic insulation is offered to households and noise-sensitive buildings, such as schools and hospitals, exposed to noise levels of 63 dB $L_{Aeq,16h}$ or more. Where acoustic insulation cannot be provided as an appropriate or cost-effective solution, alternative mitigation would be offered.

Noise Policy context

6.3.27 In 2023, the UK Government published its current **Overarching Aviation Noise Policy** which contained a revised overall policy statement, as follows:

"The Government's overall policy on aviation noise is to balance the economic and consumer benefits of aviation against their social and health implications in line with the International Civil Aviation Organization's Balanced Approach to Aircraft Noise Management. This should take into account the local and national context of both passenger and freight operations, and recognise the additional health impacts of night flights.

The impact of aviation noise must be mitigated as much as is practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise."

6.3.28 Further context is given with regard to the last point:

"An overall reduction in total adverse effects is desirable, but in the context of sustainable growth an increase in total adverse effects may be offset by an increase in economic and consumer benefits. In circumstances where there is an increase in total adverse effects, 'limit' would mean to mitigate and minimise adverse effects, in line with the Noise Policy Statement for England."

6.3.29 The 2014 **Noise Policy Statement for Northern Ireland** is the current overall noise policy for Northern Ireland. It sets out three objectives which are underpinned by the principles of the 2010 **Sustainable Development Strategy**:

- Avoid or mitigate significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life; and
- Where possible, contribute to the improvement of health and quality of life.

6.3.30 As described in Section 3 of this PER, the UK Government's aviation policies are set out in the 2013 **Aviation Policy Framework**, which replaced the 2003 **Future of Air Transport White Paper**. This includes the UK Government's policies on aviation noise.

6.3.31 Although the 2013 **Aviation Policy Framework** remains current, several policies were updated in the 2017 **UK Airspace Policy: A Framework for the Design and Use of Airspace.** The UK Government presented several further policy proposals in the 2018 **Aviation 2050 Green Paper**, which were reaffirmed in the 2022 strategic framework **Flightpath to the Future: A Strategic Framework for the Aviation Sector**. As described in Section 3 of this PER, the UK Government also published **Beyond the horizon: The Future of UK Aviation Making Best Use of Existing Runways.**

6.3.32 The ICAO is the United Nations specialised agency for civil aviation. It is responsible for setting standards, regulations and policy at an international level, including regarding aviation noise.

6.3.33 The principal ICAO policy on noise is the **Balanced Approach to Aircraft Noise Management**. This aims to address noise at a local level and identify the measures that achieve maximum environmental benefit most cost-effectively, by considering four elements: reduction of noise at source (i.e. quieter aircraft); land use planning and management; noise abatement operational procedures; and operating restrictions. This policy has been adopted in the UK since 2002 (**Directive 2002/30/EC**, superseded by **Regulation (EU) No 598/2014**).

6.3.34 Powers for managing noise and setting operating restrictions at individual airports are devolved in relation to Northern Ireland. The Department for Infrastructure has the power to direct individual airports to take action to limit or mitigate noise under the **Airports (Northern Ireland) Order 1994** and **The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003** provide individual airports with powers to introduce operating restrictions. Operating restrictions may also be applied through the local planning system.

6.3.35 ICAO sets standards for noise certification which are contained in **Annex 16, Volume I to the Convention on International Civil Aviation** (the 'Chicago Convention'). Aircraft are certified as Chapter 2 (loudest very old generation aircraft), 3, 4 or 14 (new generation and quietest aircraft) based on take-off and landing noise levels. **The Aeroplane Noise Regulations 1999** require civil aircraft registered in the UK to have a noise certificate and foreign registered aircraft operating in the UK to have a noise certificate issued by the competent authority in the state where they are registered.

6.3.36 Chapter 2 aircraft have been banned in the UK, unless granted specific exemption, since 2002 (**Directive 2002/30/EC**, followed by **Directive 2006/93/EC**). Chapter 3 is therefore the current minimum standard nationally; however, BCA has also prohibited the operation of aircraft that are only 'marginally compliant' with Chapter 3. Chapter 4 aircraft are 10 dB quieter than Chapter 3 aircraft and this standard has applied to all new aircraft certified since 2006. Chapter 14 aircraft are 7 dB quieter than Chapter 4 aircraft and this standard has applied to all new aircraft certified since 2018.

Potential effect of the Master Plan

Air Noise

6.3.37 Initial noise forecasts have been made using the industry standard and validated noise model that is used to inform BCA's annual reports and five yearly updates of the Noise Action Plan. The noise forecasts include the predicted increase in movements and the change in the feet mix to quieter new generation aircraft over time; with 60% of the fleet expected to be made up of these new generation aircraft by 2040. Moreover, as described in the draft Master Plan, increased flexibility of operations would help further incentivise the airlines to accelerate their plans to invest in new generation aircraft to be based at Belfast City Airport.

6.3.38 The noise forecasts are presented in Table 6.13. This shows definitively that, through the Master Plan incentivising the transition to new generation quieter aircraft, the airport can grow to 7 million passengers and

approximately 61,000 flights per year by 2040 and stay within the noise contour cap imposed by the current Planning Agreement. These forecasts take account of the potential adjustments to operating hours, as described in section 1 (paragraph 1.1.6) of this PER.

Table 6.13 Summer Day ($L_{Aeq,16h}$) noise contour area forecasts with Master Plan

Contour area (km²) for the 57 dB LAeq,16hr contour				
Limit	**2024**	**2030 Forecast**	**2035 Forecast**	**2040 Forecast**
5.20	3.09	4.19	4.83	4.95

6.3.39 The forecasts also show that in 2040 (with the Master Plan) no dwellings would be exposed to 63 dB LAeq,16 or greater. Hence, no one would experience significant adverse effects on health and quality of life under NI noise policy.

6.3.40 The Airbus A320neo is a good example of new generation aircraft, which will emit less noise than the older aircraft they will replace, both on arrival and departure. New generation aircraft are noticeably quieter on departure (over 3dB quieter) and this is supported by aircraft certification and by measurements. As the majority of the fleet will be made up of the A320neo and other equivalent new generation aircraft by 2040, it can be confidently predicted that the forecasted passenger growth and increase in flights will be fully accommodated within the existing air noise contour limit.

6.3.41 Notwithstanding, it should be noted that these are provisional forecasts which will be confirmed/ validated through the EIA process associated with any subsequent planning application.

Ground Noise

6.3.42 With respect to ground noise, potential effects arise from the increased non-airborne aircraft activity and changes to the infrastructure. However, these changes and activities are at substantial distance from the nearest sensitive receptors, which may also benefit from screening provided by existing buildings, both at the airport and in the adjacent retail area.

6.3.43 The three main infrastructure changes are revisions and extensions of the existing aprons, the creation of a taxi loop at the northern end of the runway, and the creation of a new apron on the west side of the runway. The latter will not be used intensively, as it will not be used for passenger flights, and it is located farther from noise sensitive receptors than the existing aprons. It is therefore not expected to result in a significant change to ground noise.

6.3.44 The taxiing loop would be located at the northern end of the runway on the western side. This would increase the distance between aircraft and noise-sensitive receptors compared to aircraft taxiing along the runway. The loop would also allow aircraft access to the end of the runway without the need to U-turn, an inefficient and noisy manoeuvre.

6.3.45 The revisions and extensions to the existing aprons would facilitate an increase in activity in those areas. While a noise may arise due to this increased activity, it will remain the case that ground noise will be ameliorated by screening and continued use of operational controls such as the provision of fixed electrical ground power (FEGP). The screening will be reviewed as the proposals develop, with potential improvements from the terminal expansion and new passenger pier, as well as the construction of a decked car park. Consequently, the noise effect of ground operations is expected to remain limited with no significant effects considered likely from the proposed changes.

Surface Access Noise

6.3.46 The increased passenger throughput is expected to lead to an increase in road traffic around the airport. However, as traffic generated as a result of the development of the airport is unlikely to exceed 10% of the baseline traffic flows on any local roads by 2040, and therefore the change in associated noise is not

likely to be discernible to the human ear, in accordance with the Institute of Environmental Management and Assessment (IEMA)(now known as the Institute of Sustainability and Environmental Professionals (ISEP) guidance released in 2023 'Guidelines for Traffic Impact Assessment'[33] .

6.3.47 Moreover, a key aim of the Master Plan and associated Surface Access Strategy (SAS) is to facilitate an increase in the percentage of passengers using public transport, so the increase in road traffic would not be proportional to the increase in passengers. Road access to and from the airport will continue directly from the A2 Sydenham Bypass, where non-airport traffic will continue to dominate. Consequently, no significant surface access noise effects are considered likely.

Construction Noise and Vibration

6.3.48 Construction will generate some noise and potentially vibration. However, future construction activity at the airport associated with the terminal and infrastructure upgrades (outlined in the draft Master Plan and Section 1 of this PER), will largely take place within the airport perimeter. This means that there will be substantial separation from sensitive receptors, which may also benefit from screening provided by existing buildings, both at the airport and in the adjacent retail park. Moreover, all construction works will be undertaken in accordance with a Construction Environmental Management Plan (CEMP) agreed with Belfast City Council and other relevant authorities. This CEMP will define, amongst other mitigation measures, permitted hours of working and maximum acceptable noise and vibration levels at the site boundary. As such, no significant construction noise or vibration effects are considered likely.

Future benefits of the Master Plan

6.3.49 As a signatory to Sustainable Aviation (SA), BCA is committed to the principles of sustainable growth. As part of this commitment, BCA will seek to reduce the existing air noise contour cap over time as part of developing proposals in line with the Master Plan, so that the noise benefits of new generation aircraft are shared between communities around BCA and growth at the airport.

6.3.50 The airport will also continue to seek to reduce the noise impacts for surrounding communities in other ways. Taking account of the growth, no property is forecast to be exposed to noise levels above the trigger for BCA's Noise Insulation Scheme, a threshold set in line with UK Government policy expectations. However, in parallel with the Master Plan, the airport will review its Noise Insulation Scheme in accordance with the Government's sign-posted policy changes and against industry benchmarks. Any improvements to the scheme would be rolled out in advance of any growth enabled by the Master Plan.

Overall Conclusions with regards to Noise

6.3.51 As highlighted above, no significant adverse effects on the noise environment around the airport are anticipated as a result of the growth plans set out in the draft Master Plan. This conclusion applies to all the main sources of noise associated with the airport's operation, including air noise, ground noise, surface access noise and construction noise. Nonetheless, BCA will continue to limit its noise impact on surrounding communities and the wider environment as far as possible, through a range of existing and future operational and physical noise mitigation measures. Importantly, the growth of the airport to 7mppa and 61,000 ATMs by 2040 is expected to be achieved without breaching the maximum air noise contour permitted under its existing Planning Agreement with the DfI.

[33] IEMA, Guidelines for Traffic Impact Assessment, 2023

6.4 Air quality

Baseline context

Human health

6.4.1 The principal air quality pollutants of concern for human health are nitrogen dioxide (NO_2) and fine particulate matter (PM_{10} and $PM_{2.5}$, together referred to as PM). The Government has set air quality objectives for these pollutants, which are summarised in Table 6.14.14. The main sources of these pollutants are fuel combustion, including in the engines of road vehicles, aircraft and other plant and machinery, and (for PM) brake wear, tyre wear and resuspension of settled particulate.

Table 6.14 14 Air Quality Criteria for Nitrogen Dioxide, PM_{10} and $PM_{2.5}$

Pollutant	Time Period	Value
Nitrogen Dioxide	1-hour Mean	200 µg/m^3 not to be exceeded more than 18 times a year
	Annual Mean	40 µg/m^3
PM_{10}	24-hour Mean	50 µg/m^3 not to be exceeded more than 35 times a year [a]
	Annual Mean	40 µg/m^3
$PM_{2.5}$	Annual Mean	25 µg/m^3 (target, not in regulations)
[a] A proxy value of 32 µg/m^3 as an annual mean is used in this assessment to assess the likelihood of the 24-hour mean PM_{10} objective being exceeded. Measurements have shown that, above this concentration, exceedances of the 24-hour mean PM_{10} objective are possible.		

6.4.2 The objectives apply at locations where people are likely to be present over the relevant averaging period. The annual mean objectives for nitrogen dioxide and PM_{10} are considered to apply at the façades of residential properties, schools, hospitals etc.; they do not apply at hotels. The 24-hour mean objective for PM_{10} is considered to apply at the same locations as the annual mean objective, and also in gardens of residential properties and at hotels. The 1-hour mean objective for nitrogen dioxide applies wherever members of the public might regularly spend 1 hour or more, including outdoor eating locations and pavements of busy shopping streets.

6.4.3 Belfast City Council carries out monitoring of these pollutants at selected locations around the city, focusing on places where the highest concentrations are expected. It also carries out modelling and assessment, as a result of which it has declared four Air Quality Management Areas (AQMAs) where there is a risk that one or more of the objectives may be exceeded. Figure 6.13 shows the AQMAs, along with monitored annual mean nitrogen dioxide concentrations in 2023 (the latest year for which data has been published). Monitored concentrations above 36 µg/m^3 (i.e. at least 90% of the objective) are labelled in red. Concentrations close to or above the objective are confined to roadside locations on the A12 Westlink near the junction with the M3 motorway; these locations do not necessarily represent locations where there is relevant exposure.

6.4.4 Monitored concentrations of PM_{10} and $PM_{2.5}$ were well below their respective objective/target, with annual mean PM_{10} concentrations of 12.6 µg/m^3 and 16.6 µg/m^3 at the CM1 and CM4 monitoring stations in 2023, and annual mean $PM_{2.5}$ concentrations of 6.9 µg/m^3 at the CM1 monitoring station in 2023 (Note: these are the only stations in Belfast where these two pollutants are monitored).

