





North Runway Report

Consultation on Flight Paths and Change to Permitted Operations February 2017





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1. INTRODUCTION

As a small, open, island economy without a land link to other countries, Ireland is critically dependent on air transport. Dublin Airport is Ireland's largest airport and has seen a rapid growth in passenger numbers in recent years. The airport served a record 27.9 million passengers in 2016. Traffic forecasts indicate that this growth will continue with potential passenger throughput figures of up to 36 million by 2022 and up to 50 million by 2037.

Dublin Airport contributes approximately €6.9bn per annum to the Irish economy, according to a 2014 Report undertaken by InterVISTAS, a leading management consultancy specialising in aviation, transportation and tourism. This is the equivalent to circa 4% of national GDP. 48% of the employment impact arising occurs within Dublin (including Fingal).

Continuing growth at Dublin Airport requires additional runway capacity. A new runway, known as North Runway, will support tens of thousands of new jobs, enhance connectivity for tourism, trade and Foreign Direct Investment whilst also increasing customer choice and facilitating lower air fares. It would also ensure that Dublin Airport can continue to grow in line with national policy and fulfil its potential. Accordingly, daa is now proceeding with the delivery of North Runway.

Background

In December 2004, planning permission was sought for a 3,110 metre runway to be built 1.7km north of the existing main runway. Planning consent, subject to 31 planning conditions, was granted in August 2007 but because of the economic downturn, the project was put on hold. However, due to the economic recovery and the unprecedented growth in air traffic, a decision to progress the runway was taken in April 2016.

Two of the 31 planning conditions are problematic, resulting in less operational capacity at key periods of the day with two runways than currently exists with one. Given forecast demand, these conditions, which would come into effect once North Runway becomes operational, would lead to a curtailment of growth and connectivity.

- **Condition 3(d)** of the 2007 planning permission prohibits the use of the new North Runway for landings and takeoffs between the hours of 23.00 and 07.00.
- **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 has therefore entered a process to change these two restrictive conditions in order to maintain operational flexibility and to facilitate anticipated future demand for aviation services. This process is referred to as the 'Proposed Change to Permitted Operations' and involves the preparation of a comprehensive Environmental Impact Statement (EIS). To inform the EIS, daa sought the input of the public through a comprehensive consultation process.

Consultation

Two Public Consultations were held in 2016. Public Consultation 1 concerned the Scoping Process for the EIS. It ran from 16th June 2016 to 22nd July 2016, and the closing date for submissions was subsequently extended by two weeks to 5th August 2016.

In total, 217 submissions were received and a feedback report is available on the North Runway website <a href="https://www.dublinairport.com/north-runway/change-of-permitted-operations/scoping-process-for-proposal-to-permitted-operations/scoping-process-for-permitted-operations/scoping-process-for-permitted-operations/scoping-process-for-permitted-operations/scoping-process-for-permitted-operations/scoping-permitted-operation



<u>change-permitted-operations</u>. The issues raised during this consultation are now being considered by the project team and its consultants as work progresses on the preparation of the EIS.

The core focus of this report is on the second phase of public consultation which began in October 2016.

1.1. Public Consultation 2: Flight Paths and Change to Permitted Operations

This second consultation phase sought to provide interested stakeholders and local communities with an opportunity to input into the selection of future flight paths for North Runway and also to provide further details on the project and the Proposed Change to Permitted Operations.

This report will outline the approach to the consultation and the feedback received via e-mail, as well as the next steps of the process. A separate, independent report has been produced by Red C Research which analyses the submissions received via the consultation survey.

261 submissions were received via the consultation survey and 23 responses were received directly via e-mail, giving 284 as the total number of responses received.

Our objective is to develop North Runway in a manner which delivers the best possible outcome for the Irish economy, whilst also balancing the needs of local communities. We welcome and thank our local community groups and the individuals who participated in providing feedback, for the contribution they have made to this process.



2. PUBLIC CONSULTATION

2.1. Introduction

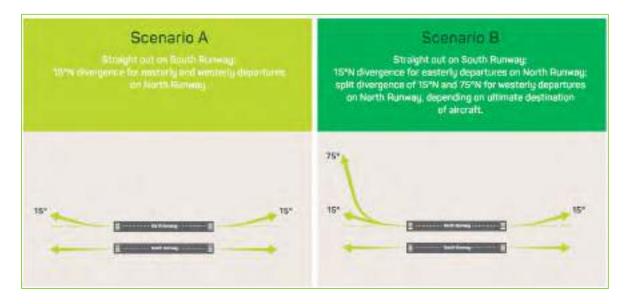
In summary, this consultation phase focused on three elements:

- Future flight path options for North Runway and the criteria for their selection;
- Potential mitigation measures associated with the Proposed Change to Permitted Operations, and;
- Possible approaches to the development of a new community fund.

