



North Runway Proposal to Change Permitted Operations

EIS Scoping Report

June 2016



TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	BACKGROUND TO THE APPLICATION.....	1
1.2	NEED FOR THE PROJECT	3
1.3	NATIONAL POLICY CONTEXT	6
1.4	DESCRIPTION OF THE APPLICATION	6
2	POLICY AND PLANNING CONTEXT	10
2.1	INTRODUCTION	10
2.2	POLICY CONTEXT	10
2.3	NEW NOISE MANAGEMENT REGIME.....	14
2.4	ENVIRONMENTAL IMPACT ASSESSMENT	14
2.5	PREPARATION OF ENVIRONMENTAL IMPACT STATEMENT	16
2.6	ENVIRONMENTAL GUIDELINES	17
3	KEY ENVIRONMENTAL ISSUES & PROPOSED SCOPE OF EIS	18
3.1	COMMENT ON PREVIOUS ASSESSMENTS.....	18
3.2	POPULATION	18
3.3	HUMAN HEALTH.....	19
3.4	HAZARD	21
3.5	TRAFFIC AND TRANSPORTATION	22
3.6	AIR QUALITY	25
3.7	CLIMATE.....	26
3.8	AIRCRAFT NOISE AND VIBRATION	27
3.9	GROUND NOISE AND VIBRATION	30
3.10	LANDSCAPE AND VISUAL	32
3.11	BIODIVERSITY - TERRESTRIAL ECOLOGY	33
3.12	BIODIVERSITY - AQUATIC ECOLOGY	34
3.13	WATER - DRAINAGE AND FLOODING	36
3.14	LAND	36
3.15	SOILS, GEOLOGY AND HYDROGEOLOGY	36
3.16	MATERIAL ASSETS.....	37
3.17	ARCHAEOLOGY, ARCHITECTURAL HERITAGE AND CULTURAL HERITAGE	37
3.18	APPROPRIATE ASSESSMENT	39
4	EIS STRUCTURE AND CONTENT	41

5	CONSULTATION ON DRAFT SCOPING REPORT	43
5.1	INTRODUCTION.....	43
5.2	NEXT STEPS	43
5.3	TERMS OF REFERENCE FOR CONSULTATION ON THE SCOPING REPORT	46

LIST OF FIGURES

Figure 1.1 - Dublin Airport Layout of the Existing Runway and Permitted North Runway [based on layouts submitted in 2004 EIS and Subsequent Amendments].....	2
Figure 1.2 - Operating Mode 7b.....	8
Figure 2.1 - Extracts from Myles Wright <i>Advisory Regional Plan, 1967</i> (Dublin) and Dublin County Development Plan, 1972.....	10
Figure 2.2 - Fingal Development Plan 2011-2017 Zoning Objective.....	12
Figure 2.3 - The Position of Scoping an EIS within the EIA Process (Source: Draft Guidelines on the Information to be Contained in an EIS (EPA, 2015))	15
Figure 3.1 – Traffic Count Locations	23
Figure 3.2 - Schematic of LTO and Cruise Emissions (Source: EMEP/European Environment Agency Guidebook, 2010).....	27

LIST OF TABLES

Table 3.1 – Summary of Traffic Count Locations	23
--	----

1 INTRODUCTION

1.1 BACKGROUND TO THE APPLICATION

Dublin Airport is the principal gateway to Ireland and represents the most significant single economic entity in Fingal and the Dublin region. The number of passengers using Dublin Airport has increased from 2 million passengers in 1982 to 25 million in 2015. Between 2000 and 2008, passenger movements at Dublin Airport increased from 13.7 million to 23.5 million, an average growth rate of 6.9% per annum. Post 2008, the airport experienced significant declines in air travel due to the global economic downturn, but in recent years the airport has returned to a strong sustained growth trajectory.

Aircraft movements between the period 2003 and 2008 increased from 178,000 to 211,000 dropping in 2010 to 160,000 during the economic downturn. Unlike the rate of growth in passenger numbers post 2008, aircraft movements have been increasing at a slower rate due in part to a combination of higher seat load factors per aircraft (i.e. more passengers in seats) and an increase in aircraft seat capacity.

Dublin Airport currently has two operational runways: the main 10/28 runway (2637m long) and a cross runway 16/34 (2072m long). The old cross runway 11/29 has been decommissioned for some time and is currently used as an aircraft parking area. The main 10/28 runway takes the majority of incoming and outgoing flights while the cross runway 16/34 operates during certain weather conditions and in some cases to reduce congestion for aircraft on the taxiway infrastructure during early morning peak hours departure periods and to allow maintenance works on the main runway.

In 2004 planning permission was sought for a new north runway of 3,110m to alleviate projected capacity issues at the airport. Planning consent, subject to 31 conditions, was granted in August 2007 (An Bord Pleanála Ref. PLO6F.217429 and Fingal County Council Reg. Ref. F04A/1755). daa announced that it will commence construction of this new North Runway in Q4 2016 with a projected completion date for the runway of 2020.

Figure 1.1 shows a layout plan of the airport including the existing runway infrastructure and the new North Runway based on layouts submitted in 2004 EIS and Subsequent Amendments.

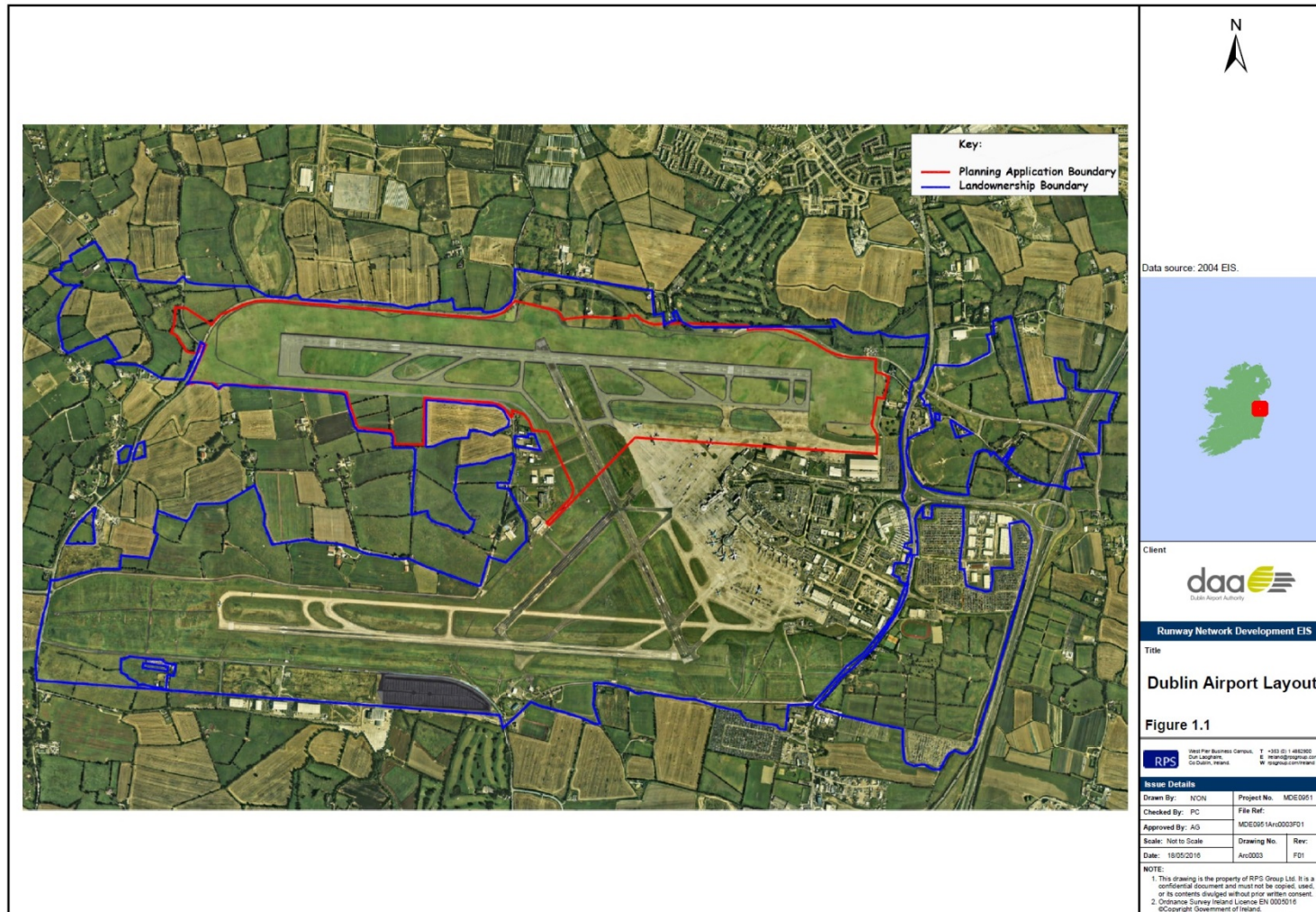


Figure 1.1 - Dublin Airport Layout of the Existing Runway and Permitted North Runway [based on layouts submitted in 2004 EIS and Subsequent Amendments].

Two of the 31 conditions imposed in the 2007 planning consent are in effect operating restrictions directly affecting the use of the airport runways to operate efficiently and these are outlined below:

Condition 3 (d) - *On completion of construction of the runway hereby permitted, the runways at the airport shall be operated in accordance with the mode of operation – Option 7b – as detailed in the Environmental Impact Statement Addendum, Section 16 as received by the planning authority on the 9th day of August, 2005 and shall provide that -*

(a) the parallel runways (10R-28L and 10L-28R) shall be used in preference to the cross runway, 16-34,

(b) when winds are westerly, Runway 28L shall be preferred for arriving aircraft. Either Runway 28L or 28R shall be used for departing aircraft as determined by air traffic control,

(c) when winds are easterly, either Runway 10L or 10R as determined by air traffic control shall be preferred for arriving aircraft. Runway 10R shall be preferred for departing aircraft, and

(d) Runway 10L-28R shall not be used for take-off or landing between 2300 hours and 0700 hours,

except in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in air traffic control systems or declared emergencies at other airports.

Reason: *In the interest of clarity and to ensure the operation of the runways in accordance with the mitigation measures set out in the Environmental Impact Statement in the interest of the protection of the amenities of the surrounding area.*

Condition 5 - *On completion of construction of the runway hereby permitted, the average number of night time aircraft movements at the airport shall not exceed 65/night (between 2300 hours and 0700 hours) when measured over the 92 day modelling period as set out in the reply to the further information request received by An Bord Pleanála on the 5th day of March, 2007.*

Reason: *To control the frequency of night flights at the airport so as to protect residential amenity having regard to the information submitted concerning future night time use of the existing parallel runway.*

This application relates to a proposal to Change Permitted Operations on the use of the airport runways specifically as contained in Condition 3(d) and Condition 5 in its entirety, to allow the runway system to operate without time/movement restrictions. The change being sought will effectively supersede the currently permitted operation of the runway system.

1.2 NEED FOR THE PROJECT

Dublin Airport has seen a return to growth in passenger numbers over the past six years, culminating in a particularly strong performance of 15% growth in 2015 (relative to 2014), generating a total of 25 million passengers over the 12 month period. The rapid recovery in passenger numbers, particularly in the past two years, is due to a combination of almost 50 new routes and services, significant additional capacity increases on a number of existing routes and nine new airlines

operating at Dublin. A new runway is being constructed to accommodate the additional aircraft movements generated by this growth - the number of aircraft movements has risen from 170,000 in 2013 to 180,000 in 2014 to 198,000 in 2015.

Growth has been experienced on all routes and key sectors of the business:

- New short haul routes to UK and Europe and increased frequency on existing services;
- New long haul transatlantic routes and increased frequency on existing services;
- Increased demand from airlines with aircraft based in Dublin; and
- Increased demand for transfers and connections through Dublin Airport.

Significant growth has continued into 2016 with 17% more passengers in Q1 compared to the same period in 2015. Eleven new scheduled services have been unveiled for this year, with four new transatlantic routes (to Los Angeles, Newark, Hartford, Connecticut and Vancouver) and eight new short-haul destinations to cities such as Athens, Pisa and Montpellier. In addition, two new long-haul charter services will commence direct flights to Cancun in Mexico and Montego Bay in Jamaica. This year, all weeks between the 15th May and 2nd October will be busier than the peak week in summer 2015.

Our current traffic forecasts indicate continued growth into the future; with scope for annual passenger throughput figures of up to 36 million by 2022 and up to 50 million by 2037. It is important that the runway infrastructure can facilitate this demand into the future and thereby secure continued economic growth.