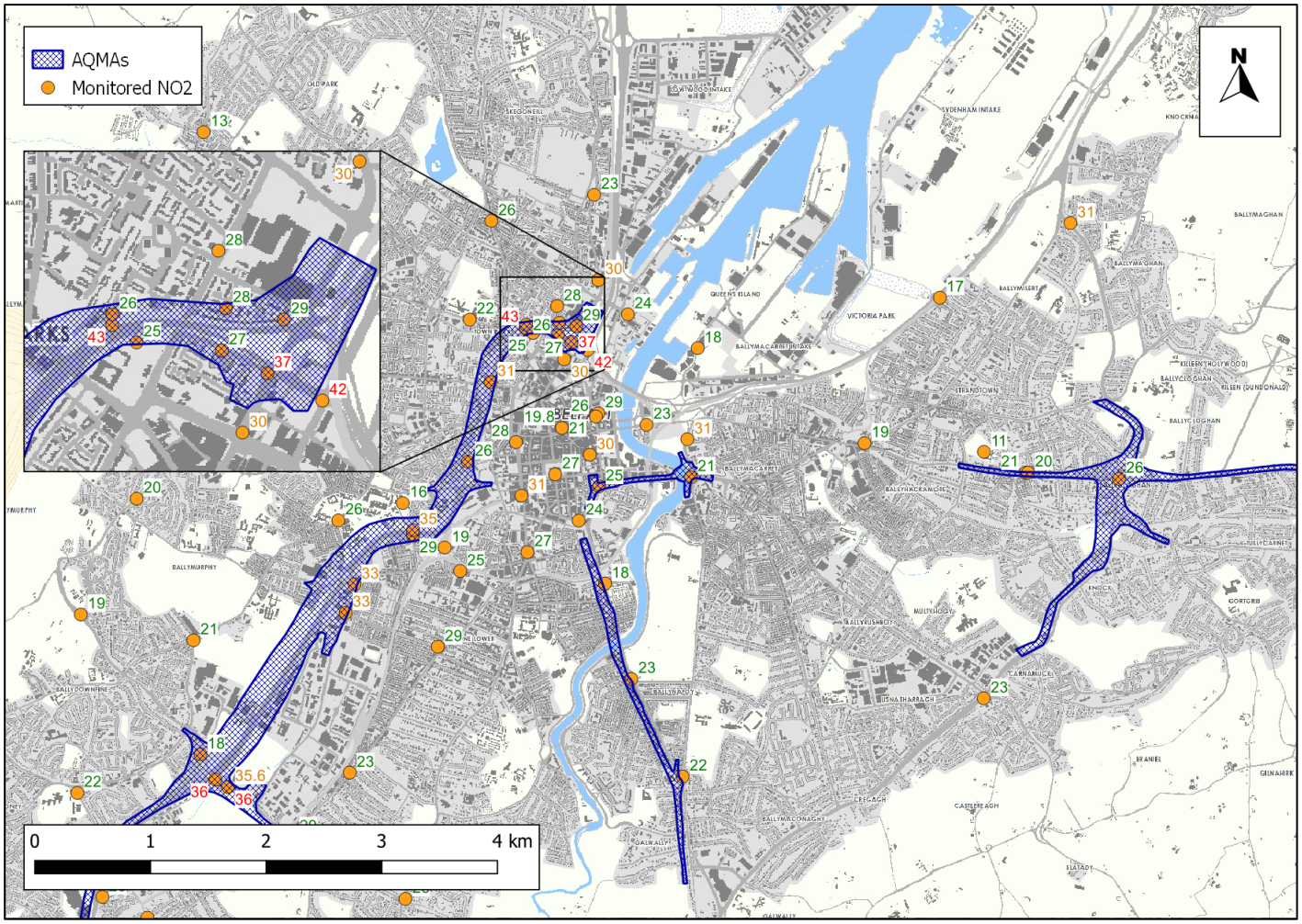


Figure 6.13 AQMAs and 2023 annual mean nitrogen dioxide concentrations

Contains data from Ordnance Survey of Northern Ireland released under the Open Government Licence v3.0

6.4.5 In addition, BCA established an air quality monitoring network in June 2024. There is an automatic monitoring site for both nitrogen dioxide and $PM_{2.5}$ (BHD-A), supplemented with a network of passive diffusion tube samplers for nitrogen dioxide, denoted BHD-01 to BHD-08 (note that BHD-01 is collated with the continuous monitor BHD-A).

6.4.6 Annualised mean nitrogen dioxide concentrations are shown in Figure 6.14. All concentrations are well below the annual mean objective, with the highest concentrations found alongside the A2 Sydenham Bypass. The period-mean concentration of $PM_{2.5}$ at BHD-A was 5.7 µg/m^3, well below the annual mean target.

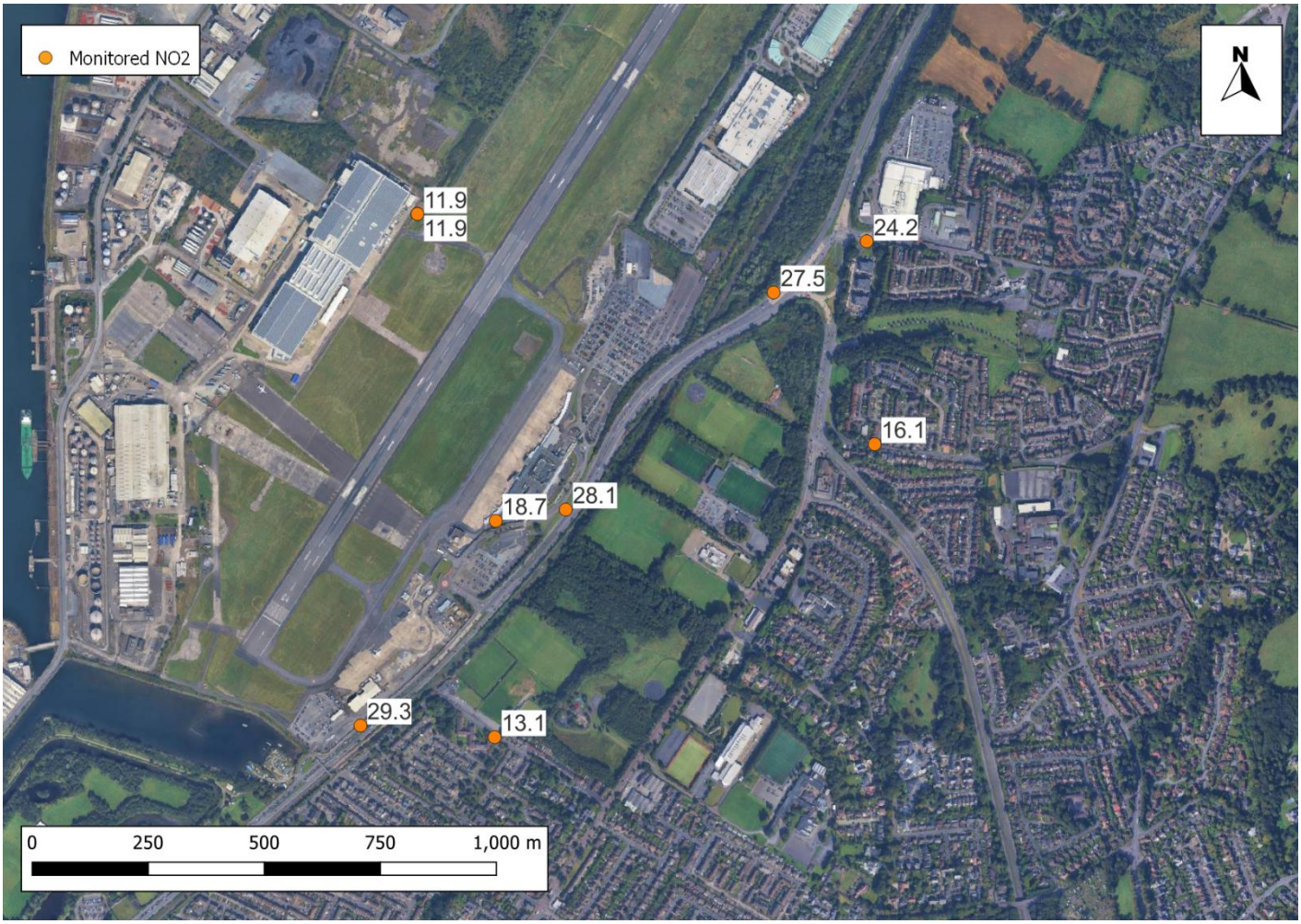


Figure 6.14 Annualised 2024 annual mean nitrogen dioxide concentrations

Ecology & Air Quality

6.4.7 As described in Section 6.10, the airport is located in close proximity to Belfast Lough Special Protection Area (SPA), Area of Special Scientific Interest (ASSI) & Ramsar Site and the Outer Belfast Lough SPA/ASSI. The airport also lies close to a Royal Society for the Protection of Birds (RSPB) Reserve to the north of the runway.

6.4.8 These ecological sites contain features which are sensitive to air pollution. Assessment criteria are:

- a critical level for annual mean oxides of nitrogen (NOx) of 30 µg/m^3;
- a critical level of 24-hour mean NOx of 75 µg/m^3 or 200 µg/m^3, depending on concentrations of ozone and sulphur dioxide;
- a critical load for nitrogen deposition which is location-specific and depends on the habitats and species present; and
- a critical load for acid deposition which is location-specific and depends on the habitats and species present.

6.4.9 Background concentrations of NO_x are below the critical levels, with annual mean background concentrations of, at most, 22.4 µg/m^3 across these designated ecological sites. There are, however, exceedances of the nitrogen deposition critical load, which is common in much of the UK. No exceedances of the acidity critical level have been identified for any sensitive species.

Existing initiatives at the airport

6.4.10 As mentioned above, BCA commenced an air quality monitoring programme in June 2024. This measures nitrogen dioxide concentrations at eight locations in and around the airport, and $PM_{2.5}$ concentrations at one location. Results for 2024 are summarised later in this section and shown in Figure 6.14 above.

6.4.11 BCA has implemented a number of measures to reduce air quality emissions, many of them providing co-benefits with greenhouse gas emissions. These include:

- FEGP is fitted at all aircraft stands, reducing the need to use aircraft main engines or APU to provide power while the aircraft is on the stand.
- An Airport Operational Instruction requires aircraft operators to minimise APU usage.

Policy Context

Belfast Air Quality Plan

6.4.12 Belfast City Council's 2021 to 2026 Belfast Air Quality Action Plan[34] outlines the actions that the Council and other bodies will take to improve ambient air quality in Belfast during the years 2021-2026. It sets out 51 actions to improve air quality across the city.

6.4.13 Belfast Harbour has proposed the introduction of a range of mitigation measures, which will reduce emissions from vehicles and vessels associated with Harbour operations. Reducing emissions from these operations can therefore contribute significantly to ambient air quality improvements at locations also affected by BCA. Belfast Harbour is implementing an ambient air quality monitoring programme within the Harbour area and will develop an associated emissions inventory to evaluate all relevant Harbour emissions, including from road transport movements, operation of port equipment, energy usage, and emissions from shipping.

6.4.14 Other air quality policies relevant to BCA are summarised in Section 3.3 of this PER.

Potential effect of the Master Plan

6.4.15 A provisional assessment of air quality effects of the draft Master Plan (presented below) has considered the following principal sources of emissions:

- Aircraft activity on the ground and up to 3000 feet (914 m) above the ground, including emissions from Auxiliary Power Units (APUs) and engine testing;
- Airside vehicles and ground support equipment;
- Landside road traffic on road links that carry a significant amount of airport-related traffic;
- Heating plant;
- The fire training ground; and
- All other sources ('background').

6.4.16 Background sources have been defined using Defra's 2021-based background maps. These cover the whole of the UK on a 1 km grid square basis and include projections to future years based on forecast national trends. They represent concentrations at background locations, i.e. away from major roads or other point sources. Estimated background annual mean nitrogen dioxide concentrations near the airport were in the range 11–13 $\mu g/m^3$ in 2024, and in the city centre were in the range 13–16 $\mu g/m^3$; by 2040, these are forecast to fall to 8–11 $\mu g/m^3$ near the airport in 2040 and 10–13 $\mu g/m^3$ in the city centre.

6.4.17 Annual mean concentrations of nitrogen dioxide, PM_{10} and $PM_{2.5}$ have been calculated at selected receptors, representing monitoring locations (which are not necessarily locations with relevant human exposure) and a selection of locations expected to represent worst-case exposure - broadly speaking,

[34] https://www.belfastcity.gov.uk/Documents/Belfast-City-Air-Quality-Action-Plan-2021-2026

residential properties closest to sources of emissions. In addition, concentrations have been calculated on a grid of receptors covering a 6.5 km × 5 km region across the airfield, its environs, and the city centre. The grid enables concentrations to be estimated at any location within this study area and enables contour plots to be presented.

6.4.18 There is no official guidance in the UK, or Northern Ireland specifically, in relation to development control on how to assess the significance of air quality impacts. The approach developed jointly by Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) has therefore been used. The approach identifies impacts at individual receptors as 'negligible', 'slight', 'moderate' or 'substantial', based on the percentage change in concentrations relative to the relevant air quality objective and the absolute concentration relative to the objective. Impacts may be adverse, where concentrations of pollutants increase, or beneficial, where concentrations decrease. The overall significance of the air quality impacts is determined using professional judgement, taking account of the impact descriptors and the number of relevant receptors affected, among other factors.

6.4.19 Concentrations have been calculated for the baseline year of 2024 in order to carry out a model evaluation. The roads contribution to nitrogen dioxide concentrations has been adjusted to provide a best fit between modelled and monitored data, in accordance with Defra guidance. The roads contribution to PM concentrations, and the contributions from aircraft and other sources, have not been adjusted.

6.4.20 As well as the baseline, concentrations have been provisionally calculated for three assessment years:

- 2030;
- 2035; and
- 2040.

6.4.21 For each assessment year, concentrations have been calculated for 'With Master Plan' and 'Without Master Plan' scenarios, in order to calculate the impact of the Master Plan. However, it should again be noted that these are only provisional assessment outcomes which will need to be confirmed/ validated through the EIA process associated with any subsequent planning application.

Human health impacts from Air Pollution

6.4.22 Modelled annual mean nitrogen dioxide concentrations in 2030 are below 30 µg/m^3, and therefore well below the objective of 40 µg/m^3, in both 'With Master Plan' and 'Without Master Plan' scenarios at all modelled receptors. The highest concentrations are modelled in the city centre, close to the carriageways of major roads. Concentrations near the airport are below 20 µg/m^3 except very close to the Sydenham Bypass / Belfast Road. The increase in concentrations due to the Master Plan is less than 0.3 µg/m^3 at all relevant locations, and the impacts are classified as negligible. Nitrogen dioxide concentrations in 2035 and 2040 are lower still, even though the increment due to the increases in aircraft activity arising from the Master Plan increases (while remaining less than 1 µg/m^3), and all impacts are classified as negligible under the EPUK/IAQM guidance at all relevant locations.

6.4.23 Modelled annual mean concentrations of PM_{10} are at most 14 µg/m^3 in 2030, falling slightly to less than 13 µg/m^3 by 2040. The increase in concentrations of PM_{10} due to the Master Plan is less than 0.2 µg/m^3 at all receptors and in all years. All impacts are classified as negligible under the EPUK/IAQM guidance at all relevant locations.

6.4.24 Modelled annual mean concentrations of $PM_{2.5}$ are less than 8 µg/m^3 in 2030, falling slightly to at most 7 µg/m^3 in 2040. The increase in concentrations of $PM_{2.5}$ due to the Master Plan is less than 0.2 µg/m^3 at all receptors and in all years. All impacts are classified as negligible under the EPUK/IAQM guidance at all relevant locations.

6.4.25 Overall, therefore, the effect of the Master Plan is to increase concentrations of air pollutants slightly relative to the 'Without Master Plan' scenario, but the increment is very small and the total concentrations

remain well below the respective objectives. The impacts are therefore classified as negligible at all relevant locations, and the overall effect is judged to be not significant.

Ecological impacts from Air Pollution

6.4.26 No significant effects in terms of NOx concentrations or acid deposition are predicted.

6.4.27 Nitrogen deposition rates increase by up to 0.4 kg/ha/y due to the Master Plan proposals at the closest point of the Inner Belfast Lough ASSI south of the airport runway (Conn's Water and Victoria Park). This is 8% of the minimum critical load of 5 kg/ha/y for *Charadrius hiaticula* common ringed plover; APIS notes that there is a "*potential positive impact on species due to impacts on the species' food supply*". It is 4% of the minimum critical load of 10 kg/ha/y for *Numenius arquata* Eurasian curlew, for which APIS notes that there is a "*potential negative impact on species due to impacts on the species' broad habitat*". The increase at this point is large due to its proximity to the runway end (about 120 m); the increase in nitrogen deposition is much smaller across most of the Victoria Park site, being typically around 0.05 kg/ha/y. Nitrogen deposition rates at ecological sites to the north and west of the airport are predicted to be less than 1% of the relevant critical loads. This is deemed not significant.