Determining flight paths is an important component in the preparation of the EIS relating to the Proposed Change to Permitted Operations. Flight paths are the designated routes aircraft follow under the direction of Air Traffic Control (ATC). Unless directed otherwise by ATC, all aircraft taking off from Dublin Airport are required to follow specific flight paths called Noise Preferential Routes (NPRs). To minimise disruption, NPRs are designed to avoid flying over built-up areas where possible.

NPRs for the existing southern runway follow a straight line from the end of the runway for both arrivals and departures. Once North Runway becomes operational, new NPRs to and from the airport will be required.

To allow simultaneous operations of the runways, safety regulations require that the departure paths diverge by a minimum of 15°. For the purposes of this consultation, we presented two 'scenarios' for departure NPRs and invited stakeholders to indicate their preferred option:



As part of the consultation process, a suite of maps indicating the potential impact of each scenario was available for review by stakeholders. To help define the new NPRs, stakeholders were also invited to provide their preferences on the criteria for selection of the NPRs. However, before any proposed flight path can be finalised for North Runway, a comprehensive safety case and assessment will have to be completed by the Air Navigation Service Provider (Air Traffic Control).

2.2. Data Collection

In total there were 284 submissions to this Public Consultation. Feedback was invited via a survey which was independently administered by Red C Research on behalf of daa. The survey was available both in an online format on the North Runway website and also in a hardcopy format which provided for a freepost facility. Red C received 261 survey submissions and has produced a separate, independent report outlining the summary analysis of this information which is available for viewing and download on the North Runway website.

23 respondents chose to make a submission to the consultation via e-mail. A summary of the email submissions is captured in this report under **Section 4**.

All feedback received either by survey or e-mail has been passed to the EIS Project Team and will be used to inform the preparation of the EIS.

2.3. Consultation Guidelines

Our aim was to ensure that our engagement with stakeholders was:

- Open and transparent
- Demonstrated the stage the project was at
- Ensured stakeholders were aware of the issues that were open for consultation
- Detailed how public participation would be facilitated and how stakeholder feedback would be used to help inform the EIS process

Outlined in the following sections, are the activities undertaken to facilitate stakeholder engagement, to ensure an understanding of the process and to ensure compliance with the above guidelines on the consultation topics of interest to the community.

2.4. Communications Activities

2.4.1. Public Consultation Events

Three public consultation events were held from Monday, October 24th – Wednesday, October 26th inclusive.

The consultation events took place as follows:

Venue	Date and Time	Attendees
The Grand Hotel, Malahide	24 th October 2016, 3pm – 8pm	83
St Margaret's GAA Club	25 th October 2016, 3pm – 8pm	117
River Valley Community Centre, Swords	26 th October 2016, 3pm – 8pm	127
	Total	327

At each consultation, our colleagues were on hand to provide information and to answer questions from attendees. Experts in various fields were also available to address questions relating to specific technical aspects of the consultation topics and the EIS development. These experts included:

- Aircraft Noise Specialist (Bickerdike Allen Partners LLP)
- Health Impact Assessment Specialist (RPS Group)

- Environmental Impact Statement Manager (RPS Group)
- Environmental Project Manager, North Runway (daa)

Public information displays, a summary booklet of the display information, maps and other relevant brochures on various aspects of the project, were available at each consultation.

2.4.2. Information Services

To promote engagement throughout the consultation process, various initiatives were undertaken such as:

- The public information displays (refer to **Section 2.5.2**) were available at all consultation events. These were ultimately placed on display on the Mezzanine Level of Terminal 1 in Dublin Airport after the consultation events were concluded. They remained on public display for a period of five weeks.
- A helpline service, dedicated to responding to queries about North Runway and the
 associated consultation process was available. This service continues to be accessible and
 will be available for the duration of the project (Freephone: 1800-804422)
- A dedicated web page relating to the Consultation on Flight Paths and Change to Permitted
 Operations was created on the North Runway website ww.dublinairport.com/northrunway.
 Relevant information and consultation material was accessible, in both low resolution and
 high resolution format. Stakeholders were also afforded the opportunity to make a
 submission to the process via this webpage.

2.4.3. Community Liaison Team

daa has a Community Liaison Team in place for many years and this team is closely involved with the North Runway project. Throughout the consultation, the Community Liaison Team (in addition to North Runway project team members) was readily available to meet with residents, community groups and other key stakeholders on a one-to-one basis. The two key points of contact are:

- Siobhan O'Donnell Head of External Communications
- Maura Cassidy Community Liaison Manager

2.5. Communication Materials

Various communications materials were utilised for the purposes of the public consultations. Outlined below is a synopsis of the materials used.