Dublin Airport is recognised as a key strategic asset for the country and the parallel runway system has been planned for decades. It has planning permission for a new North Runway and works on the development of this are scheduled to commence in Q4 of 2016. At present Dublin Airport does not have any operating restrictions imposed upon it, however once the North Runway becomes operational the conditions attached to the current grant of permission will come into force which means the following restrictions will apply:

- Condition 3(d) of the 2007 planning permission would prohibit the use of the new North Runway for landings and take-offs between the hours of 23:00 to 07:00; and
- Condition 5 states that, on completion of construction of the new runway, the average number of night time aircraft movements at the airport shall not exceed 65/night (between 23:00 and 07:00).

daa is seeking to have these two specific conditions removed due to the significant negative implications they have for the operation of the airport as a whole and for Ireland's connectivity if they were to be enforced. The anticipated negative implications include the following:

- There are currently 100 (on average) aircraft movements per night between 23:00 and 07:00. At the time that planning was granted for the North Runway (2007), Dublin Airport had far fewer movements during these hours but since then the demand for slots in that time period has increased strongly. As a critical strategic asset for an island nation, allowing Dublin Airport the freedom and flexibility to accommodate future growth is crucially important. Restricting the level of movements across the airport to 65 per night will have a

materially damaging impact on the current economic benefit that the airport provides and the ability of the airport to grow sustainably into the future.

- The main source of growth at Dublin Airport continues to be from based and network carriers, particularly on UK and European destinations. Operators with aircraft based at Dublin Airport have a particular requirement for capacity in the early morning and late evening so that they can get the most efficient use from their aircraft. A based aircraft can operate between two and four departures every day from its base, depending on sector lengths. This reinforces their commitment to the airport and results in the generation of more jobs and heightened economic benefit for the country. The restriction on use of the North Runway between 23:00 and 07:00 results in an inefficient allocation of capacity that would otherwise be available to meet the particular demands of based carriers and their passengers as well as the needs of other operators.
- Total long-haul connectivity has grown by more than 65% since the opening of T2 in 2010. In 2016, Dublin Airport will be the number five airport in Europe for flights to the US (behind the major hubs of Heathrow, Frankfurt, Paris CDG and Amsterdam but ahead of Munich, Rome, Madrid, Manchester and Zurich). Eastbound flights from the North America can arrive throughout the night (depending on wind strength and departure time) therefore the restrictions in the 23:00-07:00 period has the potential to limit the scope for developing those long haul services.
- The North Runway will be 3,110m long and will facilitate operations to new long haul destinations in the Far East and Asia that cannot be served on a commercial basis from the existing infrastructure. Dublin Airport is in competition with other European airports to attract services from these fast growing and lucrative markets. Restrictions in the ability to use the North Runway and/or the airport overall at certain times jeopardises the case that can be made to attract new carriers to Dublin.
- Connecting passenger numbers increased by 39% in 2015, as Dublin Airport continued to become a significant hub for transatlantic traffic. This was on top of a 36% increase in 2014. The momentum has continued into 2016, with the connecting market increasing by over 50% in every month in Q1. An increasing proportion of passengers from long haul flights are seeking to connect onto early morning UK and European departures from Dublin. Furthermore network carriers need to synchronise their movements at Dublin to meet connections at other hub airports. The compression of schedules within a 07:00-23:00 operating day would negatively impact opportunities for flight connections and the development of Dublin Airport as a hub, contrary to stated Government policy¹.
- In the last ten years there has been a significant change in business travel patterns. People now want to make same day business trips. There has also been an increase in the number of people commuting internationally to work who must leave early in the morning. This drives demand for capacity in the 23:00-07:00 period.

If airlines are unable to obtain slots at Dublin at the times required to service their commercial requirements, the result will be a reduction in air services, increased airfares and reduced business, e.g. due to lower inward investment. In turn, this would lead to lower competitiveness and loss of connectivity with Ireland's customers in global markets.

¹ A National Aviation Policy for Ireland, 2015 (DTTAS)

1.3 NATIONAL POLICY CONTEXT

daa has a number of obligations to fulfil with regard to the management of Dublin Airport. Under the provisions of Section 23(1) of the 1998 Air Navigation and Transport Act the principal objects of the company include:

- to own, either in whole or in part, or manage, alone or jointly with another person, airports whether within the State or not,
- to take all proper measures for the safety, security, management, control, regulation, operation, marketing and development of its airports,
- to provide such facilities, services, accommodation and lands at airports owned or managed by the company for aircraft, passengers, cargo and mail as it considers necessary,
- to promote investment at its airports,
- to engage in any business activity, either alone or in conjunction with other persons and either within or outside the State, that it considers to be advantageous to the development of the company, and
- to utilise, manage and develop the human and material resources available to it in a manner consistent with the objects aforesaid.

In 2009, the Minister for Transport issued a statutory direction to the Commission for Aviation Regulation including reference to a second parallel runway (*“The desirability that Dublin Airport should have the terminal and runway facilities to promote direct international air links to key world markets, such as new and fast-developing markets in the Far East and the importance of ongoing and planned infrastructure development in this context.”*)

In addition, the National Aviation Policy, 2015 includes Action 4.5.1 which states the following:

“The process to develop the second runway at Dublin Airport will commence, to ensure the infrastructure necessary for the airport’s position as a secondary hub and operate to global markets without weight restrictions is available when needed.”

As such it is evident that the current development of the North Runway is paramount, not only from a commercial point of view, but also from a statutory/economic viewpoint. However, the policy position to allow Dublin Airport to operate *as a secondary hub and operate to global markets* is restricted under Conditions 3(d) and Condition 5 of the 2007 consent and hence the need for this Proposal to Change Permitted Operations.

1.4 DESCRIPTION OF THE APPLICATION

daa has taken the decision to proceed with the delivery of the North Runway project as permitted in 2007 (ABP Ref. PL06F.217429; FCC Reg. Ref. F04A/1755). The runway works are scheduled to commence on site in Q4 October 2016 with completion scheduled for 2020.

daa intends to apply to use the permitted runway system at the airport without the current restrictions on hours of operation for landing and take-off. This would maintain the operational flexibility to facilitate demand that currently pertains at the airport.

All runways will be operated in accordance with the permitted Mode of Operation 7b:

- The parallel runways (10R-28L and 10L-28R) shall be used in preference to the cross runway, 16-34.
- When winds are westerly, Runway 28L shall be preferred for arriving aircraft. Either Runway 28L or 28R shall be used for departing aircraft as determined by air traffic control.
- When winds are easterly, either Runway 10L or 10R as determined by air traffic control shall be preferred for arriving aircraft. Runway 10R shall be preferred for departing aircraft.

The Environmental Impact Assessment (EIA) process will assess the likely significant effects of the Proposal to Change Permitted Operations from the permitted development as outlined above. In short the application will seek to have the night-time aircraft movements cap removed (Condition 5 of the 2007 consent) and be able to accommodate current forecast demand between 23:00 and 07:00 hours (Condition 3(d) of the 2007 consent).

An Environmental Impact Statement (EIS) will be prepared in accordance with the requirements of the European Communities (Environmental Impact Assessment) Regulations, 1989 to 2006.

The EIS shall also be prepared with reference to the provisions of Directive 2014/52/EU which is not currently transposed into Irish legislation (required by May 2017). While the EIS may be submitted prior to the transposition of this legislation it is considered prudent to comply in full with this pending legislation and the EIA requirements included within.

The EPA *Guidelines on the Information to be Contained in Environmental Impact Statements* (2002) and *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements* (2003) will be referenced throughout the EIS. It is noted that these documents are currently under review and a draft of each was published in November 2015. These draft guidelines will also be referenced in preparation of the EIS.

1.4.1 Construction Phase

As the application will relate to a Proposal to Change Permitted Operations to an existing asset, there is no construction phase and hence there are no construction phase impacts with the proposed development. Impacts caused by the construction of the North Runway have been addressed in the 2004 EIS and subsequent additional information. This information will be referenced in the Proposal to Change Permitted Operations application EIS through description of the receiving environment and assessment of cumulative impact. However, this application has no construction phase element for assessment.

1.4.2 Operation Phase

The Proposal to Change Permitted Operations of the runway system has the potential to be a source of environmental impact as outlined below:

- The proposed Change of Permitted Operations will enable the airport to continue to facilitate the existing level of night time operations i.e. 100 in 2016 compared to the

proposed 65 cap, and allow for further growth as traffic demands grow and evolve in the future.

- Securing the optimum use of the runway system will require the examination of a divergence in departure flight path from a “straight out” route for North Runway, while complying with mode 7b.
- The removal of the aircraft movements night time cap of 65 (Condition 5) will have an impact on the air traffic demand profile for both day-time and night-time hours of operation.

The increase in the number of flights on an annual basis and at specific times in the day requires an assessment of the potential direct impacts relating to noise, air quality, human health, traffic and transportation and safety hazard impacts. Potential indirect and cumulative impacts on the environment are also possible across all environmental topics.

The mode of runway operation will primarily be aligned to Option 7b as the preferred option for minimal environmental and noise impact as per the permitted development. Option 7B is described below and illustrated in **Figure 1.2**. When winds are westerly, Runway 28L shall be preferred for arriving aircraft. Either Runway 28L or 28R shall be used for departing aircraft as determined by Air Traffic Control.

When winds are easterly, Runway 10R shall be preferred for departing aircraft. Runway 10L or 10R shall be used for arriving aircraft as determined by Air Traffic Control.

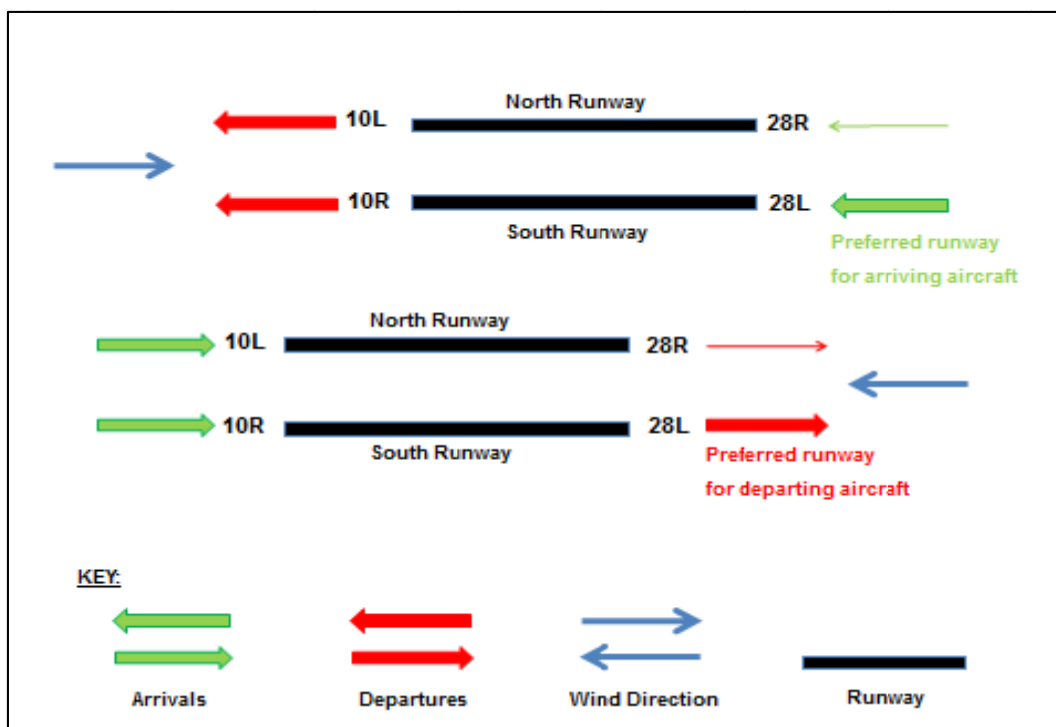


Figure 1.2 - Operating Mode 7b

Safety is the most important consideration in operations at Dublin Airport. Air Traffic Control (ATC) procedures and practices, including the mode of runway operation used at any particular time, will therefore put safety above all other considerations.

When the North Runway becomes operational, it is intended that Runway 16/34 will predominantly be used as a taxiway. The existing practice of “Dual Runway Operations” (i.e. departures from both runways 28 and 34 currently used when weather conditions allow during the hours of 0630 – 0800 local time) will cease. The use of runway 16/34 for take-offs and landings will be mainly at times when prevailing weather conditions require its use due to aircraft cross-wind limitations. Depending on conditions, it may be used in conjunction with the parallel runway(s), or on its own.

The separation between the parallel runways at Dublin Airport is sufficient to meet the relevant aviation standards that allow independent departures, which require a minimum 15 degree divergence between parallel runways departure flight paths. At times of peak demand, it is intended that the runways will operate independently.

1.4.3 Base and Design Years for Assessment

It is proposed that a base year of 2022 will be used for the assessment. This reflects the fact that the current application only applies when the North Runway is fully operational. It is anticipated that the North Runway will be completed by 2020. As such the base of 2022 for this application provides sufficient time for the new runway to become fully operational within the overall airport systems.

Further to a base year of 2022, a design year fifteen years hence has been chosen to predict future impact from the change of operations. The design year will be 2037. The purpose of this assessment year is to predict impacts from the proposal into the future at a point in time when the system would be expected to be operating fully and taking account of predicted growth in air traffic movements.