Future benefits of the Master Plan

6.4.28 The Master Plan includes a number of measures which will reduce air quality impacts from surface access. These are discussed further in Section 6.1, but include improvements to public transport (e.g. enhanced bus terminus) and active travel (pedestrian and cycle routes) and a potential new rail halt/ platform to lessen the reliance on private car. In general, improvements to emissions from road traffic bring greater benefits than improvements to aircraft, as road traffic passes close to locations where people may be exposed, including homes and leisure locations.

6.4.29 In addition, as part of the airport's Sustainability Action Plan, BCA has already implemented or plans to introduce, a range of measures which will further reduce emissions from aircraft, vehicles and plant on the ground. These include:

- Purchasing 100% of its electrical demand from renewable sources and exploring options to incorporate PVs/ zero emission energy plant within the airport;
- Ensuring that all stands continue to have FEGP, thereby minimising the need for aircraft to use their APUs;
- Using HVO fuel for all airside vehicles, replacing diesel;
- Facilitating EV take-up by staff and passengers by providing an on-site EV charging station;
- Developing a combined carbon and air quality management plan, to continually drive emissions reductions and improvements across all airport operations; and
- Work with airlines to enable and facilitate the uptake of Sustainable Aviation Fuels (SAF)

Overall Conclusions with regards to Air Quality

6.4.30 A provisional assessment of the air quality, described above, has identified negligible (not significant) effects on air quality from the future growth of the airport in accordance with the draft Master Plan. This conclusion applies to all the main sources of emissions associated with the airport's operation; from aircraft and vehicles on the ground, to fixed plant and surface access traffic. Pollutant concentrations are predicted to remain well within the nationally set objective values for human health, as well as those which might adversely affect surrounding ecological habitats. As such, air quality is not considered to present a constraint to the airport growing to 7mppa and 61,000 ATMs by 2040.

6.5 Greenhouse Gas Emissions & Climate Change

Introduction and Baseline context

6.5.1 This section discusses two related but distinct elements:

- A provisional Greenhouse Gas (GHG) assessment, which provides an initial assessment of the effects of the Master Plan on GHG emissions and determines their significance in the context of national, regional and local climate change policy; and
- A discussion of how the detailed design and implementation of the Master Plan will account for climate change to ensure long term resilience of the airport to these changes.

6.5.2 The Master Plan proposals will result in increases in aircraft movements at the Belfast City Airport and associated passenger travel to and from the airport to access the flights, which will result in increased GHG emissions. However, were BCA not able to offer more flights and routes in the future, passengers would most likely choose to fly from other airports such as Dublin Airport. The consequence of this would be that these emissions would simply be 'displaced' to another location, with the potential for greater emissions overall due to the longer journeys associated with accessing these other airports.

6.5.3 In common with all airports, BCA only has control over its direct (Scope 1) and indirect (Scope 2) GHG emissions from its own ground-based operations, buildings, purchasing decisions and its influence over its supply chain partners. Accordingly, the provisional GHG assessment reported below focuses on these Scope1 and Scope 2 emissions and how the draft Master Plan could help facilitate the decarbonisation of the airport over time, in accordance with its 'net zero' ambition described in the draft Master Plan and Section 2 of this PER.

6.5.4 With respect to emissions from aircraft in flight, these 'Scope 3' emissions are addressed at national and international levels, rather than on a regional, local or airport basis. In particular, the UK Emissions Trading Scheme (UK ETS) sets a cap on emissions from flights within the UK or from the UK to the European Economic Area (EEA)[35], plus energy intensive industries and the power generation sector. This means that if an airline wants to increase its emissions, it must ensure that total emissions remain below the cap by, if necessary, paying for another company within the ETS to reduce its emissions. The Government intends to reduce this cap over time to ensure that it can achieve its targets, as set out in sequential 5 year carbon budgets, to meet its statutory 'net zero by 2050' obligation under the Climate Change Act 2008.

6.5.5 As the vast majority of flights (>98%) from BCA are to other UK or EEA destinations, these will fall under and be controlled by the UK ETS.

6.5.6 In addition, the International Civil Aviation Organization (ICAO) has set up the 'Carbon Offset and Reduction Scheme for International Aviation' (CORSIA) scheme, which requires that any increases in international aviation emissions beyond 85% of 2019 levels must be offset. Virtually all flights from BCA which are not covered by the UK ETS are covered by CORSIA.

6.5.7 As described in Section 3, the UK Government has made clear that carbon emissions from airport expansion schemes to make best use of existing capacity (MBU), is a matter to be considered at a national level. Moreover, the Government is satisfied (and has confirmed in subsequent decisions) that growth under MBU would not compromise the UK's ability to meet its national carbon commitments. In addition, the Jet Zero Strategy (published in July 2022) sets out a course of action for the decarbonisation of aviation to meet the UK's net zero obligations, focused on the rapid development of technologies and the mandatory uptake of Sustainable Aviation Fuels (SAF) to deliver reductions in emissions.

6.5.8 These policy and industry specific initiatives are described more fully below.

[35] The EEA is the European Union plus Iceland, Liechtenstein, and Norway.

GHG emissions

6.5.9 The Kyoto Protocol specifies seven gases, which are collectively referred to as Green House Gases (GHGs): carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). Whilst CO_2 is the most common GHG related to fossil fuel combustion and dominates anthropogenic GHG emissions, the climate change impacts of other gases are also important. To provide a single measure of all GHG emissions, they are often reported in terms of 'carbon dioxide equivalent' (CO_2e). Emissions on a national scale are usually given in units of million tonnes of CO_2e ($MtCO_2e$). The average person in the UK had a carbon footprint of about 6 tCO_2e in 2021[36].

6.5.10 The aviation sector is estimated to contribute to about 2% of global GHG emissions. Emissions from aircraft in flight dominate this contribution, with emissions from airport operations contributing only around 5% of the aviation sector's total emissions globally. The forecast growth of air transport and efforts to de-carbonise other industries do, however, mean that aviation's proportion of the total is expected to rise to around 3% of global emissions by 2050; in other words, although aviation's emissions will fall, they will be a slightly higher proportion of a smaller total.

6.5.11 The aviation industry has recently undertaken a series of ambitious actions in response to climate change. In October 2016, the ICAO Assembly ratified CORSIA, which is a scheme aimed at helping to neutralise the impact on GHG emissions from growth in international air travel after 2020. It complements efforts by the industry to mitigate its climate change impact through improvements in aircraft technology (e.g. more fuel-efficient aircraft and zero emission aircraft), operations (e.g. airspace changes and flight navigation), infrastructure (efficient airports) and alternative non-fossil aircraft fuels (SAF).

BCA Baseline and Scope of GHG Emissions

6.5.12 The GHG Protocol classifies GHG emissions into three 'scopes', depending on the degree of control an organisation has over the emissions. The idea of the scopes is to ensure that all the emissions for which an organisation is directly or indirectly responsible are captured, while managing double-counting where other organisations may also be regarded as responsible for the same emissions. Specifically:

- Scope 1 emissions are those that an organisation owns or controls directly, for example from burning fuel in its own heating plant or its own vehicles;
- Scope 2 emissions are those that a company causes indirectly by purchasing electricity, heat, steam and cooling. These are indirect emissions that are a consequence of the organisation's activities. Whilst the organisation does not directly emit these emissions, it can control them through its energy management and purchasing decisions; and
- Scope 3 emissions are not produced by the organisation itself but arise upstream or downstream in the organisation's value chain. Although these emissions are not under the organization's control, the organization may be able to affect the activities that result in the emissions. Scope 3 emissions include all sources not within the Scope 1 and 2 boundaries.

6.5.13 Belfast City Airport's Scope 1, 2 and 3 GHG emissions arise from:

- Operational vehicle and plant use (Scope 1 and 3);
- Energy consumption at the airport (natural gas, heating oil, electricity) for example used in heating, cooling and lighting (Scope 1 and 2);
- Business travel by BCA staff (Scope 3);
- Waste treatment (Scope 3);
- Refrigeration and loss/use of F-Gas (Scope 1);

[36] Department for Energy Security and Net Zero, 2022 UK Greenhouse Gas Emissions, Final Figures. 6 February 2024

- Aircraft in the landing and take-off cycle (LTO) (Scope 3);
- Aircraft APU use on stand (Scope 3);
- Surface access: passenger and employee travel to and from the airport (Scope 3); and
- Construction (Scope 3)

6.5.14 As discussed above, emissions from aircraft in the 'Climb out, Cruise and Descent' (CCD) phase of flight are largely the responsibility of the airlines (and to some extent the air traffic control authorities) and are managed under the UK ETS and CORSIA schemes. These emissions have therefore not been specifically quantified at this stage. However, this assessment will be undertaken at the planning application/ EIA stage, in accordance with established methodologies and protocols.

6.5.15 The baseline for the future Master Plan development is defined as the current GHG emissions arising from activities and infrastructure associated with the existing airport in 2024. These include GHG emissions from surface access (i.e. movement of passengers to and from the airport by surface transport), operational vehicles, business travel, energy use (i.e. natural gas, heating oil and electricity consumption, for example in cooling, heating and lighting), and from fugitive refrigerant emissions.

Existing initiatives and commitments

6.5.16 As described in Section 2 of this PER, BCA is committed to achieving net zero by 2050 at the latest. As part of the draft Master Plan, it aspires to bring this forward to 2040 for Scope 1 and 2 emissions, and net zero Scope 3 emissions (including aircraft emissions) by 2050. Additionally, it has a near term target of 42% reduction in Scope 1 and 2 GHG emissions between 2022–2030, which is based on the government backed Science Based Targets initiative (SBTi).

6.5.17 BCA is already certified to the ACI Airport Carbon Accreditation (ACA) scheme at Level 3 ('Optimisation') which requires it to not only reduce its own emissions but to engage with third parties in carbon footprint management. It has now set a target of achieving ACA Level 5 by 2035, which will signify that the airport has attained a net zero balance of emissions.

6.5.18 Additional initiatives and actions to reduce carbon/GHG emissions include:

- BCA has purchased 100% green electricity since 2013. Moving forward, the airport will consider options for its own on-site renewable energy generation, such as through installing PVs on the roof of the expanded terminal, as envisaged in the draft Master Plan;
- BCA will develop a combined carbon, climate change and air quality management plan to continually drive emissions reductions and improvements across the airport's airside and landside operations;
- BCA is working to eliminate onsite natural gas as a heat source;
- Aircraft fuel will be made up of 2% SAF in 2025, increasing to 10% in 2030 and 22% in 2040;
- BCA will focus on enhancing sustainable transport options to and from the airport, by the various initiatives and investments described earlier in this PER;
- BCA will actively work in partnership with its airlines to create the conditions whereby they are further incentivised to operate more cleaner, quieter, new generation aircraft;
- BCA has committed to achieving 'zero waste to landfill' by 2040, thereby reducing GHG emissions associated with landfills – especially methane;
- In accordance with the airport's 2024 Sustainability Strategy, BCA is exploring options for enhancing local biodiversity on site (with the potential for natural carbon sequestration); and
- BCA has committed to reduce site water consumption levels by 50% by 2035 (from a 2022 baseline) with associated energy and carbon savings this will entail.

Policy context

Climate Change Act 2008

6.5.19 The Climate Change Act 2008 (the CCA 2008, as amended by the Climate Change Act 2008 (2050 Target Amendment) Order 2019)) commits the UK to ensure that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline; this is usually referred to as 'net zero'. In meeting this target, the CCA 2008 requires the Government to establish 5-year carbon budgets having regard to the advice of the Committee on Climate Change (CCC):

- The 4th carbon budget sets the budget for the period 2023–2027 and was set at 1,950 million tonnes CO_2e excluding international aviation and shipping (but including domestic flights and shipping). In excluding emissions from international aviation and shipping it took into account the CCC's 'planning assumption' that UK international and domestic aviation emissions do not exceed 37.5 Mt of CO_2 by 2050.
- The 5th carbon budget sets the budget for the period 2028–2032 and was set at 1,725 million tonnes CO_2e excluding international aviation and shipping (but including domestic flights and shipping). In excluding emissions from international aviation and shipping it took into account the CCC's 'planning assumption' that UK international and domestic aviation emissions do not exceed 37.5 Mt of CO_2 by 2050.
- The 6th carbon budget is for the years 2033-2037 and was set at is 965 million tonnes CO_2e, and includes international aviation and shipping.

6.5.20 The CCA 2008 also requires the UK Government to produce a UK Climate Change Risk Assessment (CCRA) every five years. The CCRA assesses current and future risks to, and opportunities from, climate change in the UK. In response to the CCRA, the Climate Change Act also requires the UK government to produce a National Adaptation Programme to address climate risks. The National Adaptation Programme covers England, while the devolved administrations produce their own programmes and policies.

6.5.21 There are various other national policy statements and legislative mechanisms which are relevant to the consideration of carbon and climate change, including:

- The Greenhouse Gas Emissions Trading Scheme Order (2020)
- The Air Navigation (Carbon Offsetting and Reduction Scheme for International Aviation) Order (2021)
- The Renewable Transport Fuel Obligations (Sustainable Aviation Fuel) Order (2024)
- Airport National Policy Statement: new runway capacity and infrastructure at airports in the South East of England (2018)
- Decarbonising Transport: A Better, Greener Britain (2021)
- Net zero strategy: Build back greener (2021)
- Jet Zero Strategy (2022)
- Northern Ireland's draft Climate Action Plan 2023-2027 (currently out for consultation).

6.5.22 These policy and legal drivers will be considered in more detail as part of any future planning application and EIA process.

Potential effect of the Master Plan

6.5.23 As the airport grows and attracts more flights and expands its route network, there will inevitably be an increase in absolute GHG/carbon emissions associated with aviation movements. However, as explained above, such emissions are largely managed at a national level by the compulsory participation of airlines in the UK ETS and CORSIA schemes. Furthermore, were BCA's development to be constrained by the limitations of its existing Planning Agreement, such emissions would most likely be displaced to other airports as passengers seek alternatives to get to their desired destinations. It should also be noted that, on a 'per passenger' basis, aviation emissions are likely to reduce considerably due to the introduction of larger and

more fuel-efficient new generation aircraft, as well as through the progressive uptake of sustainable aviation fuels.

6.5.24 With respect to the Scope 1 & 2 emissions within BCA's control, the commitments set out in the airport's draft Master Plan and Sustainability Action Plan, aimed towards the ultimate goal of decarbonising its ground operations as soon as reasonably possible (and no later than 2040), are a significant benefit of the Master Plan.

GHG emissions from aircraft in the Landing and Take-off Cycle (LTO)

6.5.25 Emissions from aircraft in the landing and take-off (LTO) cycle of flight have been calculated using provisional ATM and fleet forecasts prepared by York Aviation on behalf of BCA, as summarised in Section 5 of this PER. In accordance with the methodology adopted by ICAO [37] the GHG emissions metrics for aircraft in the LTO cycle have been assessed; these include four modal phases of aircraft movements in the immediate airspace around the airport - approach, taxi/idle, take-off and climb to a height of 3,000ft. GHG emissions for the LTO cycle were calculated using the same methodology and fleet mix as for the air quality assessment (see Section 6.5), which calculates fuel consumption as an integral part of the model. Emissions of CO_2e are calculated by multiplying the fuel consumption by 3.18.