2.5.1. Brochures

Eight information brochures were made available to the public throughout this phase of consultation. Hardcopies were available at each event, for attendees to take with them and softcopy versions were available on the North Runway website.

Two brochures were produced specifically for the purposes of this second phase of consultation and they were as follows:

daa Consultation on Flight Paths and Change to Permitted Operations

This booklet was developed to provide a summary of the key elements of the Public Consultation. Printed copies of this booklet were available at each of the events for participants to take away with them. In addition these were also available for download in both high resolution and low resolution format. The booklet contained information on the:

- Background to the consultation
- Requirement for a Change to Permitted Operations
- > Current operation of the runway system at Dublin Airport
- Future Noise Preferential Routes
- Divergence scenarios
- Aircraft noise and flight movements
- Mitigation measures
- Next steps
- Copies of eleven maps on display at the consultation events were also included

• Construction Traffic Management Update detailed:

- > Access routes for construction traffic
- Map of construction traffic routes
- Requirements of contractors to mitigate the impact of construction traffic in the local area

A copy of the above mentioned brochures can be found in Appendix A

Three of the eight brochures available, were also used during the first phase of consultation 'Scoping Process for Proposal to Change Permitted Operations' and they were as follows:

• Measuring, Managing and Mitigating Aircraft Related Noise detailed:

- Assessing and measuring noise
- > The balanced approach to aircraft noise
- Community engagement
- North Runway planning requirements
- Insulation Scheme

Plans for Roads in the Vicinity of North Runway detailed:

Changes being made to roads in the vicinity of the airport to facilitate the project

• **Potential to Connect, Compete and Grow** detailed:

- Economic benefits of North Runway
- Need for the project in the context of the growth of Dublin Airport
- > Future development prospects

Finally, three brochures were available for further information relating to North Runway and to Dublin Airport operations:

North Runway Proposal to Change Permitted Operations EIS Scoping Consultation Feedback

> A summary report from the first phase of consultations on North Runway

Runway 10/28 – Resurfacing Work detailed:

- Overview of project
- Questions and answers

• Sustainability Update 2015

daa's annual sustainability report which details the programmes being undertaken as part of daa's Sustainability Policy

2.5.2. Display Materials

A set of 19 display panels were designed specifically for this consultation process. The display panels contained information on various aspects of North Runway including:

- Purpose of consultation
- Feedback from the first consultation on Environmental Impact Statement (EIS) scoping
- Operation of the runway system at Dublin Airport
- Future Noise Preferential Routes
- Outline of issues for consultation
- Contact and feedback information

Following the consultation events, the panels were placed on the Mezzanine Level of Terminal 1 in Dublin Airport for five weeks where members of the public could view them at any time.

A copy of the display materials can be found in Appendix B

2.5.3. Maps

Twelve maps were on display at the public consultation events and were also available on the project website and in the accompanying consultation brochure. These maps were produced from Ordnance Survey Ireland digital data (© 2016) at a scale of 1:40000@A0 and were overlaid with the following information:

- Aircraft Altitudes and Movements in Easterly Operations
- Aircraft Altitudes and Movements in Westerly Operations
- Current Departure Routes
- 2022 60dB LAeq Day and 55dB LAeq Night Contour
- Scenario A, 2022 LAeq Constrained Summer Day Contour
- Scenario A, 2022 LAeq Unconstrained Summer Day Contour
- Scenario A, 2022 LAeq Constrained Summer Night Contour
- Scenario A, 2022 LAeq Unconstrained Summer Night Contour
- Scenario B, 2022 LAeq Constrained Summer Day Contour
- Scenario B, 2022 LAeq Unconstrained Summer Day Contour
- Scenario B, 2022 LAeq Constrained Summer Night Contour
- Scenario B, 2022 LAeq Unconstrained Summer Night Contour

Throughout the consultation, requests were made by stakeholders to obtain these maps for personal viewing. Maps were distributed upon receipt of these requests.

2.6. Publicising the Consultation

2.6.1. Advertisements

There were seven advertisements placed in total, which ran in the following three titles over a two week period:

- North County Leader
- Fingal Independent
- Dublin Gazette

The same advertisement also ran for a one week period in the Northside People. Taken together these titles have a circulation of approximately 140,500 in the local community.