2 POLICY AND PLANNING CONTEXT

2.1 INTRODUCTION

Dublin Airport was established in the 1930's on the site of a former RAF airstrip and was initially known as Collinstown Airport. Its initial development as a grass runway with very modest facilities soon gave way to new terminals and concrete runways as the century progressed.

With the exception of the most recent period of economic decline, from which passenger numbers have since recovered, Dublin Airport has experienced almost uninterrupted growth since its inception in the 1930's. This trend was recognised early and as far back as the 1960s plans were put in place to secure future airport growth. The airport masterplans of the '50s and '60s were reflected in early regional and county planning policy documents.

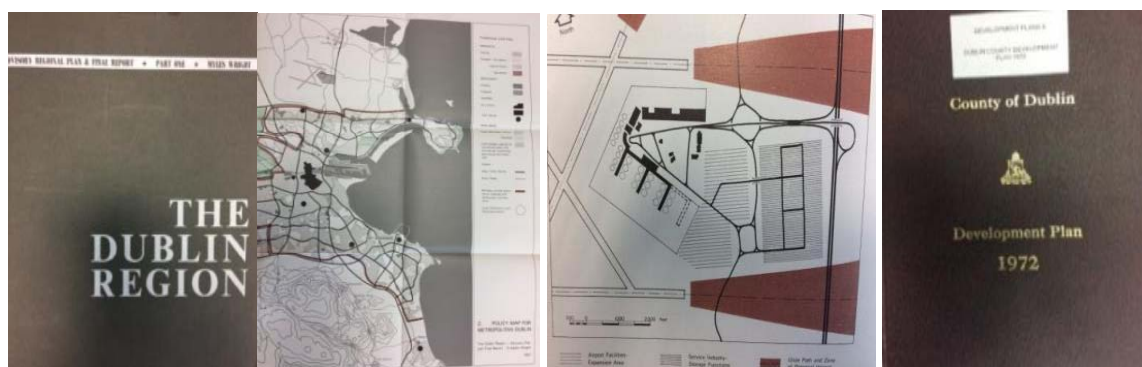


Figure 2.1 - Extracts from Myles Wright *Advisory Regional Plan, 1967 (Dublin)* and *Dublin County Development Plan, 1972*

This has permitted a plan-led approach to the development of the airport from very early times. It has had the effect of securing a sustainable approach to land use planning with the separation of residential development from airport noise zones early on. The first parallel runway (10R-28L) was delivered on foot of this planning in 1989. Permission for the second runway (10L-28R) was granted in 2007 and its construction and delivery has just recently been announced. The Myles Wright plan for the Dublin Region even foresaw in the '60s, how important surface access would be to the airport and envisioned the future M1 motorway to the east of the airport (second from the right in Figure 2.1).

2.2 POLICY CONTEXT

2.2.1 National Aviation Policy for Ireland (August 2015)

A National Aviation Policy for Ireland (NAP) was published in August 2015 and aims to create the conditions to encourage aviation services to and from Ireland and to support tourism and business. Specifically the main goals of the NAP are:

- To enhance Ireland's connectivity by ensuring safe, secure and competitive access responsive to the needs of business, tourism and consumers;

- To foster the growth of aviation enterprise in Ireland to support job creation and position Ireland as a recognised global leader in aviation; and
- To maximise the contribution of the aviation sector to Ireland’s economic growth and development.

The NAP outlines that the size and location of Dublin Airport distinguishes it from other airports in the Country with a major increase in passenger numbers in recent years. It states that an opportunity now exists to develop the airport as a vibrant secondary hub which competes effectively with the UK and other European airports. It is stated that:

‘The Department’s position is that the airport should be developed into a secondary hub over a period of time, and that this will involve the construction of a second runway as well as other infrastructure developments. Dublin Airport has already secured the land needed, as well as planning permission for a second runway; however, the project may need to be revisited to take account of developments in the industry.’

2.2.2 National Spatial Strategy 2002 - 2020

The *National Spatial Strategy for Ireland 2002-2020* (NSS) is a strategic planning framework document providing guidance for future development throughout the country. The NSS aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning.

A ‘Key Consideration’ for the NSS is:

“Facilitating the national roles of Dublin Airport and Dublin Port.”

Section 3.7.1 of the NSS states that:

“In Ireland, Dublin Airport serves the city, region and country and offers the greatest number of international connections. It has direct links to nearly all of the main cities in Europe and a limited number of key routes to the United States. In 2001 a total of seventy airlines served 122 international destinations from Dublin Airport. Expanding the level of services available from Dublin Airport to an even wider range of destinations is essential in the interests of underpinning Ireland’s future international competitiveness.”

The NSS goes on to state that:

“The national and regional benefits of expanded services from Dublin Airport can be enhanced through improved connections with (i) the integrated public transport network proposed by the Dublin Transportation Office in A Platform for Change, (ii) the national roads network and (iii) regional airports.”

2.2.3 Regional Planning Guidelines for the Greater Dublin Area 2010-2022

The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 (2010 RPGs) contain the following statement at 1.5 - *Progress in Implementing 2004 RPGs*:

'The 2004 RPGs places strong emphasis on the need to build and support key infrastructure to support the role of Dublin Airport and Port in meeting the needs of the GDA, and the State as a whole. The completion of the Dublin Port Tunnel formed a significant part of overall investment in this area during the life of the RPGs. Also for Dublin Airport, permission is now granted for the new terminal, runway and new apron facilities and construction is underway. This investment has been necessary to meet the rapid and continuing growth in the Irish economy experienced over the last decade. However, there are also some elements needed that have yet to make progress on the ground and these have been examined as part of the review.'

Section 6.3.3 states that:

'Aviation and air transport are essential to economic trade, international competitiveness and movement of people. The GDA contains the unique asset of Dublin Airport which is a primary international air access point for the State. Dublin Airport has grown from 10 million passengers per year in 1997, to 23.5 million in 2008 and the Airport Authority forecast by 2020 that 30 million passenger numbers may be using the airport. Construction of Terminal Two and related facilities is nearing completion and planning permission for a new runway has been granted. It is anticipated these developments will assist in meeting existing and future airport demand.'

2.2.4 Fingal Development Plans 2011-2017

The site of the proposed development is zoned 'DA' under the Fingal Development Plan 2011-2017 (see **Figure 2.2**). This Zoning Objective seeks to:

"Ensure the efficient and effective operation and development of the airport in accordance with the adopted Dublin Airport Local Area Plan."

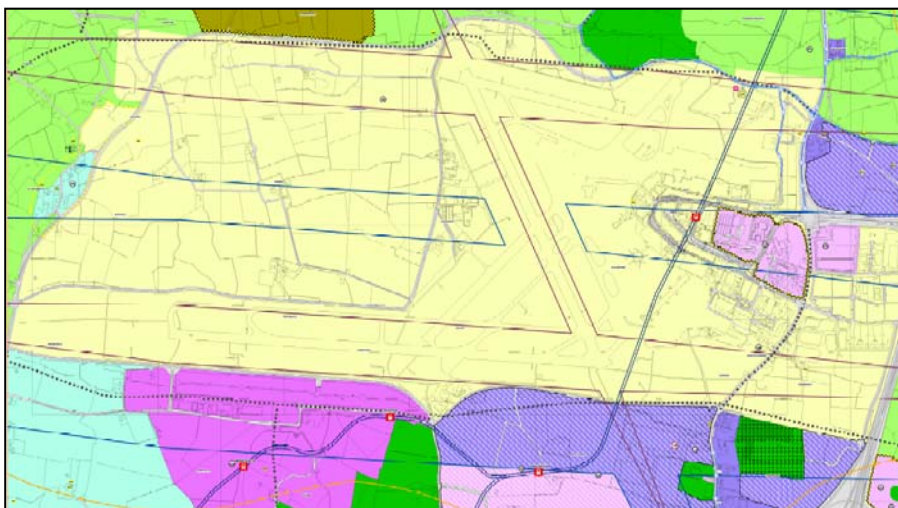


Figure 2.2 - Fingal Development Plan 2011-2017 Zoning Objective

The Vision for 'DA' zoned lands is to:

"Facilitate air transport infrastructure and airport related activity/uses only (i.e. those uses that need to be located at or near the airport). All development within the Airport Area (as designated by the Dublin Airport Local Area Plan) should be of a high standard reflecting the status of an

international airport and its role as a gateway to the country and region. Minor extensions or alterations to existing properties located within the Airport Area which are not essential to the operational efficiency and amenity of the airport may be permitted, where it can be demonstrated that these works will not result in material intensification of land use.” [Our emphasis.]

The proposed development will clearly be consistent with the Zoning Objective.

The Development Plan also contains various Objectives which are of relevance:

“Objective EE46

Safeguard the current and future operational, safety, technical and developmental requirements of Dublin Airport, having regard to the environmental impact on local communities.

Objective EE48

Facilitate the development of a second major east-west runway at Dublin Airport and the extension of the existing east-west runway 10/28.

Objective EE49

Facilitate the efficient and effective operation of Dublin Airport in accordance with Dublin Airport Local Area Plan and the principles of proper planning and sustainable development.

Objective EE50

Continue to participate in the Dublin Airport Stakeholders Forum which includes representatives from local authorities, airport operators, community and other stakeholders, providing a forum for discussion of environmental and other issues.

Objective EE51

Strictly control inappropriate development and require noise insulation where appropriate within the Outer Noise Zone, and actively resist new provision for residential development and other noise sensitive uses within the Inner Noise Zone, as shown on the Development Plan maps, while recognising the housing needs of established families farming in the zone.

Objective EE53

Ensure that every aircraft related development proposed in the Airport takes account of the impact of noise on established residential communities.

Objective EE61

Ensure that every development proposal in the environs of the Airport takes account of the current and predicted changes in air quality and local environmental conditions.

Objective EE63

Ensure that every development proposal in the environs of the Airport takes into account the impact on water quality, water-based habitats and flooding of local streams and rivers.”

The proposed development seeks to use the permitted runway system at Dublin Airport without the current restrictions on hours of operation for landing and take-off. The proposed development will be consistent with the objectives outlined above. Having regard to Objective EE46, the proposed development will safeguard the current and future operational and development requirements of Dublin Airport, whilst having particular regard to the environmental impacts on local communities. The scheme also supports Objective EE49 and will further support the development of the second east-west runway (North Runway) at Dublin Airport.

2.3 NEW NOISE MANAGEMENT REGIME

We are aware of EU wide regulatory changes relating to the assessment of noise at airports and the evolution of best practice procedures to be followed in line with the Balanced Approach to noise management (Regulation (EU) No. 598/2014). It may be the case that a proposal to change the permitted operations could be facilitated under this regime. We will be taking all of these issues and developments into account in assessing the best way forward.

2.4 ENVIRONMENTAL IMPACT ASSESSMENT

Any application to change permitted operations will be accompanied by an Environmental Impact Statement (EIS) to assess the impact of the proposed changes.

The objective of this EIS scoping process is to identify potential environmental topics for assessment which may be relevant to the change of use of the operation of the runway system. There is no construction stage so construction stage impacts are not relevant outside of the baseline and cumulative assessments of the North Runway (which will be under construction from late 2016).

The process involves an assessment of a project’s possible issues before deciding which should be brought forward for further consideration in the EIS. Although scoping commences early in the process and informs the content and level of detail in the EIS, it is noted that scoping is dynamic and only provides a starting point from which to launch an environmental assessment of the preferred project type. It is regarded as an ongoing phase throughout the evolution of the EIS.

An initial scoping of possible impacts may identify issues thought to be potentially significant, those where significance is unclear and those thought to be not significant. The issues in the potentially significant category are brought forward, together with those in the uncertain category. Those considered to be not significant are eliminated from further consideration. **Figure 2.3** illustrates the environmental assessment process and the role of scoping in the overall EIA context.