6.5.26 Emission rates from aircraft in the LTO cycle (and over the full course of a flight) are predicted to improve in the future as a consequence of the introduction of the SAF Mandate, as described earlier. It is predicted that the introduction of SAF will achieve lifecycle emissions reductions of 70% compared to fossil kerosene. However, the effects of improved aircraft technology or other measures are not taken into account here, in order to ensure that this provisional assessment is conservative and worst-case. It should be noted that the Government's Jet Zero Strategy presents a trajectory for the decarbonisation of UK aviation but, apart from the SAF Mandate, this has not been accounted for.

6.5.27 Scope 1 and 2 emissions, other than surface access, are factored to remain the same in the future, based on the 'worst case' assumption that gas boilers are retained within the airport and that the existing equipment and airport vehicles that fall under Scope 1 emissions are retained and replaced like-for-like. As previously described, this status quo is highly improbable and constitutes a very conservative, worst-case assumption – not least because airport operations are expected to be fully electrified as part of BCA's Sustainability Strategy and Action Plan to achieve net zero by 2040. In the more immediate term, the intention is to remove gas consumption altogether and introduce lower-carbon HVO fuel to all BCA's vehicles before 2030. The figures presented here include the impact of the green tariff upon Scope 2 emissions and therefore are based on zero emissions for electricity consumption.

6.5.28 The GHG footprint of the airport is provided in Table 6.15.15. Results are presented to a number of significant figures to allow comparisons between measures; this should not be taken as an indication of the accuracy of the modelling.

Table 6.15 Airport GHG Emissions ($MtCO_2e$)

Year/Scenario	Aircraft [a]	Other	Total
2024	0.021	0.0005	0.022
2030 Without Master Plan	0.023	0.0005	0.023
2030 With Master Plan	0.027	0.0005	0.028
2035 Without Master Plan	0.023	0.0005	0.024
2035 With Master Plan	0.040	0.0005	0.040
2040 Without Master Plan	0.024	0.0005	0.025
2040 With Master Plan	0.043	0.0005	0.043

[37] ICAO Doc 9889, page 44

[a] LTO and APU emissions

6.5.29 For context, emissions in Northern Ireland were 21.3 $MtCO_2e$ in 2022[38].

6.5.30 Emissions are dominated by aircraft in the LTO cycle (Scope 3), as is to be expected for airport operations. The Master Plan will result in an increase in absolute emissions, corresponding to the increase in aircraft and passenger transport. However, as explained previously, the vast majority of aircraft movements are domestic or within the EEA, and are therefore included in the UK ETS; these emissions will therefore be traded against other UK industry emissions, with other sectors reducing their emissions to keep within the overall emissions cap. The remaining movements are subject to CORSIA and increases in emissions since 2021 will be offset. In 2024, 99.6% of aircraft LTO emissions fell within the UK ETS.

6.5.31 The Master Plan will also result in a rebalancing of the number of passengers who currently travel to Dublin Airport in the RoI in order to obtain access to flights to their desired destinations which are not currently available from BCA or Belfast International Airport. This should result in a net reduction in surface access emissions as well as in absolute terms.

Resilience to climate change

6.5.32 The Master Plan proposals predominantly involve an increase in operational capacity (aircraft movements and passenger throughput) with supporting infrastructure changes. While this may slightly exacerbate the consequence of some climate hazards, such as flight delays/cancellations and stretching of utilities provision and support services, the likelihood of such impacts occurring is not increased by the proposed changes themselves. It is also considered that the airport is currently well adapted to the temperate oceanic conditions, which include a range of temperatures and wind conditions, and has dynamic control systems in place to ensure operational continuity. Extreme weather occasionally forces airports to close or restrict operations, and procedures for managing such events are well-established.

6.5.33 The new buildings and structures envisaged in the draft Master Plan will be designed and built with foreseeable climate change effects taken into consideration. As such, the overall resilience of the airport to climate change is unlikely to be affected by the Master Plan proposals and any effects are not likely to be significant.

Future benefits of the Master Plan

6.5.34 The predicted increase in passengers to 7mppa coupled with the reconfiguration and expansion of the terminal building and new infrastructure, could help unlock additional opportunities to further reduce GHG/carbon emissions - in both absolute terms and on a ‘per passenger’ basis. In particular, the contemporary and more efficient layout of the terminal and associated structures, have the potential to introduce additional energy and resource efficiency measures such as solar PVs, water saving devices, waste segregation/ recycling and automated passenger processing facilities with lower energy demands. Additionally, the reconfiguration of the apron, new runway loop and stands will improve the operational efficiency of the runway and should reduce the idling time, and thereby fuel burn, of aircraft on the ground.

6.5.35 A key feature of the projected growth envisaged under the draft Master Plan is creating the conditions whereby the airlines are incentivised to operate more cleaner, quieter, new generation aircraft at Belfast City Airport. At present, the fleet mix serving BCA comprises of turboprop aircraft (56.4%), current generation aircraft (36.2%) and a small proportion of ‘new generation’ aircraft (7.4%). However, it is forecast that by, by 2040, up to 60% of the aircraft operating at BCA could be new generation aircraft. New generation aircraft such as the Airbus A320neo (which features heavily in the airlines forecasts) are more fuel efficient than the

[38] Climate Change Committee, Northern Ireland's Fourth Carbon Budget: Advice for the Northern Ireland Executive. 19 March 2025

older variants they will replace, as well as carrying more passengers, resulting in a 20% reduction in fuel consumption and CO_2 emissions per seat[39].

Overall Conclusions with regards to Green House Gas Emissions and Climate Change

6.5.36 The aspirations to grow the airport to 7mppa and 61,000 ATMs is wholly consistent with Government's Making Best Use (MBU) policy, its ability to meet its national carbon commitments and other polices in respect to climate change. As the airport grows and attracts more flights and expands its route network, there will inevitably be an increase in absolute GHG/carbon emissions associated with aviation movements. However, virtually all of the aircraft emissions are covered by the UK ETS, which means they fall within a nationally determined cap and any increase in emissions will need to be traded against a reduction in emissions in other industrial sectors. Many of the remaining emissions will be offset using the CORSIA mechanism.

6.5.37 The effects of future climate change on the proposed development are not expected to be significant. The airport is well configured to manage a range of likely weather conditions. The new buildings and structures envisaged in the draft Master Plan will be designed and built with foreseeable climate change effects taken into consideration. As such, the overall resilience of the airport to climate change is unlikely to be affected by the Master Plan proposals and any effects are not likely to be significant.

6.6 Health & Wellbeing

6.6.1 The health and wellbeing of a population are determined by a broad range of environmental, social, behavioural, economic and institutional factors. These factors include topics discussed in other parts of this PER, including section 6.1 on transport, section 6.2 on socio-economics, section 6.3 on noise and section 6.4 on air quality. This health and wellbeing section provides an initial consideration of the implications of those assessments for public health, although it should be noted that a further assessment of such effects will be undertaken as part of a formal environmental impact assessment (EIA) process accompanying any future planning application.

6.6.2 The benefits of airport expansion are typically felt by the wider local and regional population. These are typically socio-economic related benefits, as well as the benefits of access to air travel. The adverse effects of airport expansion are typically felt by the communities closest to the airport and along its immediate flight paths. The adverse effects predominantly relate to environmental exposures, notably air noise from arriving and departing planes, and surface access noise and air pollution from passenger car journeys. Master planning supports developing the right balance of expansion and mitigation to ensure equitable outcomes for local and wider communities. The public health perspective is to consider population level effects, including potential for inequalities to be experienced by vulnerable groups. The approach taken aligns with health impact assessment guidance from the Institute of Public Health (2021).

Baseline context

6.6.3 Communities in Belfast generally experience a higher burden of poor health than Northern Ireland as a whole. The underlying feature for the existing health burden predominantly reflects relative socio-economic deprivation and broader determinants of health including lower rates of employment, lower skilled employment and individual risk factors.

6.6.4 Supporting the understanding of influences on the closest communities, baseline data has been reviewed and a site visit undertaken by a public health specialist for RPS. The site visit included rail access via Sydenham station and the associated walking route to the terminal building. The opportunity to improve the pedestrian experience between the rail station and airport terminal was noted, including for people with additional mobility or sensory needs, people with luggage and people with children.

[39] Based on manufacturer's data, comparing the A320neo to the older A320ceo

6.6.5 The context of residential areas, community spaces and community buildings close to the airport, included Victoria Park Primary School and Inverary Community Centre, were reviewed during the site visit. The great majority of dwellings observed had existing double glazing and it was noted that Victoria Park has a good range of high-quality leisure and play facilities and is well used. Park users were not observed to alter behaviour as a result of take-off noise. Inverary Community Centre appears to have opportunities for improved maintenance and enhancement as a community resource in close proximity to the airport.

Health Deprivation

6.6.6 As a summary public health indicator, health deprivation is a measure of existing pressures on communities that adversely affect their health outcomes. The rankings run from 1 (most deprived) to 890 (least deprived). Figure 6.15 shows the indicative health study area (denoted by a red line) in relation to the distribution of health derivation around the airport. This health study area is reflective of communities most likely to be affected by the airport operations, principally due to air noise, but also ground noise, surface access and air quality. Health deprivation is considered an appropriate summary health indicator for master planning purposes.

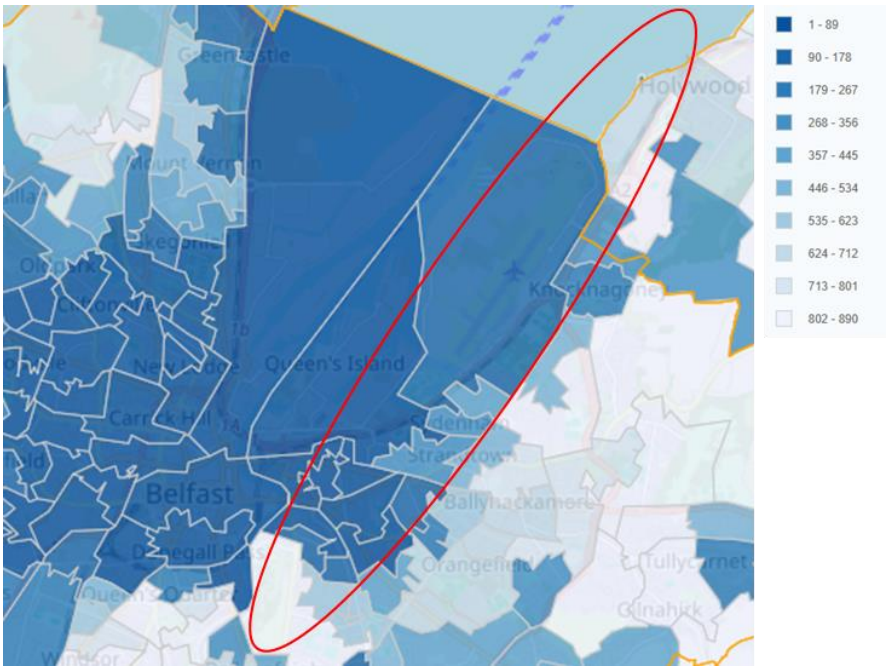


Figure 6.15 Northern Ireland Multiple Deprivation Measure 2017 (NIMDM 2017), Super Output Areas, Health Deprivation (red line is indicative health study area for masterplanning)

Communities adjacent to the east and southeast of the airport:

6.6.7 Although health deprivation is not high, there are communities with above average health deprivation in proximity to the airport and the Sydenham bypass. The following Super Output Areas (SOAs) are noted as being indicative of communities with higher health sensitivity: Sydenham 1 (rank 149), Belmont 3 (rank 227), Loughview 1 (rank 270), Sydenham 3 (rank 309). SOAs of average or low health deprivation within this area are also present and include Sydenham 2 (rank 427), Belmont 2 (rank 531), Holywood Demesne (rank 681) and Loughview 2 (rank 816).

Communities in Belfast further to the south and southwest of the airport:

6.6.8 An area of existing high deprivation is present under the airport's flight paths. This deprivation is similar to other parts of Belfast. The following SOAs are noted as being indicative of communities with higher health sensitivity: Ballymacarrett 2 (rank 33), Ballymacarrett 3 (rank 43), Ballymacarrett 1 (rank 52), Woodstock 2 (rank 76), Island 1 (rank 78), The Mount 1 (rank 79), The Mount 2 (rank 88), Woodstock 3 (rank 138),

Bloomfield 1 (rank 165), Woodstock 1 (rank 167) and Island 2 (rank 286). SOAs of average or low health deprivation within this area are also present and include Ballyhackamore 3 (rank 473), Ravenhill 3 (rank 575) and Ravenhill 1 (rank 803).

Community facilities

6.6.9 In addition to residential areas, regard has also been given to community facilities (health, social care, educational and public open spaces) where they are close to the airport, as well as wider areas along the airport flightpaths. The facilities are indicative of locations used by vulnerable groups. Vulnerability may be due to factors, or a combination of factors, associated with age, health status, income level, social disadvantage or access and geographic factors.

6.6.10 Local community facilities that have been considered at this stage (for illustrative purposes) include:

- **Schools** including: Victoria Park Primary School; Ashfield Girls' High School; Ashfield Boys' High School; Mitchell House School; Knocknagoney Primary School and Nursery Class; Nettlefield Primary School; McArthur Nursery School; St Michael's Primary School; Euston Street Primary School; Sandbrook Nursery School;
- **Community centres** including Inverary, Knocknagoney and Redburn;
- **Care homes** including: Holywood Care Home; Belmont Care Home; Glenmachan Tower House; Somme Nursing Home; Tudordale Care Home; and Palmerston Care Home; and
- **Community spaces** including: Victoria Park; Millenium Play Park; East Belfast Football Club; Shorts Sports & Recreation Club; Flora Street Park Play; Ormeau Park Playground; and CS Lewis Square.

Existing initiatives at the airport

6.6.11 The airport runs a series of initiatives for staff and to support local communities. Future development of the draft Airport Master Plan offers potential for increased sharing of the economic benefits. The following community fund projects were supported in 2024.

Community & Social Inclusion

- Headline Sponsorship - Blackboard awards (Showcasing IGNITE programme);
- AANI t-shirts for Belfast City Airport employees;
- Pride Lapel pins for Belfast City Airport employees and business partners;
- Cara Friend Charity donation;
- Views & Brews workshop at Belfast City Airport;
- Bangor Foodbank support;
- Kids Together Belfast (Music & Me project); and
- Peoples Kitchen (homeless charity support for outreach services).

Sports, Health & Wellbeing

- Matched funding for Casia catering Christmas dinner campaign in aid of Aware;
- Autism in the Air project support;
- Strathern School kit sponsorship;
- AANI marathon registration fees and runway run registration fees for Belfast City Airport employees; and
- Dockers Boxing Club - Cross community winter boxing programme support.

Sustainability, Equality & Diversity

- The Conservation Volunteers (TCV) – 'Young Trees and Minds' programme with Belfast City Airport and 7 adopted schools;
- Killard House school – 'Blooming ' project; and

- Killamaine 'Outdoor learning and wellbeing' project.