This scoping report identifies the:

- Background and need for the scheme;
- Legislative and planning context;

- Key environmental issues and proposed scope of the EIS
- EIS structure and content
- Consultation

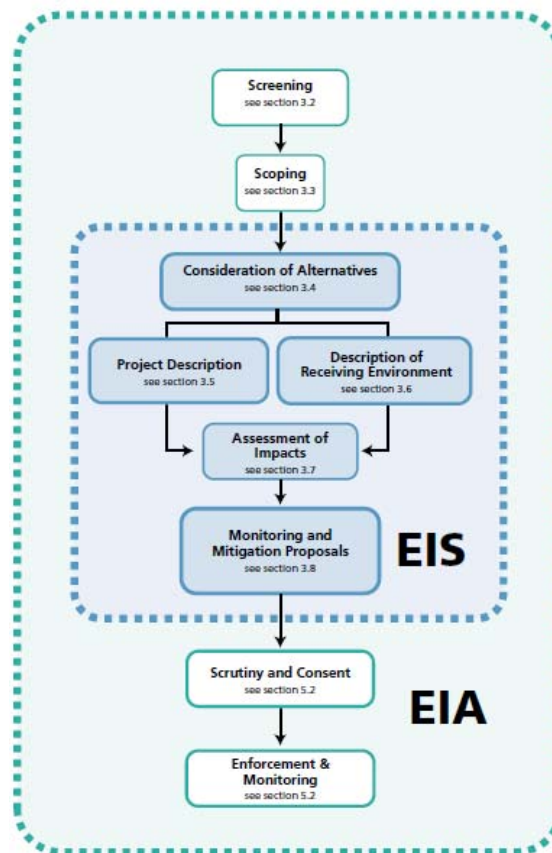


Figure 2.3 - The Position of Scoping an EIS within the EIA Process
(Source: Draft Guidelines on the Information to be Contained in an EIS (EPA, 2015))

2.4.1 Technical Scope

In accordance with EPA guidance on current practice in the preparation of Environmental Impact Statements and having regard to the new EIA Directive (2014/52/EU), the following environmental topics will be examined through the EIS:

1. Population
2. Human Health
3. Hazard
4. Traffic and Transportation
5. Air Quality
6. Climate
7. Aircraft Noise and Vibration
8. Ground Noise and Vibration
9. Landscape and Visual
10. Biodiversity

11. Water
12. Land
13. Soils
14. Material Assets
15. Cultural Heritage
16. Interaction and Cumulative Impact of the above

2.4.2 Geographic Scope

The geographic scope of the Environmental Impact Statement will vary for each environmental topic and will depend on the nature and sensitivity of the receiving environment and the manner in which impacts may be received, e.g. via air, water etc.

2.4.3 Temporal Scope

For the EIS, the project's potential impacts at operational stage only will be assessed. Potential impacts at construction stage have been assessed through the permitted development so there are no predicted direct construction related impacts from the proposed development. In all cases the "do nothing" scenario i.e. the 2007 permitted development and the "do something" scenario i.e. the Proposal to Change Permitted Operations will be assessed. During the operational phase the assessment will include assessment of impacts in the short, medium and long term as appropriate.

Scoping will address three key questions:

- What effects could the project have on the receiving environment?
- Which effects are likely to be significant?
- What alternatives and mitigation measures should be explored in advance of seeking approval for the project?

2.5 PREPARATION OF ENVIRONMENTAL IMPACT STATEMENT

The Environmental Impact Statement is produced as part of the Environmental Impact Assessment (EIA) process. The Environmental Impact Assessment process is governed by 'The EIA Directive' (EU Directive 85/337/EEC as amended by Directive 97/11/EC, 2003/35/EC and 2009/31/EC). We are also assessing the proposed change in operating restrictions under the provisions of the latest amending Directive 2014/52/EU which is not currently transposed into Irish legislation but is required to be transposed into Irish law by May 2017.

An EIS will be prepared in accordance with the requirements of the European Communities (Environmental Impact Assessment) Regulations, 1989 to 2006. The EIS shall also be prepared with reference to the provisions of Directive 2014/52/EU.

2.5.1 Appropriate Assessment (AA) Process

An Appropriate Assessment (AA) is also required in relation to the Proposal to Change Permitted Operations. This separate but inter-related process is required under the EU Habitats Directive

(92/43/EEC) for any plan or project likely to have a significant effect on an internationally important site for nature conservation, i.e. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), also known as European Sites. In the case of the proposed development consideration will be given to Baldoyle Bay SPA and Malahide Estuary SPA. An AA Screening will be carried out on the proposed project. Once an AA Screening Report is completed this will be used to discuss the need for full AA with relevant parties.

2.6 ENVIRONMENTAL GUIDELINES

2.6.1 EPA Guidelines and Advice Notes

The Environmental Protection Agency is required by the EPA Act under which it was established (EPA Act, 1992) to “prepare Guidelines on information to be contained in environmental impact statements”. The Act further provides that those preparing and evaluating Environmental Impact Statements shall have regard to such guidelines.

The EPA Guidelines are intended to provide developers, competent authorities and the public at large with an agreed basis for determining the adequacy of Environmental Impact Statements, within the context of established development consent procedures. The Guidelines were published in 2002. Advice Notes on current practice in the preparation of Environmental Impact Statements designed to accompany these Guidelines were published in 2003. These contain greater detail on many of the topics covered by the Guidelines and offer guidance on current practice for the structure and content of Environmental Impact Statements.

The 2003 Advice Notes are divided into five sections, each providing detailed guidance on specific aspects to be considered in the preparation of an Environmental Impact Statement. **Section 3** provides guidance on the topics, which would usually be addressed when preparing an Environmental Impact Statement for a particular class of development, highlighting typical issues, which arise. The projects are grouped into 33 generic types, which have similar development or operational characteristics. ‘Airports and Airfields’ are addressed under Project Type 9. It is noted that this EIS is for a Proposal to Change Permitted Operations to airport operations and not for a new runway, however it is considered that Project Type 9 is the most appropriate project type to address the likely impacts and as such it will be used as a guide to on items that should be addressed under project description, environmental effects and possible mitigation measures.

The EPA is currently revising the guidelines and advice notes to reflect best practice and case law which has evolved in the decade since they were originally published. Draft Guidelines have been published in September 2015. Although the revised documents do not explicitly address the adoption of the new EIA Directive (2014/52/EU) they do reference it and recommend that consideration be given to changes and additional requirements.

This draft scoping report has also been prepared with reference to these draft EPA Guidelines and draft Advice Notes.

3 KEY ENVIRONMENTAL ISSUES & PROPOSED SCOPE OF EIS

The scoping of an EIS is the process of deciding what information should be contained in an EIS and what methods should be used to gather and assess that information. Scoping is concerned with identifying those aspects of the environment where there is an interaction, either direct or indirect, positive or negative, with the project and as a consequence there is potential for likely and significant effects, which need to be assessed.

The environmental topics that require assessment for this project have been outlined in **Section 2**. This section outlines the key potential issues associated with the relevant environmental topic and identifies the specific methods and standards that will be used in the assessment. The most up to date available standards, guidelines and data has been referenced in this scoping report however it is recognised that amendments and updates will become available from time to time during the EIS phase of the project. The EIS will reflect the most up to date information available at that time.

3.1 COMMENT ON PREVIOUS ASSESSMENTS

The North Runway project has been the subject of a previous planning application in 2004 with consent, subject to 31 conditions granted in August 2007 (An Bord Pleanála Ref. PL06F.217429 and Fingal County Council Reg. Ref. F04A/1755). Pre-construction preparation is also ongoing on the North Runway project including pre-construction surveys and consultations.

In considering the key environmental issues presented in this section, it should be noted that the scoping and preparation of the EIS and Appropriate Assessment for the North Runway Proposal to Change Permitted Operations is commencing from a position where a considerable amount of data and survey information is already available.

Furthermore as part of the scoping of the EIS, the information contained in the previous planning application, the submissions received during that application's statutory consultation period and oral hearing will be considered and addressed in the Proposal to Change Permitted Operations.

3.2 POPULATION

The key issues for the Population Chapter are:

- Potential impacts on the residential, working and visiting community with reference to a number of other chapters dealing with traffic and transportation, air quality, air and ground noise, hazard and human health;
- Economic impacts of the proposed development in terms of local employment and socio-economic.

The chapter on population will establish the current socio-economic and community characteristics through a review of the demographics of the study area, e.g. unemployment, profile, household size, etc., as well as the availability of community facilities, recreational opportunities, etc. The chapter will then provide an assessment of the potential and predicted impacts on local communities as a result of the Proposal to Change Permitted Operations.

The primary official record and analysis of demographic trends is the Central Statistics Office (CSO) Census of Population. The Census records demographic information at state, county, and local levels. In this regard, the smallest geographical unit distinguished by the 2011 Census is the Electoral Division (ED - previously termed District Electoral Division or Ward). The most recent final published census data is the 2011 Census. The latest census was taken in April 2016, with preliminary results to be published in July 2016 and further results in April 2017. The most up to date figures available will be used in the assessment.

A detailed analysis of demographic trends within the study area will be undertaken for the project and local and wider environs – identified by ED, in reference to the most recent census statistics. These results will then be compared with similar data recorded in the census publications of 2002 and 2006.

The chapter will examine the project's potential impacts at operational stage only pertaining to community aspects – including the residential, working and visiting community, impacts. In all cases the “do nothing scenario” will also be assessed.

Any economic analysis on the Proposal to Change Permitted Operations will be summarised in the Population Chapter of the EIS. On the ground survey work identifying current land uses will also form part of the overall assessment under this heading.

3.3 HUMAN HEALTH

The key issues for the Human Health Chapter are:

- Potential changes in concentration exposure to ground-borne emissions (predominantly focusing on NO₂ exposure although PM₁₀ and PM_{2.5};
- Potential changes in concentration exposure to air-borne emissions directly attributed to the proposed modification;
- Potential for community disruption and potential health outcome from changes in ground-borne noise and runway links;
- Potential for community disruption and potential health outcome from changes in air-borne noise directly attributed to the proposed project (annoyance, academic performance, sleep disturbance);
- Potential change in health risk from surface transport movements (risk of accident and injury, noise, air quality, community severance, access and accessibility, etc.); and
- Direct, indirect and induced socio-economic health benefits.

Formal Health Impact Assessment has not been an explicit requirement in EIS in Ireland to date. Rather, health impacts are more often indirectly assessed through the air quality, noise and water quality assessments in the documentation. In acknowledgement of the nature of the proposed development and the type of potential impacts that could arise on the local community and in recognition of the 2014 EIA Directive, in which health is explicitly referred to a health impact assessment (HIA) will be included in the EIS. The HIA will comprise six key stages as follows:

Project Profile - The purpose of the project profile is to identify features associated with the proposed development that potentially influence key determinants of health. The profile will be compiled through a review of both project specific and wider information including:

- The project description developed as part of the application;
- The EIS and associated technical appendices (air quality, noise, traffic, socio-economic); and
- Consultation with the client and EIS project team (including the community consultation team).

By developing the project profile it is possible to list potential causal pathways, to aid in refining the development of an appropriate evidence base, to support the development of a meaningful community profile and to focus the core health issues to be assessed and addressed. In addition to known environmental health pathways the outputs from stakeholder engagement gathered as part of the EIA process will be applied to identify and address wider health concerns within the assessment.

Community Profile - Evidence suggests that different communities have varying susceptibilities to health impacts and benefits as a result of social and demographic structure, behaviour and relative economic circumstance. A community profile therefore not only forms the basis to exposure response modelling but also allows an insight as to how potential health pathways identified by the project profile might act disproportionately upon certain communities and sensitive receptors.

Stakeholder Engagement - Seeking the views of key stakeholders and key representatives of local communities will form an important component of gathering an appropriate evidence base and tailoring the HIA to local circumstance. By highlighting and responding to community concerns the HIA can be applied to address perceived as well as actual risks and develop more effective recommendations to reduce impacts and increase health improvement.

It is recommended that the HIA implements a tiered approach, building upon any existing airport community forum inputs, airport complaint data, with further engagement with key stakeholders responsible for maintaining local community health. Recommended tiers of engagement include:

- **EIA/HIA Scoping Exercise:** This stage provides high level input from key stakeholders responsible for protecting the health and well-being of local communities. By drawing from scoping responses and the formal EIS scoping document it will be possible to further refine the focus of the HIA with key health stakeholders through the HIA scoping document.
- **Integrated HIA / Project Engagement Strategy:** It is recommended that the HIA team draw from and complement the Project Engagement Strategy to minimise unnecessary repetition of effort, yet meet the expectation of IPH HIA guidance. The HIA team will review consultation feedback to further inform the scope and focus of the HIA, supplemented by consultation with key health stakeholders. To ensure flexibility, consultation with health stakeholders will be performed through telephone discussions and email correspondence.
- **Ongoing Airport Consultation and Feedback:** It is understood that daa continues to engage with local communities to support the uptake of local benefits and to further improve airport operations. The HIA will draw upon Airport Community Forum meeting minutes, and complaint data to further refine the scope and focus of the HIA, inform the assessment stage and influence the Health Action Plan.

Such a tiered approach provides a means to investigate and address a wide range of community concerns within the HIA, to focus key issues with key community and health stakeholders, and further informs the development of a bespoke Health Action Plan tailored to local requirements and circumstance.

Assessment - The Assessment stage draws upon appropriate technical topic areas within the EIA to ensure the HIA is based upon realistic changes in environmental conditions as a consequence of the proposed development. The assessment will seek to address each of the core health pathways identified during the project profile and through consultation, and where possible, apply internationally recognised quantitative assessment methods to establish the distribution, significance and likelihood of worst-case potential health outcomes. However, as a minimum the assessment is anticipated to include:

- Quantitative exposure response modelling for changes in concentration exposure to ground-borne emissions (predominantly focusing on NO₂ exposure although PM₁₀ and PM_{2.5} will also be assessed to address perceived risks);
- Quantitative exposure response modelling for changes in concentration exposure to air-borne emissions directly attributed to the proposed modification;
- Quantitative assessment as to community disruption and potential health outcome from changes in ground-borne noise from new stands and runway links (drawing from the noise and vibration assessment of the EIS);
- Quantitative assessment as to community disruption and potential health outcome from changes in air-borne noise directly attributed to the proposed project (annoyance, academic performance, sleep disturbance and associated cardiovascular disease);
- Quantitative assessment as to the change in health risk from surface transport movements to (risk of accident and injury, noise, air quality, community severance, access and accessibility, etc.); and
- Qualitative appraisal as to the direct, indirect and induced socio-economic health benefits.

Necessary inputs will include robust air quality /noise dispersion inputs for the scenarios agreed.

Health Action Plan - A Health Action Plan (HAP) expands upon the normal recommendations section within HIA guidance, establishing recommended protocols and monitoring regimes to be implemented during operation to further reduce and remove potential negative health impacts while maximising opportunities to increase health benefits. In this instance, the HIA team will work with the airport to catalogue, and where possible supplement and enhance local community support initiatives to meet local health/wellbeing objectives and communicate the benefits.

3.4 HAZARD

The key issues for the Hazard Chapter are:

- Risk to third parties arising from aircraft crashes.
- Consideration will also be given to the issue of bird strike; wake vortex; and fuel dumping.

The identified impacts will be assessed using a well-established quantitative risk modelling approach, consistent with that used previously for defining the Public Safety Zones (PSZs) associated with the existing runway operations. The model comprises the following elements:

- A crash location model that provides estimates of the probability of an aircraft crash at any given location relative to the runway end and the runway-aligned flight paths used for take-off and landing, in the event of a crash somewhere at the airport;
- The estimated annual crash rate at the airport, determined on the basis of the annual number of movements of different aircraft types and aircraft type specific crash rates determined from historical accident data;
- The estimated consequences of an aircraft impact with the ground, characterised in terms of the area destroyed which can be empirically related to aircraft size and is determined for operations at individual airports by making reference to the fleet mix.

The quantitative assessment will include the determination of sizes and locations of the anticipated future PSZs, associated with the forecast operations at each of the runways, following the method specified in the report on PSZ policy that was prepared for the Government. These PSZs will be used to provide insight into the primary impact, i.e. the risks to people using the existing development in the vicinity of the airport, by highlighting the areas where the potential risks are more concentrated.

The analysis will include a specification of the forecast use of all the runways in the form of a breakdown by aircraft type of the take-off and landing movements at each of the runways. The crash risk model employs an estimate for the annual probability of an aircraft crash per take-off and landing movement by reference to the historical crash rates for several different aircraft types using the airport and the annual number of movements of each of these aircraft types. The different aircraft types identified in the model are as follows:

- Commercial western passenger jet airliners;
- Commercial western non-passenger (cargo) jet airliners;
- Eastern (i.e. Russian built) jet airliners;
- Executive jet aircraft;
- Commercial western passenger turboprop aircraft;
- Commercial western non-passenger (cargo) turboprop aircraft;
- Piston-engine driven aircraft.

The impact consequence element of the crash risk model employs an estimate for the impact area on the ground that is based on aircraft size, as characterised in terms of the aircraft take-off weight. Risks will be calculated separately for each of the different runways and take-off and landing movement forecasts for each runway will therefore be detailed.

3.5 TRAFFIC AND TRANSPORTATION

The key issues for the Traffic and Transportation Chapter are:

- Changes in traffic patterns on the motorway network as a result of altered flight schedules; and

- Changes in traffic patterns on the local road network as a result of altered flight schedules

Baseline Traffic Count Data - Traffic Counts were carried out in April 2015 at the locations outlined in **Table 3.1** below to develop an understanding of current traffic patterns on the surrounding road network. The traffic counts were carried out from 04:00 – 22:00. In addition, 24 hour count data was obtained for traffic entering and exiting the Airport from the R132 Swords Road.

Table 3.1 – Summary of Traffic Count Locations

Number	Description
1	R122 St. Margaret's Rd / South Parallel Rd
2	R122 St. Margaret's Rd / North Parallel Rd
3	R122 St. Margaret's R/ St. Margaret's Link Rd
4	R122 Toberburr Rd/ Barberstown Rd/ Dunbro Lane
5	R108 Naul Rd / Old Naul Rd / Barberstown Rd
6	Naul Rd / Forest Rd
7	Naul Rd / Castlemoate Rd
8	R123 Swords Road/ Clonshaugh Road
9	Airport Roundabout
10	M1 Airport Interchange
11	R132 Swords Rd/Airport Business Park
12	R132 Swords Rd/ Corballis Rd South
13	R132 Swords Rd / Old Airport Road
14	R108 Naul Rd / Old Airport Road / Harristown Rd

The location of the counts can be seen in **Figure 3.1**.



Figure 3.1 – Traffic Count Locations

Baseline Traffic Growth Rates - Future traffic growth on the external road network will be based on Transport Infrastructure Ireland's growth rates for the Greater Dublin Area. These growth rates will be applied to the baseline traffic count data to calculate future year baseline traffic conditions on the surrounding road network.

Traffic Generation - The projected traffic generation associated with the development proposals will be based on the change in passenger schedule between that committed under the granted North Runway and that projected as a consequence of the Proposal to Change Permitted Operations. The projected passenger numbers will be converted to vehicular movements entering the airport campus based on the modal split (by car) and established transit times within the airport from entering/exiting the airport campus to boarding/alighting the aircraft.

The projected traffic generation will also include for the change in arrival and departure profiles associated with staff at Dublin Airport. Existing information associated with the arrival and departure times of staff to the airport will be used to calculate the projected change in staff movements associated with the granted North Runway and the Proposal to Change Permitted Operations.

Traffic Distribution - The distribution of traffic from the Airport will be based on the existing traffic surveys carried out on the surrounding road network.

Extent of the Transportation Assessment - The Transportation Assessment will identify the projected change in traffic entering Dublin Airport and will also identify the change in traffic flows on the following roadways in the vicinity of the Airport:

- R123 Swords Road
- M1 Link Road
- Naul Road
- Old Airport Road

Due to the nature of the proposed development it will be necessary to examine time periods outside of the morning and evening peak periods. The following time periods will be assessed as part of this application:

- Early morning peak 04:00 – 08:00;
- Traditional morning peak 08:00 – 09:00;
- Traditional evening peak 17:00 – 18:00; and
- Late evening peak 19:00 – 01:00.

It is acknowledged that the range of hours assessed may change following a more detailed examination of the passenger schedules for both the permitted North Runway and the proposed North Runway Change of Permitted Operations. The transport assessment will be carried out for the design year only which has been currently set at Year 2037.

Traffic Modelling Tools - It is envisaged that the potential change in traffic generation will be very limited during peak periods and no detailed junction assessments will be required. However, should the transport assessment identify the need for some junction assessment, the analysis will be carried

out using the UK Department of Transport computer applications, PICADY (give-way junctions) and ARCADY (roundabouts) as well as LINSIG, which assesses traffic signal junctions.

3.6 AIR QUALITY

The key issues for the Air Quality Chapter are:

- Increases in emissions as a result of increased air traffic movements with particular reference to LTO cycles at the airport;
- Changes in emissions from ground sources such as auxiliary power units, vehicular traffic and all other potential sources identified on the apron and runways up to the LTO cycle.

The proposed assessment will make reference to the UK Department of Environment, Food and Rural Affairs (DEFRA) Technical Guidance LAQM.TG(09), “Local Air Quality Management”.

In order to establish the baseline environment for the assessment, the EPA National Air Quality Monitoring Database will be reviewed to determine the current air quality in EPA designated Zone A areas in the greater Dublin area, but in particular the station in Swords, North County Dublin. In addition to the EPA network, daa operate a continuous air quality monitoring network in the area and there is a comprehensive set of data available as part of this network. It is proposed to utilise this data as baseline information and to track any spatial and temporal variations in the pollutant concentrations.

Aircraft emissions tend to be greater during landing and take-off. Emissions from aircraft tend not to impact significantly on ground level concentrations once airborne above 350-500m. The potential for significant emissions will depend on various factors including the numbers of aircraft movements, aircraft types, LTO cycles, etc. This activity data will be sourced from the daa databases and projections on the existing and proposed aircraft movements and types. The potential for air quality impacts from the proposed development will be projected for three scenarios, with projection years and scenarios to be coordinated with other environmental assessments:

- 2015 Baseline Year
- 2022 Base Year Do Something
- 2022 Base Year Do Nothing
- 2037 Design Year Do Something
- 2037 Design Year Do Nothing

The impact of air traffic will be modelled using the Federal Aviation Authorities (FAA) Aviation Environmental Design Tool (AEDT) which replaced the previous EDMS model in May 2015. Emission factors will be derived from the following sources:

- ICAO Aircraft Engine Emissions Databank; and
- EMEP/EEA air pollutant emission inventory guidebook, Sections 1.A.3.a and 1.A.5.b Aviation;

Changes in emissions from ground sources such as auxiliary power units, vehicular traffic and all other potential sources identified on the apron and runways up to the LTO cycle will be assessed. All

results will be compared against the limits specified in the National Air Quality Regulations (S.I. 180 of 2011) for local air quality and the National Emissions Ceilings (2001/81/EC) for national data.

Changes in road traffic associated with this application will be assessed using a screening dispersion model (DMRB). Source information on traffic figures from the TIA will include data on %HGV, AADT and average traffic speeds for each of the specified scenarios. The nearest sensitive receptors along the access roads to the airport will be assessed in this model. All results will be compared against the limits specified in the National Air Quality Regulations (S.I. 180 of 2011).

All of the above sources will be assessed on a cumulative basis to determine the maximum potential impact to sensitive receptors in the area.

3.7 CLIMATE

The key issues for the Climate Chapter are:

- Increase in Greenhouse Gas Emissions;
- Climate change and adaptation.

The assessment will be undertaken in accordance with the Greenhouse Gas Protocol Corporate Standard; Revised Edition; World Resources Institute & World Business Council for Sustainable Development; March 2004' and 'ISO 14064-1 Specification with guidance at the organisational level for quantification and reporting of greenhouse gas emissions and removals; 2006'.

To provide background information on the national context information from the EPA National Emissions Inventory and National Emissions Projections will be collated and presented.

Current and proposed national and international policies and actions on climate change will be outlined with respect to the proposal with specific focus on aviation related policies and actions.

The transport contribution (both air and road) will be specifically reported to identify current contributions and predicted future trends based on the projected mitigation measures. The contribution of aviation GHG is currently recorded and reported by the EPA (in Ireland) for the EU ETS. The EPA GHG team will be consulted to identify the extent and validity of the available data sets and to clarify the assumptions inherent in the emissions projections.

Airport carbon emissions are defined under three main areas, known as Scope 1, 2 and 3:

- Scope 1: Direct emissions from energy production and transport (e.g. Gas boilers, Dublin airport fleet vehicles)
- Scope 2: Indirect emission from off-site energy production (electricity used by Dublin airport)
- Scope 3: Indirect emissions associated with activities facilitated by the airport (aircraft emissions up to 3000 feet, known as the landing and take-off cycle (LTO), 3rd part airside vehicles, and passenger and staff surface access)
- Cruise (a sub-set of Scope 3): Indirect emissions from aircraft that take place above 3,000ft comprising the climb, cruise and descent. Cruise emissions from arriving aircraft are assigned

to the airport from which they depart so for Dublin airport we only calculate the departure cruise emissions.

The main focus of the EIS assessment will be Scope 3 emissions which are associated with aircraft and surface access activities. These will be assessed for the baseline and future scenarios and any changes in Scope 3 carbon emissions will be discussed in detail.

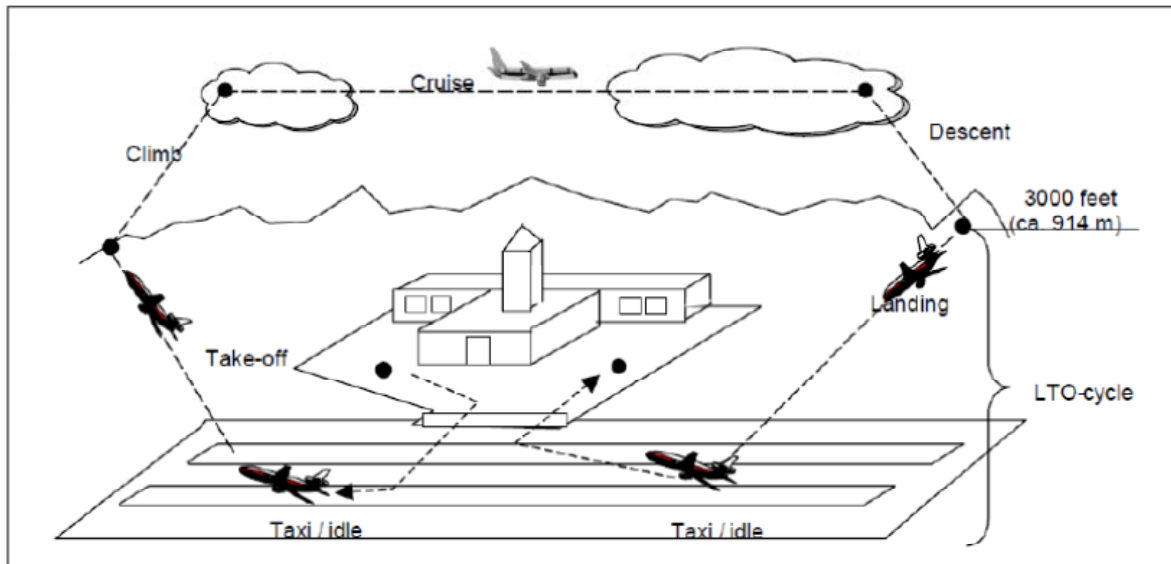


Figure 3.2 - Schematic of LTO and Cruise Emissions (Source: EMEP/European Environment Agency Guidebook, 2010)

Emission factors will be derived from the IPCC Guidelines for National Greenhouse Gas Inventories or the UK Guidelines to DEFRA / DECC GHG Conversion Factors for Company Reporting or similarly recognised databases.