Potential effect of the Master Plan

6.6.12 As set out in the draft Master Plan and Section 6.2 if this PER, the airport's future growth could generate substantial direct and indirect employment and investment opportunities. Improved financial stability is a key driver of good health. The expansion is likely to generate significant benefits for the Belfast economy, with these benefits (e.g. increased employment opportunities) extending to communities under flight paths and in proximity to the airport.

6.6.13 Airport expansion is likely to change community noise exposures as the number of flights increases progressively over the next 15 years. As set out in Section 6.3 (air noise) the current (2024) 57 dB noise contour encompasses an area of 3.09 km2 which is well within the approved limit area of 5.20 km2. Provisional noise modelling shows that, with the Master Plan, this noise contour will remain within this limit, reaching 4.9 km2 by 2040, but that the number of people within this contour will increase. However, the forecasts also show that in 2040 (with the Master Plan) no dwellings would be exposed to 63 dB LAeq,16 or greater. Hence, no one would experience significant adverse effects on health and quality of life in accordance with NI noise policy.

6.6.14 The Master Plan presents an opportunity to further enhance existing noise controls and noise insulation support. Section 6.3 also discusses the role of the noise insulation scheme which will ensure that noise levels in dwellings that would be detrimental to the population's health can be avoided or mitigated. The approach of using mitigation to avoid significant adverse effects aligns with the Overarching Aviation Noise Policy Statement (March 2023). The noise contour approach also provides a mechanism to limit noise levels, reducing the potential for population health effects. The targeting of mitigation to higher noise contour areas is considered appropriate and responds to equity considerations.

6.6.15 The finding (in Section 6.4) that statutory air quality objectives would be met and that the contribution of any expansion of the airport would be negligible, for all pollutants of concern, is noted. Whilst for some air pollutants there are no definitive threshold below which zero health effects may occur, the statutory air quality objectives provide a pragmatic health protection standard against which to judge the likelihood of significant risks to public health. The greatest potential for air quality influences on population health are likely to be around surface transport. However, the air quality on roads surrounding the airport, especially the A2 Sydenham Bypass, is predicted to remain well within statutory objectives and this status would not change due to additional vehicular traffic travelling to and from the airport. Whilst not within the airport's direct control, the potential for a new rail halt at Sydenham is likely to reduce car journeys to the airport, with associated air quality benefits.

6.6.16 Proposed upgrades to public transport envisaged in the draft Master Plan, including the walking or cycling associated with it, has health benefits as well as providing reduced environmental exposures associated with car use. The modal share shift supported by the expansion and to be set out in the airport Surface Access Strategy (SAS) is also likely to be beneficial for public health.

Future benefits of the Master Plan

6.6.17 Increased employment and training at the airport as a result of expansion are an opportunity for local communities. In particular, the proposed creation of an employment academy at the airport, presents a significant opportunity to integrate measures to promote access to good quality stable employment for local vulnerable groups, for example young adults not in education, employment or training. This is a key intervention point in the future health trajectory of such individuals, as well as their current and future dependants.

6.6.18 The way the airport is expanded to offer incentives to airlines is an opportunity to increase the proportion of aircraft movements by quieter aircraft types, including at times such as mornings and evenings

when there is the greatest potential for sleep disturbance. A profile of generally quieter aircraft is likely to be beneficial for public health. Opportunities for greater use of sustainable aviation fuel, or alternative technologies such as hydrogen and electric powered aircraft, are likely to further minimise public health air quality effects.

6.6.19 Reviewing the noise insulation scheme package is an opportunity to reduce public health aviation noise impacts. This includes the potential to include measures to maximise awareness and uptake of the scheme by those who would benefit most, such as tenants in areas of high health deprivation and households with literacy or language barriers. Inclusion of local community facilities within the noise insulation scheme, e.g. local schools and community centres, is likely to mitigate learning and social outcomes related to health and wellbeing.

6.6.20 The existing community benefits fund is also an opportunity to align use of the fund with areas that experience some increase in environmental exposures associated with the expansion. This may include sharing the benefits of expansion by targeting fund-supported initiatives to the most affected areas, notably linked to noise contours. Inverary Community Centre may be a candidate for support given proximity and its amenity role for the community closest to the airport. The community fund could also be used to support vulnerable groups in affected areas, e.g. through contributions to organisations and charities that support them.

Overall Conclusions with regards to Health & Wellbeing

6.6.21 As reported earlier in this PER, no breaches of noise and air quality limits, which are established by Government to protect human health, are predicted in the future as the airport develops in accordance with the Master Plan. Moreover, the training, employment and other socio-economic opportunities that will be derived from the progressive growth of BCA, offers the potential for associated health and wellbeing benefits including to local vulnerable groups, such as young adults not currently in education, employment or training. The continuation of the existing BCA Community Fund and the enhancement of its scope in the future, as well as the potential to improve the airport's noise insulation scheme, offers the further potential to sharing the benefits of the growth of the airport with the local community.

6.7 Water resources, hydrology and drainage

Baseline context

Water Resources

6.7.1 BCA has an aspiration to reduce site water consumption by 50% from 2022 by 2035. Figure 6.16 illustrates that between 2022 and 2024 the airport reduced its site water consumption by approximately 11%.

6.7.2 In 2024, the airport introduced enhanced utilities monitoring systems, including ongoing monitoring and leak detection. The effect on water consumption will be realised in 2025 figures, which are not available at the time of writing this report.

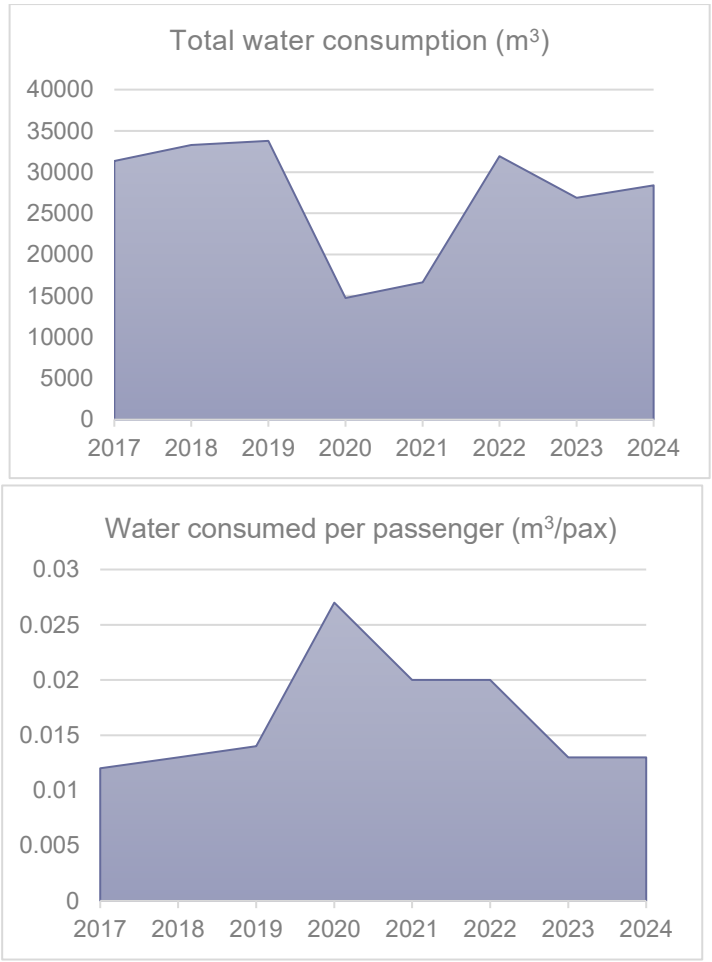


Figure 6.16 Total water consumption and per passenger consumption at the airport between 2017 and 2024

Flood Risk

River Flooding

6.7.3 In line with the Supplementary Planning Guidance (SPG) 'Planning and Flood Risk', the 1% annual exceedance probability (AEP) event plus the latest climate change factors, has been used to assess flood risk from rivers. This has confirmed that the airport is not at risk of flooding from the local watercourses, which include Tillysburn Stream / Kinnegar Water and the Conns Water / Mallusk Channel.

6.7.4 In accordance with the SPG, a 0.5% AEP event plus the latest climate change prediction has been used to assess flood risk from the sea. There is a small area within this criterion in the southeastern corner of the airport, as shown in Figure 6.17 This area is currently used for BCA staff parking and as a General Aviation (GA), including one stand. In a coastal flood event, the majority of this area is predicted to be affected by flood water of a shallow depth at most, of less than 0.3m in a 1-in-200-year flood event. There is a small area that could be between 0.3 and 1m deep in a 1-in-200-year event. However, the airport intends to retain this area as modified grassland and not to include buildings or other structures here, as part of its Master Plan proposals.

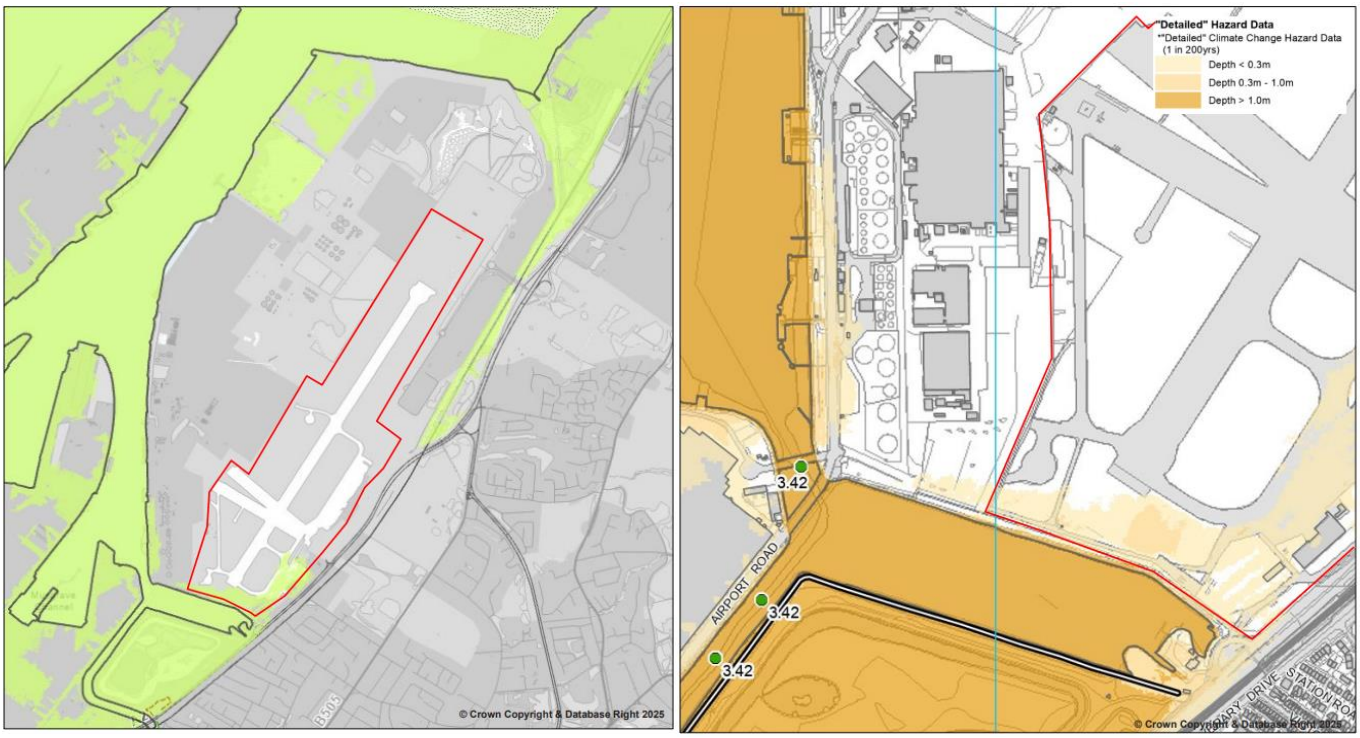


Figure 6.17 Coastal flood map and depth in the 0.5% AEP

Surface Water Flooding

6.7.5 There are small pockets of the airport that may be subject to surface water flooding in a 0.5% AEP event, generally with depths of less than 0.3m.

Impounded Water Bodies Flooding

6.7.6 DfI Rivers' Reservoir Flood Mapping for Emergency Planning shows that the site is not within the potential inundation area of any impounded water body.

Other hydrological features

6.7.7 Other hydrological features of the airport site include:

- The are no current abstractions associated with the airport, although there are historic abstraction points nearby;
- The underlying Sherwood Sandstone aquifer is classified as having a low vulnerability to pollution due to an intervening layer of Boulder Clay;
- Foul flows generated by the airport discharge via gravity to a NI Water combined trunk sewer;
- The site is situated adjacent to the coastal floodplain of Belfast Lough. However, there are no designated flood defences within the boundary of the airport or adjacent to the site; and
- As stated above, the airport site is potentially at risk of surface water flooding, albeit there have been no recorded incidents of significant flooding in recent years.

Drainage

6.7.8 The airport site is currently served by a conventional drainage system, with surface runoff collected in gullies and channels. Flow is directed to a series of oil interceptors and sampling chambers with automatic water quality monitors, prior to being conveyed to the final point of discharge. There are five points of discharge from the airport to the receiving watercourses, which include Tillysburn Stream / Kinnegar Water and the Conns Water / Mallusk Channel – all of which eventually outfall to Belfast Lough.

6.7.9 Where sampling indicates an exceedance in the discharge consent limits (conductivity or flow), surface runoff is diverted to a containment lagoon within the airfield. The water is then conveyed to a secondary diversion chamber, which allows for diversion of flow to either the NI Water foul sewer (pumped to Kinnegar Waste Water Treatment Works (WWTW) to the north of the airport) or to the local storm drain via an oil interceptor located in the car park to the south.

6.7.10 The car parks, terminal building roof area and access roads are served by separate drainage systems and pass via oil interceptors to the respective point of outflow.

6.7.11 There have been no recorded water pollution incidents arising from airport activities in recent years.

Existing initiatives at the airport

6.7.12 As mentioned above, the airport has recently implemented ongoing monitoring and leak detection with the purpose of reducing water consumption over time.

Potential effect of the Master Plan

6.7.13 The uplift in passenger numbers will increase drinking water used at the airport; this is an inevitable consequence of increasing passenger numbers. Given BCA's commitment to grow in a sustainable manner, the airport will continue monitoring its water usage and implement water-saving methods where feasible. As set out in the draft Master Plan, BCA has the ambition of reducing site water consumption levels by 50% by 2035 (from a 2022 baseline).

6.7.14 Areas of the airport are subject to a minor risk of shallow coastal and surface water flooding, including parts of the existing apron extension and peripheral grassland to the south of the airfield. Planning policy in the Belfast Plan Strategy states that development will not be permitted within an area susceptible to coastal flooding. There are exceptions to this policy for essential infrastructure and storage of hazardous materials. The draft Master Plan has taken into account the areas at risk of flooding and has purposefully avoided locating new structures or buildings in these areas.

6.7.15 In conjunction with the development of its draft Master Plan, the airport has consulted with NI Water to discuss future foul water treatment options and any capacity constraints as the airport grows towards 7mppa. It is anticipated that NI Water will need to upgrade its local sewage treatment works at Kinnegar in due course, irrespective of the increasing foul water discharges from the airport. BCA will continue this dialogue to ensure that adequate capacity is planned for over the next 15 years.

Future benefits of the Master Plan

6.7.16 Investment in airport infrastructure, as part of its Master Plan, provides further opportunities for the installation of water efficiency measures such as low-flow fixtures, rainwater harvesting systems, and water recycling initiatives. Sustainable urban drainage systems (SuDS) will be examined across the airport site to support effective site water management, enhance resilience to flooding and reduce the environmental impact of drinking water consumption.

6.7.17 In conjunction with the development of its draft Master Plan, the airport has consulted with NI Water to discuss future foul water treatment options and any capacity constraints as the airport grows towards 7mppa.

BCA will also examine how it can reduce discharges by better segregation of clean and dirty water on the airfield (e.g. better diversion / containment of run-off containing de-icer) as well as employing dual-flush toilet facilities. Such measures not only reduce the volumes of foul water discharge requiring treatment, but also reduce the energy and carbon involved in such treatment.

Overall Conclusions with regards water resources, hydrology and drainage

6.7.18 The initial assessment of the implications of the growth of the airport on 'water resources' and associated infrastructure (i.e. flood risk, potable water consumption, surface water drainage and foul water discharges) has not identified any significant constraints which cannot be readily mitigated through design measures and operational practice. Moreover, the Master Plan offers the potential to introduce further water efficiency measures within the terminal and other buildings, as well as new sustainable drainage and rainwater collection systems to better segregate clean and dirty water, with associated monetary and carbon savings.

6.8 Ecology & Biodiversity

Baseline context

6.8.1 The airport itself is not situated within a Natura 2000 site or other statutory ecological designation. However, it is located in close proximity to the combined Belfast Lough Special Protection Area (SPA), Area of Special Scientific Interest (ASSI) & Ramsar Site (approximately 390m), and the Outer Belfast Lough SPA/ASSI (approximately 510m), as shown in Figure 6.18 below. The designations also include a Royal Society for the Protection of Birds (RSPB) Reserve to the north of the runway (see Figure 6.19), other Local Wildlife Sites and Woodland Priority Habitat (see Figure 6.18).

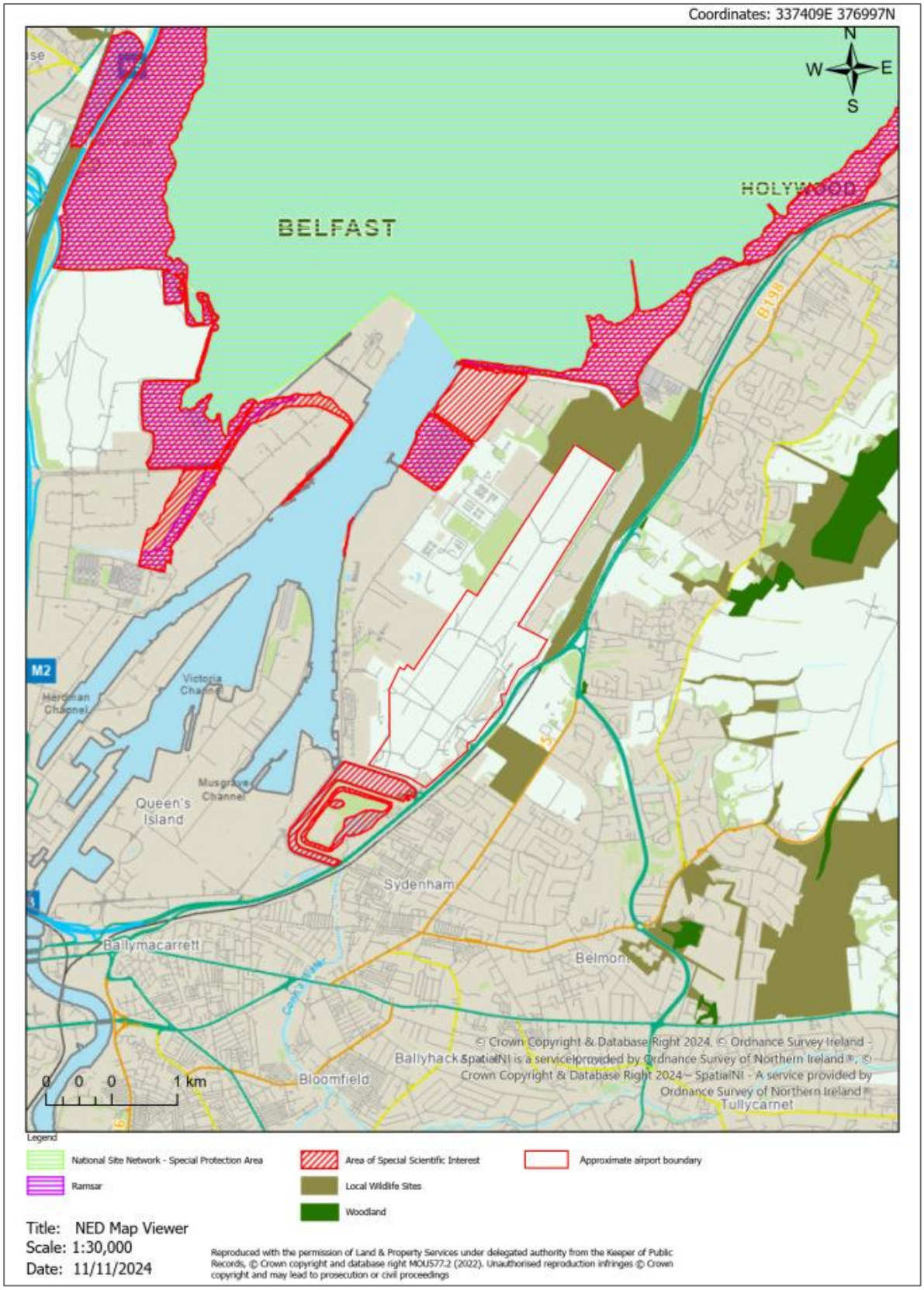


Figure 6.18 Designated sites in proximity to Belfast City Airport Site. Exported from DAERA Natural Environment Map viewer[40]

[40] DAERA Natural Environment Map viewer available at: Natural Environment Map Viewer | Department of Agriculture, Environment and Rural Affairs

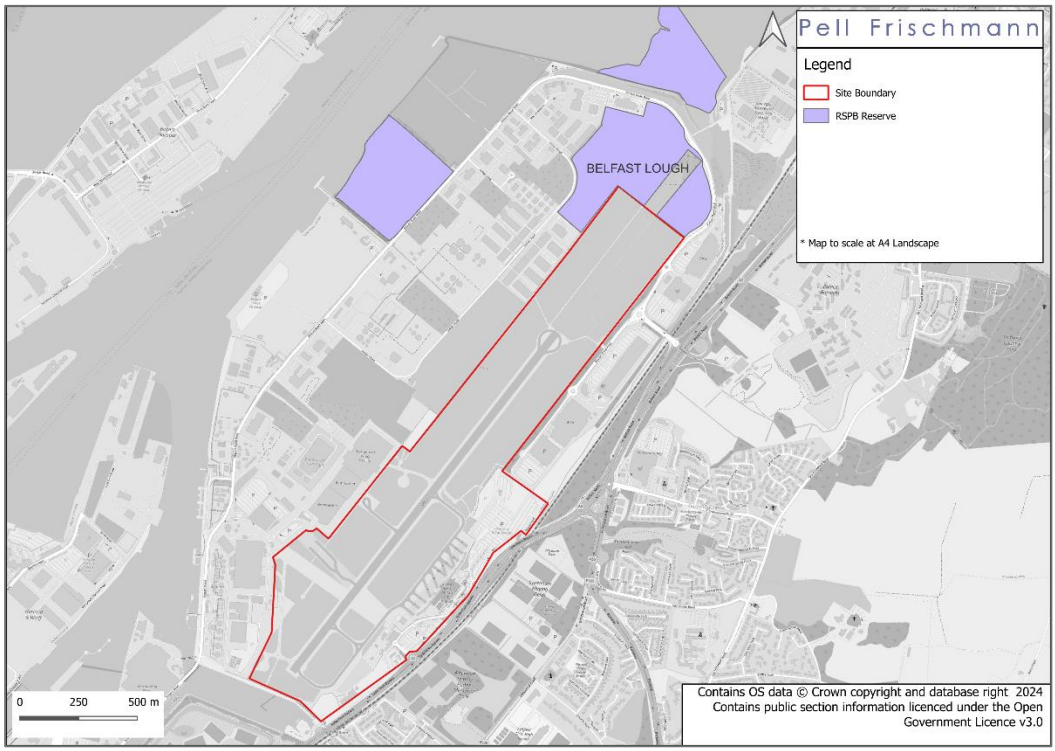


Figure 6.19 Location of RSPB reserve areas in relation to the airport site boundary

6.8.2 Other designations/ features include:

- Belfast Lough falls within the North Eastern River Basin Management Plan for Water Framework Directive (WFD) purposes. A duty exists upon the Northern Ireland Environment Agency (NIEA) to restore the status of the Lough to good status and/or ecological potential.
- Inner Belfast Lough ASSI encompasses the southern part of Belfast Lough and is classified as an ASSI, primarily due to its fauna. It includes areas of intertidal foreshore which form important feeding / roosting sites for wildfowl.
- The Inner Lough has also been declared as a Eutrophic Sensitive Area and has been designated as a shellfish water for the purposes of the EC Shellfish Waters Directive.
- Areas of the Outer Lough are designated under the Nitrates and Bathing Waters Directives.
- A number of other water bodies (namely, Belfast Harbour, Connswater Estuary & Lagan Estuary) are hydrologically connected to Belfast Lough and have also been designated under WFD and associated Directives

Habitats

6.8.3 An ecological survey, completed by Pell Frischmann in February 2025, determined the type and extent of the habitats present and detailed evidence of, or suitability for, protected, notable and invasive non-native species, which informed the Preliminary Ecological Appraisal (referred to as the 2025 PEA hereafter).

6.8.4 The PEA identified extensive areas of developed land/ sealed surface are present throughout the airport including paved tarmacadam and concrete areas comprising the runway, taxiways, roads, footpaths, and carparks. These areas typically contain no plants or features of biodiversity value. Modified grassland is also present, comprising both large areas of mown grassland bordering the runway and taxiways and small parcels of amenity type modified grassland in publicly accessible areas surrounding the terminal and existing carparks. Areas of other neutral grassland are present at the north of the airfield. This habitat is characterised by a lower level of management than the areas identified as modified grassland, with a taller more tussocky sward containing scattered scrub and self-sown tree saplings. A watercourse within a drainage ditch is

present in the northeast of the site, flowing north into the RSPB reserve area. The watercourse is culverted under the tracks and along the airport boundary and between the perimeter track and the runway.

6.8.5 Other mixed woodland is present immediately north and south of both roundabouts forming a linear strip between Airport Road West and the airport site boundary. The plantation of mixed woodland contains semi-mature trees of relatively uniform age/size. A line of yew (*Taxus baccata*) trees is present between the narrow strip of modified grassland and advertising boards and an area of bramble scrub bordering the airport fence at the southern Airport Road West roundabout.

Protected and notable species

6.8.6 Surveys undertaken in 2013 to inform the EIA/ Environmental Statement supporting a previous planning application by BCA (the 2013 ES) identified smooth newt (*Lissotriton vulgaris*) and common lizard (Zootoca vivipara). This survey identified the presence of smooth newts within the ditch in the north of the airfield and common lizard within the airfield. The 2025 PEA confirmed grassland and scrub within proximity to waterbodies throughout the north of the airport as suitable habitats for common lizard and suitable terrestrial habitats for smooth newts, and the waterbodies and wetland vegetation within the RSPB reserve area and the drainage ditch (present through the north of the airfield) as being suitable to support breeding amphibians. Surveys undertaken to inform the 2013 ES identified smooth newts and common lizard in the north of the airfield and in the RSPB reserve to the north.

6.8.7 The 2025 PEA undertaken by Pell Frischmann confirmed the suitability of grassland, areas of scrub in the north, and the woodland, ornamental tree planting and introduced shrub and mixed scrub to support a range of nesting birds. There was no evidence of badger setts or signs of activity were identified during the survey; however, the grassland, scrub and woodland in the airport and RSPB reserve areas in the north are suitable to support foraging badgers.

6.8.8 Invasive and non-native Japanese knotweed (*Reynoutria japonica*) dead canes were identified in grassland in the northwest of the site in February 2025 and confirmed onsite within historical data records provided by the Centre for Environmental Data and Recording (CeDAR) and during surveys in 2013 as part of the previous ES.

Existing initiatives at the airport

6.8.9 Belfast City Airport is committed to supporting local initiatives that generate a positive impact on biodiversity, through its dedicated Community Fund. For example, the Community Fund has enabled the development of a new outdoor wildlife area at Kings Road Nursery School. There is also an existing partnership proposal between Belfast City Airport and The Conservation Volunteers (TCV) who work with the seven BCA Adopted Schools to deliver a Young Trees and Minds programme with community works to restore native woodlands.

6.8.10 BCA's Sustainability Strategy includes the aim to *"maximise opportunities to make a positive impact on local biodiversity"* by introducing biodiversity enhancements and additional habitats to within and beyond the airport boundary. BCA first achieved silver level in the Business & Biodiversity Charter in 2017 with this due to be renewed in 2025.

6.8.11 Bird strike management and monitoring procedures are employed to mitigate risks to aircraft in flight and on the runway, which are implemented in line with good practice guidance set out in CAP 772 – Bird Strike Risk Management for Aerodromes [www.caa.co.uk]. The BCA Bird Control Plan requires bird strike risk control and monitoring to be applied within 13km of the airfield. There is also a Long Grass Policy which aims to create an unfavourable habitat for birds, in addition to active bird control measures to reduce the risk of bird strike.

6.8.12 BCA conducts an annual review of its Bird Hazard Assessment including population trends drawn from analysing bird log records and bird strike records and makes any necessary amendments to ensure that it remains effective.

Potential effect of the Master Plan

Development and construction

6.8.13 As part of the airport's future development plans, including improvements to infrastructure such as new roads, buildings, additional car parking, and upgrades to the airfield, some natural habitats within the site may be lost and/or damaged during construction.

6.8.14 In the airfield area, the most sensitive habitats potentially impacted include 'other neutral grassland', mixed scrub, individual trees, watercourse/drainage ditch, and the areas of plantation woodland situated along Airport Road West and surrounding existing car parks. Of these, the areas classified as 'other neutral grassland' and 'watercourse/ditch' are considered the most ecologically valuable due to their greater potential to support a wider range of plant and animal species. Any loss of these habitats would have a greater ecological impact and would need to be carefully managed through enhancement of retained areas of modified grassland and ditches or creation of new habitats to maintain overall biodiversity. Bramble scrub and modified grassland are also important, though of slightly lower ecological value, and any impacts on these areas would also need to be offset with appropriate habitat improvement or replacement.

6.8.15 In areas around existing buildings and car parks, where development will be focused on expanding or upgrading facilities, smaller patches of amenity modified grassland, non-native ornamental planting, and ornamental trees could be affected. These are typically of low ecological value, but the airport will still aim to minimise biodiversity impacts and incorporate landscaping that supports local wildlife where possible.