3.8 AIRCRAFT NOISE AND VIBRATION

The key issues for the Aircraft Noise Chapter are:

- Impact of aircraft noise on local residents and communities as a result of the Proposal to Change Permitted Operations with particular reference to the night-time period;
- Mitigation measures to offset noise impact.

This Chapter of the EIS will identify and assess the likely significant effects arising from air noise associated with the proposed change to permitted operations concerning the North Runway.

European, national, regional and local environmental and planning policies relevant to airport air noise effects will inform this chapter of the EIS. In particular, the noise effects associated with the change in permitted operations will be assessed in the context of the *Balanced Approach* as mentioned in the EU Regulation 598/2014 which replaces Directive 2002/30/EC in June 2016.

National planning policies will be considered along with regional and existing local planning policies in surrounding areas and relevant planning agreements relating to Dublin Airport.

Noise effects from the proposed development will be assessed having regard to current government guidance on noise as set out in the National Aviation Policy for Ireland. Relevant UK policies will also be considered. Consideration will be given to guidance on aircraft noise matters emerging from Europe. The following are the key steps in the preparation of the Aircraft Noise and Vibration Chapter of the EIS:

Baseline Measurements and Sensitive Receptors - Baseline noise measurements will be obtained at key receptor positions around Dublin Airport to establish the prevailing ambient and background noise conditions during both the daytime and night-time. Use will also be made of the extensive database of noise monitoring data obtained from Dublin Airport's continuous noise monitoring system which records in real time noise from both aircraft and non-aircraft related noise sources continuously throughout 24 hours of each day.

The non-aviation sources affecting the noise climate in the residential areas surrounding the Airport are principally road traffic.

Whilst baseline noise data does not necessarily feature directly in the assessment of air noise, which is commonly assessed on the basis of absolute air noise levels, and changes in air noise levels, it will provide the context against which air noise can be judged, both in areas currently affected by air noise and those likely to become newly affected during the night period.

Relevant Assessment Years - To assess the noise implications of the application, the following scenarios using the common noise exposure indices used in Europe and the UK, air noise contours will be produced for the following years:

- 2015 Baseline Year
- 2022 Base Year Do Something
- 2022 Base Year Do Nothing
- 2037 Design Year Do Something
- 2037 Design Year Do Nothing

Primary Noise Assessment Metrics - Noise contours will be prepared in terms of the established UK noise indicators for daytime airborne noise, the $L_{Aeq,16h}$ index using the Federal Aviation Administration (FAA) Integrated Noise Model (INM). This is because this index is underpinned by a large community response noise study that today is still used in the UK as the basis for assessing the impact on the community of aircraft air noise. In Fingal County, the Airport Local Area Plan (2005-2011) currently extended to 23rd June 2015, uses the summer $L_{Aeq,T}$ airport contours at 57 and 63 dB to delineate the Outer and Inner Noise Zones.

Daytime noise contours will be prepared in 3dB steps commencing from 57dB which denotes the onset of significant community annoyance, to 69dB which denotes high community annoyance and is commonly used within the UK by airports as a threshold level above which dwellings are offered assistance with re-location or as a threshold for a purchase scheme. In addition, for sensitivity purposes, the 54dB contours will be presented.

Night-time noise contours will be prepared in 3dB steps commencing from 48dB to 66dB $L_{Aeq,8h}$.

These average mode summer daytime noise contours will be produced for rating community impact. In addition, contours assuming only westerly operations and easterly operations (single mode operation) will be generated to indicate the typical day effects under each operational scenario.

To account for noise mapping procedures required under the Environmental Noise Regulations (S.I. No. 140/2006) in Ireland and emerging guidance from Europe on noise dose response, both 24hr day and night-time, noise contours will also be prepared in terms of the L_{den} and L_{night} indices. These contours take account of the annual activity at the airport, rather than just the summer period used in the $L_{Aeq,16h}$ contours.

The contour areas, dwelling counts and population counts will be determined for each scenario considered. In addition, the schools, hospitals and other key public buildings encompassed by the $L_{Aeq,16h}$ summer average mode and L_{den}/L_{night} annual average mode contours will be identified. The impact of these contours will also be assessed in terms of those people likely to be annoyed and/or sleep disturbed by such noise, based on current and emerging guidance on this topic.

The impact of the key contours will also be assessed against allocations in adopted and emerging development plans, in addition to identifying those permitted developments within the contour bands that are planned for construction.

Consideration will be given to key receptors around Dublin Airport to illustrate how, over a typical day, the air noise level received will vary by the hour. A variation will occur because there will be more aircraft movements in the peak hours than at other hours of the day.

Supplementary Noise Assessment Metrics - The primary noise assessment metrics generally rely on extensive surveying of attitudes to aircraft noise resulting in a dose-response relationship linking levels of community annoyance to the metric, such as L_{Aeq} . Supplementary noise metrics on the other hand, while having no known correlation with community annoyance, can be useful in reflecting how aircraft noise is experienced in the locality around an airport.

The following primary and supplementary noise metrics are proposed to rate noise around Dublin Airport associated with the North Runway scheme modification:

- $L_{Aeq,T}$
 - T = 16 hour for daytime, 8 hour for night-time, 1 hour for shoulder periods, 6 hour for core night hours.
 - average mode, average summer day
 - single mode, average summer day
- $L_{den}, L_{night}, L_{day}, L_{eve}$
 - average mode, average annual day
- SEL, L_{Amax}
 - Commonly used to rate the impacts of noise from individual aircraft operations at night.

- PEI, AIE
 - Used to provide an indication of the overall population exposed to a specified noise load, i.e. the number of people exposed over a day to a level of say 70 dB(A) from all aircraft events.
- Annoyance ratings and sleep disturbance ratings based on L_{den} and L_{night} indices respectively.

In addition to the above, the change in noise metric from one scenario to another will be considered at key receptors both close to and at distance from the airport where aircraft air noise is expected to have some effect, to establish the significance of the change, taking account at the same time of the absolute air noise levels likely to be experienced.

Mitigation – As part of the permitted North Runway Project, Dublin Airport offer mitigation measures to those communities most affected by noise. This is done using a Purchase Buyout Scheme that is available to residents exposed to 69 dB LAeq, 16h as a result of the permitted development. In addition, the Airport operates a home and school sound insulation scheme for those properties within specific noise contours.

In addition to the above, the airport currently operates a variety of noise abatement procedures such as requiring aircraft to operate along pre-determined departure routes (noise preferential routes or NPR's) and to climb in a manner to minimise noise on communities on the ground. Approaching aircraft are required to ensure they do not encroach below the 3 degree glide slope operating at the airport. On touchdown, aircraft are required to avoid the use of reverse thrust during the hours of 23.00 to 06.00 except where operational or safety reasons dictate otherwise.

The EIS will include an account of all current noise mitigation measures as well as additional measures to be applied at the Airport and the likely effectiveness of these measures in ensuring that the future air noise profile and impact from Dublin Airport is not significantly worsened over the coming years with the change in permitted operations.

The noise mitigation measures will be proportional with the noise impacts and will be designed to ensure that significant noise impacts will be either avoided or mitigated and will be fully cognisant of and compliant with appropriate regulatory requirements.

3.9 GROUND NOISE AND VIBRATION

The contribution of landside sources to the surrounding noise environment are more localised towards noise sensitive areas in close proximity to the airport. The key issues for the Ground Noise and Vibration Chapter are:

- Activities associated with aircraft within the airport complex - Activities associated with taxiing of aircraft around the airport (e.g. from loading area to runway), servicing activities, apron servicing (including auxiliary power units), and the ground testing of engines are the most common sources of landside noise directly associated with aircraft.
- Activities associated with other vehicles - Other sources to be considered include passenger vehicle transportation, airport workers transportation and any cargo activities (e.g. loading and unloading activities).

Given that all the above sources are already in existence at Dublin Airport, the key assessment for landside noise is the potential change in noise levels to the surrounding environment as a result of additional sources, the location of these sources on site and the hours during which these sources operate once the North Runway becomes operational.

The assessment will focus on a comparison between the future permitted baseline noise environment and the proposed operational scenario relating to changes to the operation of the runway system. The assessment will address the likely change in noise levels, the associated impacts and the requirements for noise mitigation, where relevant, to address significant impacts.

The following are the key elements in the preparation of the landside noise assessment and the Ground Noise and Vibration Chapter of the EIS:

On-Site Noise Monitoring - It is proposed to collate noise data on-site that can be used to assess the noise emissions from aircraft movements on the ground in relation to aircraft taxiing and other significant ground based sources. Noise measurements will be conducted in accordance with the procedures outlined in ISO 1996-1: 2007: Acoustics – Description, measurement and assessment of environmental noise.

Noise Monitoring Terminal Data - A detailed review of existing noise monitoring data available from Noise Monitoring Terminals (NMT) associated with the airport will be carried out and incorporated into the assessment as appropriate.

Off-Site Noise Monitoring - A series of baseline environmental noise surveys will be conducted in order to obtain a measure of the baseline noise environment in the vicinity of the nearest noise sensitive locations to the development site. Noise measurements will be conducted in accordance with the procedures outlined in ISO 1996-1: 2007: Acoustics – Description, measurement and assessment of environmental noise. The following survey work is proposed:

- 12 hour weekday daytime survey;
- 12 hour weekday night time survey;
- 12 hour weekend daytime survey;
- 12 hour weekend night time survey;
- 3 x 1 week unattended surveys (at agreed noise sensitive locations).

The measurement locations will be selected, taking into account such factors as the site boundary, proximity to primary noise sources and proximity to noise-sensitive properties in the vicinity. Measurements during the attended surveys will be conducted at the locations on a cyclical basis.

Modelling of Operational Noise Impacts - The likely change in level of noise emissions from the aspects of the landside operational phase of the runway developments will be predicted in accordance with standard guidance. The following issues will be considered:

- Determination of the existing baseline environment;
- Determination of the predicted future baseline environment with the new runway operational as per the 2007 planning consent;

- Determination of potential future noise levels with changes to operation of the runway system (i.e. this application);
- Changes in noise emissions from existing, permitted and proposed runway / taxiing activities (i.e. aircraft movements on the ground excluding air noise).
- Changes in road traffic volumes on the surrounding road network as a result of the Proposal to Change Permitted Operations.

In relation to Items 2 to 4 referred to above, the proprietary noise calculation software Brüel & Kjær Predictor Type 7810 for computing noise levels in the vicinity of the sites will be used. Calculations are based on ISO9613-2:1996 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation.

Noise assessments on road traffic will be conducted based on the projected traffic flows on roads surrounding the airport, with and without the scheme, for both base and design years. Traffic noise calculations will be conducted in general accordance with the UK Department of Transport document Calculation of Road Traffic Noise (CRTN).

3.10 LANDSCAPE AND VISUAL

The key issues for the Landscape and Visual Chapter are:

- Number of flights potentially visible in daylight hours
- Locations with a sense of tranquillity; and
- Flight approach paths.

The completion of a successful Landscape and Visual Impact Assessment needs emphasis on a systematic analysis and presentation of information about potential effects in a clear and knowledgeable way. The LVIA will be completed using methodology that will be derived from Guidelines for Landscape & Visual Impact Assessment LI 2013. The following tasks will be undertaken:

- Through baseline studies examine the landscape & visual character of the area likely to be affected by the proposal;
- Identify relevant natural and manmade processes which may already be changing the landscape & visual character of the study area;
- Consider the possible interactions between the proposal and both existing and future site conditions and proposals (secondary and cumulative impacts);
- Predict the possible effects, both beneficial and adverse, of the proposal on the environment, and
- Introduce mitigation design and operational modifications or other measures to avoid, minimise or reduce adverse effects and enhance positive effects.