6.8.16 The north of the airfield and northern margins of the existing carparks are considered suitable to support protected species such as common lizard and smooth newts. Additional surveys are currently being undertaken to confirm the extent of the occurrence of these species within the site. Appropriate licences and mitigation to prevent killing or injuring of common lizard and smooth newt will be required during construction. In addition, consideration will be given to maintaining the connectivity of habitat parcels and to potential breeding locations within and across the site though further detailed design of the Master Plan.

6.8.17 In the absence of additional mitigation and management, there is potential for the distribution of the non-native species Japanese knotweed to be spread or be allowed to spread within or out of the site by vehicle, personnel, or soil movements during construction. As such, specific precautionary measures will be taken during these works, combined with a programme of eradication of this non-native plant species.

6.8.18 Due to the ongoing requirement to manage bird populations and activity within the airport site to maintain airspace safety, there is limited potential for adverse effects from habitat loss to birds within the airfield from construction of the new aircraft stands and runway loop. However, the loss of habitats within the development footprints may result in the depletion of nesting and foraging habitats for limited numbers of smaller bird species which are less targeted by the existing wildlife management techniques.

6.8.19 There is no potential for loss of habitats or other physical effects to the designated sites in proximity to the airport (including the RSPB reserve or Belfast Lough ASSI (south and north-east of the airfield), Belfast Lough SPA and Ramsar, or Belfast Lough open water SPA)) because of the Master Plan.

6.8.20 As with any construction project, there is a potential risk of pollution of waterbodies through mobilisation of sediments and accidental spillages such as fuel, either directly into the ditch in the north of the airfield site or via the wider surface water drainage system, both airside and landside. Pollution of waterbodies has potential to degrade the habitat quality of surrounding waterbodies receiving the discharges and to reduce habitat suitability or quality for protected or notable species (such as smooth newt, and notable invertebrates), in addition to the potential for indirect pollution of habitats within the Inner Belfast Lough.

However, all construction activities will be carefully controlled to meet legislative and best practice standards, including through the implementation of a detailed Construction Environmental Management Plan (CEMP) as well as specific pollution prevention measures such as the use of bunds and spill kits. With these mitigation measures in place, the risks of pollution to receiving water bodies and the wider environment will be avoided or reduced to a minimum.

Operation

6.8.21 The installation of any additional lighting adjacent to areas of retained habitats has the potential to reduce the suitability of such habitats for foraging bats and roosting birds, particularly in the north of the airfield adjacent to the RSPB reserve and closer to the SPA and ASSI north of the site. Previous surveys indicate these areas may be used by foraging and commuting bats. However, the existing runway landing lights are situated in this area, so the area is already subject to some nighttime illumination.

6.8.22 The predicted increase in flights to around 61,000 ATMs, as envisaged in the draft Master Plan, has the potential to increase disturbance of roosting birds associated with the Inner Belfast Lough ASSI, Belfast Lough SPA and Ramsar, and Belfast Lough open water SPA. However, birds in these locations are already acclimatised to overflying aircraft and therefore such impacts are expected to be low and capable of effective mitigation. These potential impacts and any necessary mitigation will be further assessed through the Habitats Regulation Assessment (HRA) and EIA processes supporting any future planning application.

6.8.23 The predicted increase in passenger numbers could result in more visual disturbance from increased traffic, public transport or recreation in and adjacent to Belfast Lough. There is also potential for increased disturbance to bird communities present within the RSPB reserve (Belfast Harbour Estate Local Wildlife site) located immediately north of the airfield with the potential for reduced suitability for roosting birds from any extension of operating hours. However, such direct and indirect operational effects are likely to be small to negligible, given the existing presence of the airport, other industries and the traffic on the A2 Sydenham Bypass and other roads.

6.8.24 Although the marine and sub-tidal habitats within the SPA and Ramsar sites are not considered susceptible to air quality impacts due to the dilution factor and tidal hydrodynamics influence, there is potential for impacts to intertidal and supratidal habitats, such as where habitats are sensitive to nitrogen deposition. As set out in section 6.4 (see Air Quality & Ecology sub-section), the provisional assessment indicates that background concentrations of NOx are below the critical levels, with annual mean background concentrations of, at most, 22.4 µg/m3 across these designated ecological sites. There are, however, exceedances of the nitrogen deposition critical load, which is common in much of the UK. Whilst NOx emissions may increase by a marginal amount as the airport grows, it is not considered that this will result in any significant adverse effect on these habitats. Again, this will be confirmed through more detailed assessment conducted as part of the HRA and EIA processes at the planning application stage.

Future benefits of the Master Plan

6.8.25 Where feasible, the future detailed design of the BCA Master Plan will include options for increasing the biodiversity value of the airport estate, whilst observing flight safety/ bird strike management protocols. This could include the incorporation of bioswales as part of any sustainable drainage/ SuDS design and green/ brown roofs on landside buildings. Overall, the airport is committed to delivering its future development with a strong focus on protecting and enhancing biodiversity, aiming for no net loss of important habitats wherever possible. As stated in the draft Master Plan:

"We propose to deliver our future development with a strong focus on protecting and enhancing biodiversity, aiming for no net loss of important habitats wherever possible. We are exploring options to create onsite biodiversity enhancements to balance any habitat loss, such as increasing grassland plant diversity and providing habitat for insects, amphibians and reptiles in non-operational areas of the airport".

6.8.26 To achieve a minimum of 'no net loss to enhancement ratio', based on the DEFRA Statutory Biodiversity Metric (which identifies a loss to habitat enhancement ratio of over 1:1.71 for 'other neutral

grassland' and a loss: enhancement ratio of over 1:2.05 to achieve a 10% gain) improvements will be made to retained areas of modified grassland (as described below). This principle will be used to inform potential land allocation at the Master Plan detailed design stage and the potential biodiversity enhancement to meet the local planning policies and BCAs own policy of addressing impacts on biodiversity and conserving and enhancing biodiversity, where possible.

6.8.27 Landscape design associated with the Master Plan will aim to prioritise the use of native species of local provenance, in line with the principles of BCC's Local Development Plan Policies ENV3, GB1, and NH1. This approach is reflected in the airport's existing partnership with The Conservation Volunteers supporting their work with a local tree nursery.

6.8.28 There is significant potential for habitat enhancement across the site through both active management and targeted habitat creation, particularly by improving the quality of existing modified grassland within the airfield. This can be achieved by increasing plant species diversity, which supports a wider range of invertebrates and contributes to overall biodiversity. In line with the aims of being a supporter of the All-Ireland Pollinator Plan, management practices will aim to create flower-rich grassland that provides essential food and shelter for pollinators such as bees, butterflies, and hoverflies. Key techniques may include reducing mowing frequency, removing cuttings to lower soil fertility and encouraging wildflower growth, sowing appropriate native wildflower seed mixes, and avoiding pesticide and herbicide use. In addition to improving ecological value, the design and management of these habitats would also address airfield safety priorities, by reducing the attractiveness of open grassland to wading birds and waterfowl which pose a risk of bird strike to aircraft, by maintaining a taller sward height.

6.8.29 Additional pollinator initiatives identified include creation of native species-rich hedgerows, and there is potential for incorporation of hedgerows in landscape planting in the areas of existing car parks and around the airport buildings away from the runway. Habitat management could therefore balance biodiversity enhancement with aviation safety, creating grasslands that are rich in pollinators but less suitable for larger bird species. Additional habitat enhancements can potentially include enhancement of retained grasslands in the north of the airfield to provide hibernation habitat for both common lizards and smooth newts through provision of log or rubble hibernacula. Areas with potential to facilitate the types of enhancement options described are shown in Figure 6.20 below.

Figure 6.20 Areas within the airport boundary that may facilitate the enhancement options

Overall Conclusions with regards Ecology & Biodiversity

6.8.30 The physical expansion of the airport in accordance with the aspirations set out in the draft Master Plan will inevitably lead to some loss of habitat within the site boundary. However, as described above, this habitat is largely managed airfield grassland which has an intrinsically low ecological value. Moreover, the development of the airport provides various opportunities to enhance the biodiversity value of non-operational areas of the BCA campus, including through enhancing existing habitats, introducing new landscaping using indigenous species, and adopting measures to safeguard protected species. As such, there is the opportunity to achieve an overall 'net gain' in biodiversity.

6.8.31 Potential impacts to retained habitats, waterbodies and protected species (including smooth newts, common lizards and bats) during construction works will be avoided or otherwise mitigated through careful planning and management of the works, including through the adoption of a CEMP based of best practice construction procedures. No significant residual risks or effects are expected.

6.8.32 Increases in noise, visual disturbance and air pollution (NOx) associated with the future growth of the airport are expected to be minimal and no significant impacts on birds and other species within the adjoining RSPB reserve and more distant ecological designations within Belfast Lough are anticipated. However, such potential impacts will be assessed in further detail at the HRA and EIA stages, and appropriate mitigation measures adopted where necessary.

6.9 Ground conditions and contamination

Baseline context

6.9.1 The airport has a long history; it started life as Sydenham Airport, a military base, and played an important role in the Second World War between 1940 and 1945, before becoming established as an important asset in Northern Ireland's defence and aerospace industries. For much of the post war period it supported the operations of Shorts; one of Northern Ireland's most important businesses at the time. As such, there is the potential for historical ground contamination to be present at the site due to these previous military and industrial activities.

6.9.2 In 1983, the airport was renamed 'Belfast Harbour Airport' when it started scheduled passenger services, whilst continuing to support Shorts' aerospace operations.

6.9.3 The main runway was extended in 1952 and, around that time, approximately 500,000 tonnes of fill was imported from various sources to level the existing ground profile. Several site investigations undertaken between 1998 and 2013 have recorded a consistent layer of Made Ground of up to 1.9m deep. This Made Ground is largely composed of marine alluvium and gravel, with occasional concrete fragments, ash and cinder deposits. A review of site investigations in the surrounding area suggests that some of the imported Made Ground may also have originated from the former Belfast Gas Works site and could therefore include contaminants such as heavy metals, hydrocarbons and asbestos.

6.9.4 Beneath the Made Ground lies the natural soil and geological profile comprising estuarine alluvium of sand and silt (up to 6.3 metres deep), underlain by Sherwood Sandstone aquifer, which is classified as "very low" vulnerability. Targeted investigations in the past have identified traces of hydrocarbon contamination within the aquifer.

6.9.5 Additional sources of potential contamination include:

- Occasional asbestos fragments from demolition of redundant buildings.
- Spills and leaks from fuel storage pipes and tanks.
- Contamination in the location of the fire training ground – from unburnt propellants and firefighting foams.
- Ground gases including methane and carbon dioxide generated from organic and inorganic contaminants within the underlying Made Ground and alluvial deposits.
- Lands adjoining the western boundary of the airport were previously used for vehicle fuelling / oil depot.
- Lands adjoining the eastern and northeastern boundary were previously used as a landfill / refuse tip

6.9.6 Ground conditions and contamination is therefore expected vary across the area. However, there is no evidence of widespread or gross contamination at the airport site. That which does exist is likely to represent isolated 'hotspots' which will be contained by overlying soils and hardstanding. The 'zones' of the airport in which there is a low, medium and high probability of encountering contamination are shown in Figure 6.21 below.

6.9.7 A review of existing reports recommends the following mitigation measures to manage impacts to future users of the site:

- Additional sampling in areas of major earthworks to verify the depth and contaminant profile of the made ground;
- Installation of groundwater monitoring wells to monitor and characterise groundwater throughout the site; and
- Installation of gas protection measures beneath new buildings.

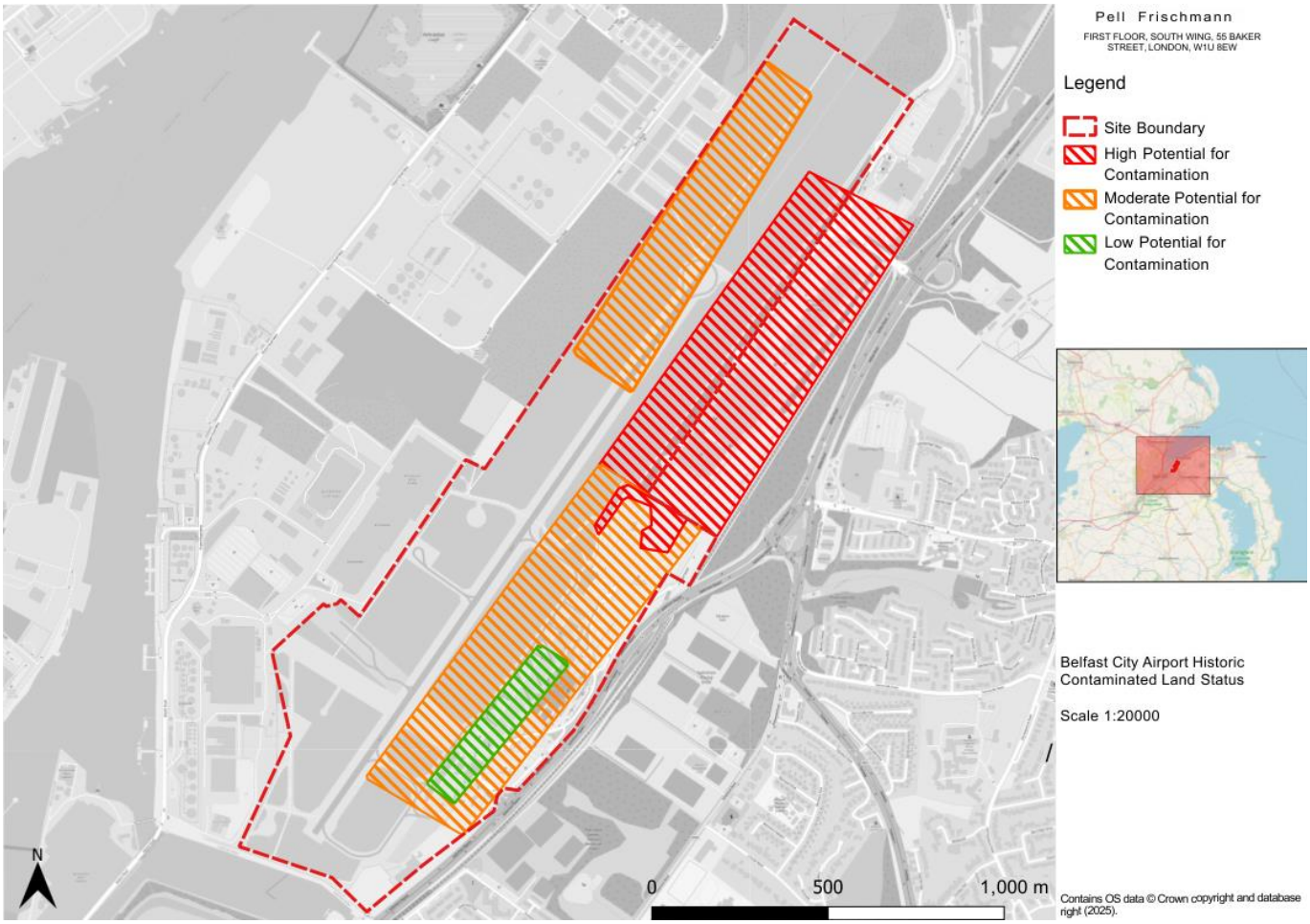


Figure 6.21 Potential Zones where ground contamination may be present, based on previous investigations

Existing initiatives at the airport

6.9.8 BCA manages land contamination, as well as other environmental issues, through its accredited Environmental Management System (EMS), certified to BS8555, Phase 5 standard. The EMS provides a structured and proactive approach to identifying, assessing, and managing sources and pathways of contamination in line with relevant land contamination and waste management regulations.