Consultation - A full extensive and early consultation with all the statutory agencies and interested bodies is critical. The local planning authorities will also be invited to contribute to the final selection of key viewpoints for photomontage preparation and visual impact assessment purposes.

Baseline Study - A baseline study and site investigation will be carried out to provide a description of landscape and visual character of the surroundings. This baseline provides the context for the analysis that follows as part of the EIS stage. The Landscape Team will review the relevant County Development Plans and Local Area Plans to establish existing landscape designations such as protected scenic routes and views as well as any landscape policy areas. The team will liaise with the appointed Archaeological Consultant. The Landscape Character Assessments for the Counties will also be reviewed. Key sensitive receptors will be identified including scenic viewpoints. The identified landscape and visual baseline will be provided to the design team during the process as a key constraints map to influence proposals. The baseline will be updated as necessary at the second stage report for the EIS.

Landscape and Visual Impact Assessment (LVIA) - The landscape and visual impact assessment (EIS Stage) will use methods derived from Landscape Institute and IEMA Landscape and Visual Assessment Guidelines 2013. The appraisal will apply the proposals to the existing landscape/townscape and visual setting established in the baseline study.

The landscape/townscape character section will assess the impact the proposal will have on the landscape/townscape character and quality, which has been identified. Assessment will be undertaken through analysis of up to date maps and aerial photography (if available) in conjunction with site assessment using details of the proposals provided by the client team. The objective is to undertake sufficient assessment to identify the landscape and visual factors and the likely effects upon them, by the proposals.

The capacity of a landscape to accept change of the type proposed is assessed.

Impact prediction involves the analysis of potential causes of change to the existing environment, identified and appraisal in the baseline study, and determination of the likely effects. It is important that the magnitude or physical extent of the predicted impacts should be presented in quantifiable terms. The basic stages of impact prediction are as follows:

- Identifying the activities in the development process likely to generate impacts, both positive and negative;
- Identify resources and receptors likely to be affected by those impacts;
- Establish the chain of events or pathways linking cause with effect;
- Predict the likely nature, extent and magnitude of any anticipated changes or effects;
- Evaluate the consequences of any impacts identified; and
- Establish which potential impacts (positive or negative) should be regarded as significant.

It is anticipated that up to eight photomontages will be included in the Landscape Section of the EIS.

Mitigation Measures - A fundamental aim of the report process is to ensure that potentially damaging effects are avoided or minimised and the beneficial aspects enhanced.

3.11 BIODIVERSITY - TERRESTRIAL ECOLOGY

The key issues for the Terrestrial Ecology Chapter are:

- Pollution of surface waters forming pathway to European Sites off the Dublin Coast;
- Collision of birds with aircraft;
- Disturbance /displacement of fauna.

The ecology assessment shall be prepared in accordance with Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal published by the Chartered Institute of Ecology and Environmental Management in January 2016 and the UK Airports Commission Appraisal Framework published in April 2014.

The main steps associated with the coordinated biodiversity and Appropriate Assessment elements are:

Consultation - The principal ecological consultee is the statutory nature conservation body in Ireland, the National Parks and Wildlife Service. Birdwatch Ireland will be consulted also as a relevant stakeholder and source of information on wetland birds in Dublin Bay.

Baseline Environment – Two baselines will be prepared for the terrestrial ecology chapter: the first will be for the 2016 period which will identify the flora and fauna currently present in the footprint of the North Runway which has not yet been constructed; and the second will be a predicted baseline for the year of 2022 which will reflect the predicted baseline which will be present with the North Runway operational.

For the purpose of the 2016 baseline, a Phase 1 habitat survey will be undertaken. In addition mammals will also be recorded and this information will be used to update existing ground mammal survey results, aquatic ecology survey, bat survey and amphibian survey which have been undertaken as part of pre-construction survey work to enable the construction of the North Runway in due course. Monthly bird count surveys which have been underway since Dec 2015 will also be undertaken until the Proposal to Change Permitted Operations application is completed. In addition a targeted study of behavioural response of water birds to overflying aircraft across a range of conditions (time of day, time of year, weather conditions) will be undertaken.

Reporting –Following the preparation of the baseline for the chapter, a review of the project description, methodologies and technical reports prepared by others will be carried out. The preparation of the Ecological Impact Assessment for the EIS will be completed in accordance with CIEEM EcIA guidelines for UK and Ireland (2016) and Airports Commission Appraisal Framework for Biodiversity (2014).

A Screening for Appropriate Assessment document will also be completed.

3.12 BIODIVERSITY - AQUATIC ECOLOGY

The key issues for the aquatic ecological chapter are:

- General status of the potentially affected streams/rivers from an ecological and fisheries perspective in the context of downstream catchments, in particular, the coastal SACs and SPAs;

- Potential impact of the Proposal to Change Permitted Operations on the freshwater aspects of water quality and aquatic flora and fauna.

The following are the key steps in the preparation of the aquatic ecology chapter:

Consultation - Consultations will be undertaken with key organisations of particular relevance to aquatic ecology, water quality and biodiversity including National Parks & Wildlife Service (NPWS), the National Biodiversity Data Centre, Inland Fisheries Ireland (IFI), and the EPA.

Desktop Assessment - The description of the existing environment for the proposed development in relation to aquatic ecology will include a description of the aquatic habitats and species present, with particular reference to salmonids and a description of the freshwater invertebrates and plants present. The description will include a catchment wide description of the fisheries value, water quality (include Water Framework Directive monitoring results) and ecological value. Similar to the Terrestrial Ecology Chapter, an existing environment and a predicted 2022 baseline will be prepared to reflect that the permitted North Runway will be in place prior to any of the proposed changes come into effect. As such, much of the existing aquatic resource will have been altered by the North Runway.

Field Surveys - The following freshwater ecological surveys are proposed within the study area to inform the 2016 Existing Environment description and inform the predicted baseline:

- Desktop survey;
- Habitat condition assessment;
- Salmonid habitat survey;
- Lamprey habitat survey;
- White-clawed Crayfish Habitat Survey;
- Otter survey (riverine environment only);
- Invertebrate survey;
- Frog and newt survey (riverine environment only); and
- Aquatic flora survey.

A series of 16 surface water sites will be surveyed. No water chemistry analysis has been specified or included at this point.

Identification of potential impacts - The potential for impacts to aquatic ecology and the water quality of the catchment within which the development lie, and downstream of the development will be outlined. This process will follow CIEEM guidance, and adhere to developing EPA guidance and advice notes as they become available.

Reporting – The EIS Chapter will be prepared and will include all of the above. Reference will be made to the key legislation and documents which will inform the generation of the aquatic ecology chapter. Mitigation measures if required will be outlined. Residual impacts, the significance of impacts which would occur if all mitigation measures are fully implemented will be summarised. In addition, the contribution to the interactions between EIA elements will be completed along with input to the Appropriate Assessment Screening.

3.13 WATER - DRAINAGE AND FLOODING

The key issues for the water- drainage and flooding chapter are:

- Existing capacity of the drainage system (both hydraulic and organic or sediment loads) to cater for the potential increases in organic loads or sediment (from pavement de-icers, runway rubber removal etc.) associated with the proposed development.

A suitably qualified civil engineer will assess the “as-built” drainage design for the permitted runway to determine the level of compliance with the Sustainable Urban Drainage (SuDS) requirements. The review will include an assessment of the containment, attenuation, treatment and reuse elements of the existing design. The review will consider the existing capacity of the system (both hydraulic and organic loads) coupled with an assessment of the capacity of the system to cater for the potential changes in organic loads (from pavement de-icers, runway rubber removal etc.) associated with the proposed development.

A Tier 3 flood risk assessment in accordance with ‘The Planning System and Flood Risk Management for Planning Guidelines for Planning Authorities’ will be undertaken based on the outline design of the permitted development.

3.14 LAND

Agriculture (including horticulture) is the main land use in the areas immediately surrounding Dublin Airport. No specific key issues have been identified for agriculture, however the following potential impacts will be considered;

- Increase of hydrocarbon depositions on agricultural and horticultural crops and facilities in the immediate area.
- Increased noise from additional aircraft and the impacts, if any, on agricultural and equine stock in the immediate area and on departure and approach pathways.

The assessment will include a survey of agricultural activities in the immediate area, discussions with specialists undertaking the impact assessments for noise and air emissions and review of documentation relating to same. The agricultural specialist will also discuss with daa any historical issues with agricultural activities in the local community.

3.15 SOILS, GEOLOGY AND HYDROGEOLOGY

Given that there are no proposed changes to the site infrastructure for the permitted runway or the existing airfield, no significant impacts are anticipated for soils / geology. All material excavation, site investigation, profiling, etc. will have been undertaken through the enabling works and construction of the permitted North Runway.

The assessment will be undertaken in accordance with *Geology in Environmental Impact Statements* (Institute of Geologists of Ireland), and more general guidance from the EPA and Tii (formerly NRA). The assessment will comprise a desk study and site visit on the components listed below:

- Review of any site investigation data compiled through the construction of the permitted North Runway;
- Collation of all freely available geological, hydrological and hydrogeological data (including bedrock geology and aquifer maps, subsoil maps, borehole records and any existing site investigation information, geotechnical reports or borehole logs) from relevant authorities and institutions such as daa, Geological Survey of Ireland (GSI), Trinity College Mapping Department, Environmental Protection Agency (EPA website), Fingal County Council, National Parks and Wildlife (NPWS), Office of Public Works (OPW) and others;
- Identification of sensitive receptors (*e.g.* SACs, NHAs and water bodies) that may be at risk from future site operations and future end use of the site;
- A visual environmental assessment of the entire site to include for site specific assessments of potential sources of contamination/waste material, confirmation of sensitive receptors in close proximity to the proposed development, GPS surveying and water testing using hand-held water quality instruments.

An assessment of the likely impacts of the proposed development and provision of suitable mitigation measures (if any) during the operation of the proposed development will be presented in the EIS Chapter.

3.16 MATERIAL ASSETS

The key issues for the Material Assets chapter are:

- Changes to transportation infrastructure [see also scope for Traffic and Transportation Chapter];
- Impacts on residential, commercial and industrial properties [see also scope for air and noise chapters];
- Impacts on tourism and recreational assets.

The Material Assets chapter of the EIS will provide a description of the existing material assets of human and natural origin within the vicinity of the airport which could be impacted by the proposals. This chapter will draw on the outcomes from the traffic and transportation chapter, the air quality chapter, the air and ground noise chapters and the human health and hazard chapters.

A comparative review of night time noise contours from the consented development against that of the Proposal to Change Permitted Operations will be completed to determine lands/properties potentially impacted and their location relative to planning restricted zones. Under the Fingal County Development Plan inappropriate development will be restricted within the Outer Noise Zone with new provisions for residential development and other noise sensitive uses to be actively resisted within the Inner Noise Zone.

3.17 ARCHAEOLOGY, ARCHITECTURAL HERITAGE AND CULTURAL HERITAGE

The key issues for the archaeology and cultural heritage chapter are:

- Disrupting the fabric of the heritage asset i.e. physical damage;

- Disturbing persons using the heritage asset; and
- Altering the character and setting of a heritage asset so that its significance is appreciably affected.
- No construction related impacts are anticipated.

The assessment of archaeology and cultural heritage on change in operation will be based on:

Identifying the spatial scope of the study area - To identify the spatial scope of the study airport noise contours (based on changes in noise levels associated with the new operational hours), noise information and the various flight paths data will be added to GIS mapping and will be overlaid on a cultural heritage assets dataset (RPS, RMP NIAH etc.) to identify the spatial scope of the study. The resulting mapping will be used to identify the location of sensitive heritage assets within the spatial scope of the study. The sites that would be noise sensitive (if any) will be identified for further assessment.

Receiving Environment / Baseline - Review existing cultural heritage studies and the EIS for the permitted runway to develop and update baseline. The work will involve the preparation of the Cultural Heritage Chapter of the EIS to provide an architectural heritage, archaeological and historical background to the study area. This will be based on the results of the previous archaeological investigation of the subject sites and update of the baseline collated previously for the permitted development. Documentary and cartographic research in a number of available sources including the Record of Monuments and Places, the Sites and Monument Record, the topographical files of the National Museum, Fingal Development Plan, local sources and the architectural archive will be carried out. An inspection of the area in the field to examine the existing character and setting of the Cultural Heritage environment will be carried out.

The baseline environment assessment will be undertaken, which will include an understanding of:

- Record of monuments and places and sites and monuments record
- National Monuments in State Care (guardianship and ownership)
- National Museum of Ireland Archives
- Database of Irish Excavations and Excavation reports
- Record of Protected Structures in the Fingal County Development Plan
- Architectural conservation areas (ACAs)
- NIAH building survey sites
- NIAH historic gardens and designed landscapes survey sites
- Structures of architectural heritage merit (vernacular, urban and rural)
- Recorded cultural heritage features
- Cartographic sources
- Place names
- Language and inherited traditions.