6.9.9 Key elements of this approach include:

- Reviewing historic environmental reports to identify areas of potential concern;
- Conducting further, targeted ground investigations to determine the extent and nature of contamination and develop remediation plans and strategies, as necessary; and
- Developing mitigation measures to minimise the risk of the mobilisation and exposure to contamination during construction or operational activities.

6.9.10 The EMS also sets procedures for routine site inspections, safe handling and storage of materials, and the prevention of accidental releases of harmful substances. It ensures ongoing compliance with legal requirements and supports continuous improvement in environmental performance, helping to protect both site users and the wider environment.

Potential effect of the Master Plan

6.9.11 The proposed future physical development of the airport, in accordance with the draft Master Plan, has the potential to disturb existing contamination and create preferential pathways for contaminant migration to air, land and water. It is anticipated that, prior to any construction groundworks taking place, particularly in

zones of 'medium' and 'high' risk (as shown on Figure 6.21), that further site investigations are conducted to characterise the nature and extent of contamination and develop appropriate mitigation or remediation plans. This will be done in conjunction with the Environmental Health Officer (EHO) at Belfast City Council and/or the Northern Ireland Environment Agency (NIEA). Where contamination is found, a robust remediation strategy will be developed to remove or encapsulate the contaminated soils and to protect workers, the public, and environmental receptors in line with regulatory standards and best practice.

Future benefits of the Master Plan

6.9.12 As described in the draft Master Plan and the next section of this PER, BCA encourages the sustainable reuse and recycling of all materials generated at the airport, with the aim of achieving 'zero wate to landfill' by 2040. This also includes construction waste and clean soils and minerals (e.g. gravel) excavated during future developments. New buildings and infrastructure will also be designed to minimise the generation of waste at source and to limit ground excavations and disturbance to the surrounding environment wherever possible. This approach will reduce emissions associated with transportation, processing, and disposal of waste while reducing the demand for virgin materials

6.9.13 BCA will ensure a strategic approach to identifying and managing potential land contamination, including ground gas, is deployed across the airport. This will ensure contamination risks are assessed early on in the planning and design process, allowing for appropriate mitigation measures to be integrated into each phase of the development. As described above, where contamination is identified, remediation strategies will be implemented in line with best practice and regulatory standards to protect human health and the environment. Monitoring and validation protocols will then be implemented to track the effectiveness of any remediation undertaken.

6.9.14 It can be surmised that, with these mitigation measures in place, the risk of pollution to the environment from historic sources of contamination will not be exacerbated by the proposed construction works and, ultimately, may be reduced once the Master Plan is fully built out.

Overall conclusions with regards Ground Conditions and Contamination

6.9.15 Whilst there is a reasonable likelihood of encountering historic contamination in certain areas of the airport during its future expansion, this is not unusual when redeveloping industrial/ brownfield sites. Moreover, there are tried and tested methods of mitigating for, and where necessary remediating, contamination in order to reduce any ongoing pollution risk and thereby protecting people and the natural environment.

6.9.16 BCA will ensure that all contamination risks are further investigated, assessed and mitigated through the detailed planning, design and construction of each phase of the Master Plan and will do this in conjunction with the appropriate statutory authorities.

6.9.17 Overall, it can be concluded that no significant adverse environmental effects are likely to arise from the presence and/or remediation of ground contamination, when considering the further development of the airport in accordance with the draft Master Plan.

6.10 Waste

Baseline context

6.10.1 The majority of the airport's waste is currently produced by airlines, tenants and commercial concessions. This can include, for example, commercial food waste from airline catering services; general waste generated within the terminal, shops, restaurants and other facilities; and passenger related waste.

Other waste sources include airport operations such as equipment maintenance and disposal, hazardous waste from maintenance and cleaning, and construction waste from development projects.

6.10.2 As stated previously, BCA manages its operations in accordance with an independently validated Environmental Management System (EMS). This provides a framework for setting and reviewing environmental performance objectives and targets. One of the key areas of focus of the EMS is waste management, based on the UK waste hierarchy: to first minimise waste generation at source; then explore options for reusing and recycling waste; and ultimately to reduce waste sent to landfill to the absolute minimum. In the airport's Sustainability Strategy, BCA has set a target to send less than 2% of waste to landfill by 2030 and zero waste to landfill by 2040.

The airport reduced its total waste produced (excluding hazardous waste, waste electrical & electronic equipment (WEEE) and waste from construction projects)) between 2017 and 2024 from 298 to 234 tonnes, equating to a reduction of 21.5% during this time period. This represents an approximate saving of 18% per passenger over the same timeframe, as illustrated in Figure 6.22.

Figure 6.22 Total percentage of waste to landfill and waste per passenger at the airport between 2017 and 2024

Existing initiatives at the airport

6.10.3 BCA is currently in the process of undertaking a waste management review, specifically looking at further options for waste segregation, better handling and commercial arrangements with its Business Partners.

6.10.4 The airport segregates a range of materials for recycling including cups, plastic bottles, and paper. In June 2018, the airport introduced Nexus 100 Recycling Containers (as illustrated in Figure 6.23), which have brightly coloured apertures with graphics to highlight the waste stream being collected, encouraging waste segregation by passengers and staff and minimising cross-contamination.

Figure 6.23 Nexus recycling containers

6.10.5 BCA staff and Business Partners are briefed to ensure the waste hierarchy is correctly applied and ensure waste is segregated and handled in the correct manner. This is implemented through the airport's EMS.

6.10.6 The airport is currently undertaking the following specific initiatives to minimise waste:

- Ongoing review of site waste management processes;
- Supply chain engagement to identify opportunities for resource efficiency and waste reduction; and
- Introduction of enhanced utilities monitoring systems.

6.10.7 Other initiatives that also support waste minimisation include installing a free water fountain in the terminal, estimated to save the equivalent of 3330 plastic bottles per year.

Potential effect of the Master Plan

6.10.8 The airport currently produces a relatively small amount of waste which ends up in landfill (<4%). However, as passenger and staff numbers grow towards 7mppa in accordance with the draft Master Plan, there is the potential for a proportionate increase (approximate trebling) of overall waste produced unless further efforts are made to reduce waste at source. Moreover, the construction of new buildings and infrastructure envisaged in the draft Master Plan has the potential to add an additional source of waste.

Future benefits of the Master Plan

6.10.9 BCA is determined to increase its efforts to reduce waste by exploring further options to avoid it being generated in the first place (e.g. by limiting the need for overpackaging of goods and employing modular construction techniques) and by working with its partners and airlines to look at how aircraft, terminal and catering waste can be reduced, reused or recycled. These initiatives will be driven by the overall aim of 'zero waste to landfill by 2040' and compliance with the Northern Ireland Waste Management Strategy, focusing on resource efficiency and sustainable waste practices. Over the next fifteen years, there is scope for longer-term, meaningful engagement with the airport's business partners and supply chain to achieve waste reductions. Also, the reconfiguration and expansion of the airport terminal and campus, as set out in the draft Master Plan, offers various opportunities to 'design in' contemporary waste management facilities. Waste reuse, recycling and management measures will be quantified and reviewed by BCA on an annual basis to track ongoing progress towards its targets.

Overall conclusions with regards to waste

6.10.10 On the basis of the above, and particularly BCA's commitments to reduce waste over time in accordance with the waste hierarchy and to send zero waste to landfill by 2040, no significant adverse effects are predicted.

6.11 Archaeology and built heritage

Baseline context

6.11.1 An archaeological desktop study has been undertaken for BCA by Graham and Long (February 2025) to inform the draft Master Plan. This study was completed using published data available online, namely from the Department for Communities: Historic Environment Division Sites and Monuments Record and cartographic material available from the Public Records Office Northern Ireland, as well as various other sources to obtain further historical background to the site. The main findings of this study are presented below.

6.11.2 A single recorded Northern Ireland Sites and Monuments Record (NISMR) was identified within the airport boundary. This is denoted as MRD 130:007, which relates to a findspot of prehistoric artefacts that was discovered prior to the land reclamation of the airport site in the 20th Century.

6.11.3 A single industrial heritage site is recorded within the airport boundary, IHR 10648, Shorts Brothers Complex. In 1936, the Air Ministry established a new aircraft factory at Belfast and created a new company Short & Harland Ltd. The creation of the aircraft factory is intrinsically linked to the development of the site as a World War II (WWII) airfield.

6.11.4 Eleven sites relating to the WWII airfield were identified in the airport boundary, as listed below. The location of the cultural heritage assets can be seen in Figure 6.24.

- DHR Number 82:000 Airfield.
- DHR Number 82:001 Runway.
- DHR Number 82:002 Compass Rose.
- DHR Number 82:005 Seagull Trench.
- DHR Number 82:007 Seagull Trench.
- DHR Number 82:008 Runway.
- DHR Number 82:009 Runway.
- DHR Number 82:011 Perimeter Track.
- DHR Number 82:012 Frying Pan Dispersal.
- DHR Number 82:013 Signal Square.
- DHR Number 82:014 Runway Control Hard Standing.

6.11.5 The archaeological potential of the airport relates mostly to its WWII history. Aerial photographs suggest that buildings associated with the WWII airbase were located within the southeastern corner of the site. Whilst all evidence of these structures is likely to have been removed, it is possible that sub-surface deposits relating to them could survive.

Figure 6.24 Cultural heritage assets within the airport boundary

Existing initiatives at the airport

6.11.6 Belfast City Airport are committed to conserving, sustaining and enhancing the area's environmental qualities including archaeology. Where possible, the airport's defence heritage site records have been retained. This includes the compass rose, the runways that are largely intact, and the 'Frying Pan Dispersal' which is also intact and in good condition.

Potential effect of the Master Plan

6.11.7 The archaeological context of the airport has been taken into consideration in the development of the draft Master Plan. As described above, the archaeological potential of the site relates mostly to its WWII history and there are no formally designated archaeological priority areas or protected features/ artifacts within the airport boundary. Moreover, the surface remains of the airport's war time history are largely within the airside areas away from the proposed new stands, runway loop and other developments envisaged in the draft Master Plan. As such, these present no constraints to the future development of the site.

Future benefits of the Master Plan

6.11.8 BCA will maintain its commitment to conserve, sustain and enhance the area's environmental qualities, including archaeology. At the detailed design, planning and implementation stages appropriate archaeological advice and consultation with the relevant statutory bodies will be sought, as necessary, to ensure the archaeological history of the site is preserved and where possible emphasised.

Overall conclusions with regards to Archaeology

6.11.9 On the basis of the findings of the archaeological desk study described above, and accounting for the proposed extent and configuration of the new infrastructure, no significant adverse effects on archaeology and built heritage are anticipated.

6.12 Landscape and visual

Baseline context

6.12.1 The airport has formed part of the landscape character of the surrounding area since 1937. The area surrounding the airport is largely of an industrial nature with residential areas to the northeast and southeast of the airport.

6.12.2 The airport is in keeping with the Regional Landscape Character Area in which it is situated - Belfast Lough and Islandmagee (Number 20). According to the NIEA Northern Ireland Regional Landscape Character Assessment, "*It is a developed, partly urban landscape with major industrial installations and power stations, and an absence of tranquillity. Movement, noise and artificial lighting has a strong influence in this area.*" The key characteristics of this Area include:

- A narrow flat coastal plain.
- Large industrial and commercial developments along the coastal edge.
- Almost continuous belt of development along Belfast Lough.
- Power stations chimneys and their steam plumes.
- Active harbour.
- Expansive views from north to south across Belfast Lough.

6.12.3 This airport falls within the Belfast / Lisburn Landscape Character Area (LCA97). The landscape is relatively open, dominated by infrastructure and bound and broken up in places by large swathes of green space, including playing fields, formal parks or woodland. Generally, much of the woodland planting is young.

When travelling north towards the airport, the backdrop of the views is made up of dense mature woodland at the base of the Holywood Hills, between Knocknagoney and Holywood.

6.12.4 Given BCA's commitment to maintaining operational safety, limited vegetation is present within the airport itself. It is therefore, considered that the landscape value of the airport is low.

Existing initiatives at the airport

6.12.5 The airport exists in a heavily industrialised area with limited natural aesthetic value, and it shares common features with other industrial sites that make up the Regional Landscape Character Area in which it falls. By its very existence and function, the airport needs to be retained as an actively managed and predominantly open and flat site, which limits the potential for tree planting or other landscape enhancements which would compromise the safe operation of aircraft and ground-based operations. However, the airport campus is well ordered and maintained, for the benefit of its passengers, staff, airlines and tenants. It includes various peripheral landscaping features, including a tree and shrub belt along its eastern edge (which shields views of the airfield from this direction) and a grass bund in front of the terminal building.

Future benefits of the Master Plan

6.12.6 The Master Plan will introduce new contemporary buildings and structures which will greatly enhance the aesthetic appearance of the airport, both within the airport itself and in its wider landscape setting. As set out in the draft Master Plan, a series of design principles have been established which will steer the future design of the buildings and associated landscaping. These include, amongst others:

- Create an iconic first impression of Northern Ireland through the creation of a gateway that reflects the rich industrial heritage of the city in a contemporary way.
- Maintain the existing buildings while delivering phased expansion, wrapping around the terminal to protect customer experience.
- Use inspiration from the local mills, factories and H&W cranes.
- Integrate natural materials and provide habitat for indigenous species throughout landscaping proposals.

Overall conclusions with regards to Landscape and Visual

6.12.7 The development of the airport in accordance with the draft Master Plan is likely to give rise to a range of positive effects on the landscape character and views of the airport, particularly from the east and for people arriving at the terminal. However, the appearance and character of the airfield will not change significantly when viewed from afar. No adverse effects are anticipated.

6.12.8 If required at the planning application stage, a more detailed Landscape and Visual Impact Assessment (LVIA) will be undertaken, including the assessment of specific views of the airport.

7 Conclusions and Next Steps

7.1.1 This Preliminary Environmental Report (PER) has been prepared as a supplemental technical report supporting the publication of the Belfast City Airport Draft Master Plan (September 2025). It presents a provisional analysis of the potential effects of the proposed development for all relevant environmental and socio-economic considerations and demonstrates that no significant adverse effects are likely to arise, accounting for mitigation and enhancement measures. Moreover, it shows that the draft Master Plan could give rise to significant socio-economic, environmental and sustainability benefits in compliance with prevailing policy and best practice guidance, and as enshrined in BCA's sustainability strategy and future commitments.

7.1.2 Going forward, this PER will be updated to account for representations made by the public, Belfast City Council, the DfI and the statutory authorities, as well as other interested parties during the consultation on the draft Master Plan.

7.1.3 Should planning application(s) be brought forward by BCA following the publication of the final Master Plan, covering any developments that meet or exceed the thresholds set out in The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017, a full EIA will be undertaken culminating in the preparation of an Environmental Statement (ES) submitted with the planning application(s). If that were the case, the technical scope of an EIA would first be defined through a process of scoping and would likely use some of the baseline information contained in this PER, supplemented by additional surveys, modelling and assessments, where necessary.