Field Inspection - A site specific assessment of cultural heritage assets that are considered to be sensitive to noise (using existing Historic England Guidance² and also on research that has been carried on behalf of Historic England in relation to Aviation Noise on Heritage Assets³) identified through the desk study and GIS mapping will be visited to establish to how the existing sound environment may or may not contribute to /or detract from the significance of the heritage asset. Non noise sensitive sites identified in the baseline study will not require specific consideration in the assessment.

Consultation - Consultation with Fingal Co Co. and the DAHG will be carried out to discuss the approach and methodology and initial findings. Workshops & consultation with noise and landscape consultants will be carried out throughout the environment impact appraisal.

Impact Assessment - A site specific assessment of noise impacts on the noise sensitive heritage assets will be undertaken where there is a change in noise levels and mitigation measures will be developed where possible. The results of the work will be compiled in a report with the desk study, illustrations, and photographs and assess the existing environment.

3.18 APPROPRIATE ASSESSMENT

Screening for Appropriate Assessment will be undertaken to assess whether the project which is not directly connected with or necessary to the management of the site as a European Site, in view of best scientific knowledge and in view of the conservation objectives of the site, either alone or in combination with other plans or projects, is likely to have significant effects (e.g. loss of habitat area; impacts on water quality; impacts on species population densities etc. as per EC, 2002) on a European Site.

The screening sequence will be as follows:

- Definition of the zone of influence for the proposed project;
- Identification of the European Sites that are situated (in their entirety or partially) within the zone of influence of the proposed works;
- Identification of the most up-to-date Qualifying Interests (QIs) for each European Site occurring either wholly or partially within the zone of influence;
- Identification of the environmental conditions that maintain the QIs at the desired target of favorable conservation status;
- Identification of the threats/impacts – actual or potential that could negatively impact the environmental conditions of the QIs within the European Sites;
- Highlighting the issues associated with the proposed project that could give rise to significant negative impacts on any European site, specifically increasing permitted night-time air traffic movements arriving and departing at Dublin Airport, between the hours of 23:00 hrs and 07:00 hrs; and

² Historic Environment Good Practice Advice in Planning Note 3 (March 2015) <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/>

³Aviation Noise Metric - Research on the Potential Noise Impacts on the Historic Environment by Proposals for Airport Expansion in England (2014) <https://content.historicengland.org.uk/images-books/publications/aviation-noise-metric/eh-aviation-noise-final-report.pdf>

- Identification of other plans or projects, for which In-combination impacts would likely have significant effects.

Consultation with the statutory nature conservation body in Ireland, the National Parks and Wildlife Service will take place. In addition, Birdwatch Ireland will be consulted as a relevant stakeholder and source of information on wetland birds in Dublin Bay.

4 EIS STRUCTURE AND CONTENT

This section describes the proposed structure of the EIS. It is proposed to present the EIS in three volumes as follows:

- **Volume 1: Non-Technical Summary**

A summary, in non-technical language, of the information contained within the main EIS volume.

- **Volume 2: Main EIS**

The main volume of the EIS provides information on the location and scale of the proposed development, details the design and an assessment of the impacts on the environment (both positive and negative) as a result of the proposed development. It will contain the following chapters:-

1. Introduction
2. Background to the Development;
3. Need for the Development;
4. Characteristics of the Project
5. Reasonable Alternatives Examined
6. Consultation
7. Planning and Development Context

The main EIS document will contain the environmental topics as listed in **Section 3**. These chapters will include the following:

8. Population
9. Human Health
10. Hazard
11. Traffic and Transportation
12. Air Quality
13. Climate
14. Aircraft Noise and Vibration
15. Ground Noise and Vibration
16. Landscape and Visual
17. Biodiversity including Terrestrial / Aquatic
18. Water including Drainage and Flooding
19. Land
20. Soils, Geology and Hydrogeology
21. Material Assets
22. Cultural Heritage

Each environmental topic will be discussed under the following headings -

Scope of the Assessment: This section will expand on the information presented in Chapter 3 of this report and will take account of the feedback from stakeholders in relation to the scope and level of detail of the proposed assessment.

Methodology: This section will include a clear description of the approach including methods used used to predict/forecast impacts, sources of information used and standards and guidance used.

Receiving Environment: This section will comprise a description of the specific environment into which the proposal will fit, taking account of other developments likely to occur. The particular aspects of the environment will be discussed in terms of their context, character, significance and sensitivity. The receiving environment will have regard to the situation as it exists in 2016, prior to the construction of the permitted North Runway. ATM and road traffic figures will have regard to the most recent full year of data available from 2015.

Baseline: This section will build on the receiving environment and seek to predict the baseline in 2022 after the North Runway has been constructed and is operational. This is the baseline against which impacts will be predicted as the North Runway is already permitted and will be fully constructed before the current proposal can be effected.

Potential Impacts: The potential impact of the proposal will comprise a general description of the possible types of impacts which this proposal would be likely to produce. This includes a consideration of the "Do Nothing" scenario. The *Do Nothing* scenario describes the environment as it will be with the North Runway, as permitted (including all 31 conditions) and operational. An assessment of the specific direct and indirect impacts of the proposal relative to baseline (2022) will be undertaken, in the absence of any remedial or reductive measures. The predicted impacts will be discussed having regard to their character, magnitude, duration, consequences and significance.

Mitigation and Monitoring Measures: A description of any specific remedial or reductive measures considered necessary and practicable resulting from the assessment of potential impacts. Monitoring proposals will also be included in this section as appropriate.

Residual Effects: This section of each chapter will review the impacts of the proposed scheme with mitigation measures in place and identifies remaining negative impacts.

In addition to the environmental topic chapters, the Environmental Impact Statement will contain the following chapters and information:

23. Interaction and Cumulative Impact of the Foregoing
24. Summary of Mitigation Measures
25. Summary of Residual Impacts

- **Volume 3: Technical Appendices**

Volume 3 will contain specialists' technical data and other related reports including photomontages.

5 CONSULTATION ON DRAFT SCOPING REPORT

5.1 INTRODUCTION

Consultation is an essential part of the Environmental Impact Assessment process. Consultation with the public, statutory bodies and interest groups provides an opportunity to:-

- Identify concerns and measures about the project and uses these to inform the preparation of the EIS;
- Incorporate mitigation measures where possible into the design of the project in early stages;
- Take into consideration the expertise and knowledge of local communities, experts and interest groups;
- Encourage participation in decisions yet to be made;
- Take into consideration concerns during the decision making process and make the decision and conditions on the decision accordingly; and
- Ensure members of the community are fully informed with up to date information about all aspects of the development throughout the full duration of the project.

This draft Scoping Report is intended to set out the proposed content (scope) of the EIS which will be prepared to support any application to change permitted operations of runways at Dublin Airport. It represents the first significant opportunity to consult on the proposed application to review permitted operations. The report will provide information for a number of stakeholder streams as follows:

1. In support of pre-application discussions;
2. Material to support consultation to a range of statutory bodies and NGO's to inform the scoping of the EIS. In this early scoping stage, letters have been sent to a cross section of stakeholders, informing them of the project and that a draft scoping paper is available for comment. This consultation will form part of the wider project stakeholder consultation. This consultation will continue throughout the Environmental Impact Assessment process.
3. A document to support open days where the public can speak to daa and their representatives regarding the project development including the scope of the assessments to follow. Existing stakeholder groups and forums will be addressed on an ongoing basis.

5.2 NEXT STEPS

daa will commence a coordinated public information and consultation programme as part of the EIS scoping process. This activity will be designed to inform and engage with as broad a cross-section of key stakeholders as possible, using a diverse range of communications channels including public exhibitions, information stands, community briefings, one-to-one meetings, website and other digital tools, accessible leaflets and information sheets and media and public relations awareness activities. This is in addition to the considerable work in terms of stakeholder and community engagement which the daa carries out on an ongoing basis.

The tools that we will use will ensure that information is available in a variety of forms so that people can access the information they need in the format that is most comfortable and convenient

for them. Equally, stakeholders will be able to make submissions to daa in a variety of ways, including online, written and face to face.

At all stages, daa will ensure that a team with relevant expertise in all project areas, will be on hand to ensure swift and comprehensive responses to questions and requests for information.

Key information:

- Information on what an EIS process is and why we are undertaking it
- Outline of what is included in the Scoping Document
- Explanation of Condition 3 and Condition 5
- Explanation of runway system mode of operation
- Explanation of why a Proposal to Change Permitted Operations is being sought

The key elements of the consultation process will include:

Engagement with Statutory Consultees: daa will engage with an extensive list of statutory consultees, ensuring that they have the required information on which to make their submissions on the EIS scoping document.

Engagement with non – statutory consultees: daa will engage directly with a substantial list of previously identified stakeholders, many of whom it has engaged with on an ongoing basis through its well established Community Liaison team and the Dublin Airport Environmental Working Group.

Public Consultation Events: two public information and consultation events will be held close to the airport and at locations that are convenient and accessible to all communities in the area. These include:

- Roganstown Golf & Country Club - Friday 24th / Saturday 25th June 2016 (to the west)
- The Grand Hotel, Malahide - Friday 1st July and Saturday 2nd July 2016 (to the east).

The events will be open from 1pm-8pm on each of the Fridays and from 10am-6pm on the Saturdays, allowing people to engage at a time that suits them.

These events will be open to the general public and will be well publicised in advance through advertisements in a range of local newspapers and through direct engagement with stakeholder groups by daa's community liaison team and on well-established platforms such as the daa website.

An experienced team comprising daa personnel and external experts will be available at the events to provide information and technical expertise to assist in creating public awareness and understanding of the project and to obtain feedback from local stakeholders.

A full suite of information literature including the EIS Scoping Document, a more accessible summary version of same, and a copy of the questions that will be put to consultees will then be available to attendees to review at their leisure in the period following the events.

Public Information Centres: daa is liaising with Fingal County Council to arrange to have consultation materials available at local libraries and at civic offices in the County.

Copies of the EIS Scoping Document will be available, alongside a more accessible summarised version of the document and a copy of the questions that are being asked as part of the consultation. Information will also be provided on consultation timelines and on how the public can engage with the consultation process, including contact details for the daa team.

Oireachtas Consultation Session: In addition to public consultation events in Malahide and Roganstown, there will also be an event at Buswells Hotel opposite Leinster House.

daa will inviting be all members of the Houses including Minsters, TDs and Senators to attend an information session and briefing at Buswells. This will ensure that elected representatives from around the country will have the opportunity to engage in the process.

Dublin Airport Terminal 1 Public Information Centre: The information exhibition will then be housed for the duration of the consultation period in Dublin Airport's Terminal 1.

Community group and one-to-one meetings and briefings: daa has been in active dialogue with community groups, local residents, schools and the local business community since announcing plans to proceed with North Runway. Building on this progress daa will schedule a series of further one-to-one meetings with representatives of key stakeholder groups to include community groups, local TDs, Councillors, business organisations, key local employers, schools and daa staff. These meetings will supplement the additional consultation exercises such as events and collateral.

In addition to ongoing scheduled meetings and ad hoc meetings as appropriate, daa is also in ongoing communication with Fingal County Council (FCC). Both parties (daa and FCC), together with representatives of the St Margaret's community, will be active participants in the St Margaret's Community Liaison Group, a community engagement group that is currently being established.

Website: A dedicated North Runway web presence is being enhanced within the daa's main website to provide a one-stop-shop for information on the Proposal to Change Permitted Operations and the EIS process. The site will facilitate the flow of information to stakeholders, accommodating a range of documents, graphics, videos, and presentations but crucially it will also provide various methods for stakeholders to engage with the consultation process, for example asking questions, and making online submissions.

Advertising and Media Relations: daa will be engaging with the public through the media, informing them of how to access key events and information and how and where to participate in the process. Advertising and press releases will focus on local media, ensuring that key local stakeholders are consulted.

Consultation report: A full report of the outcome of the consultation process will be compiled on completion of the project. This will outline the feedback from consultees and also key metrics in relation to participation in the process.

All submissions made in relation to this Scoping Report will be considered in the preparation of the EIS to follow.

It is recognised that scoping is a dynamic process and is expected to continue throughout the compilation of the EIS.

5.3 TERMS OF REFERENCE FOR CONSULTATION ON THE SCOPING REPORT

The project is at an early stage and this represents a key opportunity for the public to become involved and influence the development of the project proposal. An environmental impact statement [EIS] will be prepared in due course to assess the likely significant impacts of the proposal on the receiving environment, including local residents and communities.

daa is now seeking feedback on the scope of the EIS. Share your views:

- on what social / environmental topics that should be considered in the EIS
- on specific factors that should be considered in the EIS ; and
- on any issues specific to your community/area of expertise or interest that we should be aware of in developing the EIS
- on any other information you feel we should consider during project development.

Submissions can be made in writing to: North Runway Proposal to Change Permitted Operations, North Runway Office, Cargo Terminal 1, Dublin Airport.

Or by email to: northrunway@daa.ie clearly noting *Proposal to Change Permitted Operations* in the subject line.

All submissions should be received by Friday 22nd July 2016.