These advertisements contained the following information:

- Date, time and location of relevant public consultation events
- General North Runway information
- Information on the consultation topics that were to be discussed

A copy of the advertisement can be found in Appendix C

2.6.2. Posters

Posters advertising information regarding the consultation process and the associated public events were distributed to the following local libraries and two Fingal County Council offices:

- Balbriggan Library
- Baldoyle Library
- Blanchardstown Library
- Donabate Library
- Fingal County Council, Swords
- Fingal County Council Civic Offices, Blanchardstown
- Garristown Library
- Howth Library
- Malahide Library
- Skerries Library
- Swords Library
- Rush Library

A copy of the poster can be found in **Appendix D**

2.6.3. Leaflet Drop

33,000 leaflets were printed to advertise the consultation events and were distributed to local communities in the environs of the airport as follows:

- Portmarnock
- Malahide
- Robswall
- Feltrim
- Kinsealey
- Baskin
- Stockhole
- Cloghran
- Nevinstown
- Swords
- Boroimhe
- Ridgewood
- Knocksedan
- St. Margarets Village
- Kilreesk Lane
- Dunbro Lane
- Newtown Cottages
- Dunsoghly
- Broghan
- Ballystrahan
- Skephubble
- Rivermeade
- Shallon
- Newpark
- Bishopswood
- Ward Lower
- Ward Upper
- Kilshane
- Hollystown
- Tyrrelstown

A copy of the leaflet can be found in Appendix E

2.6.4. Emails to Stakeholders

Emails were circulated to various stakeholder groups, informing them of the consultation process, asking them to advise others in their areas and inviting them to provide their feedback and viewpoints on flight paths and the Change to Permitted Operations.

These stakeholder groups included:

- 7 Residents Associations
- Elected Representatives (refer to **Section 2.6.5**)

- Airport Staff, many of whom live in the Fingal area (seven internal staff briefings also took place during the consultation period)
- Individuals who had previously made a submission to the first phase of consultation during the summer of 2016
- >350 interested parties who had signed up to the online updates section of the North Runway website by the time the consultation took place

2.6.5. Communication with Elected Representatives

Elected Representatives were engaged with in various ways throughout the consultation process and encouraged to let constituents know about the opportunity to engage with the project. The following activities took place:

- On 10th October 2016, all Fingal County Councillors, TDs and Senators were advised of the upcoming consultation events. This same group received a reminder of the events on 21st October 2016
- On 17th October 2016, invitations were issued via email to all TDs and Senators in the Houses of the Oireachtas inviting them to attend an Information Clinic on North Runway in Buswell's Hotel, Dublin 2 on 27th October 2016. A reminder was sent to the same group on 25th October 2016
- Fourteen Elected Representatives attended the Information Clinic offering their viewpoints on North Runway and Dublin Airport operations as a whole.

2.6.6. Social Media

We have an active social media presence which was utilised throughout the consultation process. Dublin Airport has a popular Twitter page with over 195,000 followers and this account was utilised to promote the consultation on North Runway. Three 'tweets' and two Facebook posts were issued by daa to publicise the information events that were taking place in October.

Figure 2.1 – Twitter posts







Figure 2.2 - Facebook Posts





2.6.7. Media Coverage

Since the earliest stages of the project's development, daa has engaged with media (local and national) as a key channel to support project awareness and understanding and to address any questions relating to the project or indeed to the consultation and submission process.

Media coverage specific to this consultation process is outlined below, however there has been regular and ongoing North Runway related coverage since the decision to progress the project was announced in April 2016.

Date	Publication	Page	Title
25.10.2016	Fingal Independent	13	daa to Host Public Meetings this Week
29.11.2016	North County Leader	Online	Closing date for Runway Feedback Looms
29.11.2016	Fingal Independent	4	Runway Feedback Deadline

Media clippings can be found in Appendix F

3. Red C Survey

As stated in the above sections, Red C Research independently administered the North Runway Consultation on Flight Paths and Change to Permitted Operations Consultation survey. Based on the 261 survey submissions received, Red C has produced a separate report outlining the outcomes of the survey responses. This report can be found on the North Runway website - https://www.dublinairport.com/north-runway/change-of-permitted-operations/consultation-on-flight-paths-and-change-to-permitted-operations or you can request a copy by contacting the North Runway team on 1800 804 422 or northrunway@daa.ie.

The key points from the report are outlined as follows:

- The most important criteria for consideration in selecting the departure Noise Preferential Route is "favouring the routing that minimises the number of dwellings impacted by night time noise" with an average importance score of 8.89 out of 10. The next most important criteria is "favouring the routing that minimises the number of dwellings exposed to noise" with an average importance score of 8.64 out of 10.
- The detailed analysis of additional comments provided by respondents indicates that most are concerned about noise and in particular night time noise.
- In choosing between the two alternative Noise Preferential Route scenarios provided to respondents, there is a preference for Scenario B "Straight out on south runway; split divergence of 15° and 75° on departures for North Runway depending on ultimate destination of aircraft"
- In terms of areas in which to prioritise spend from the Community Fund, two areas dominated:

Prioritise spend in areas most impacted by noise 46%
Prioritise spend in all areas overflown 31%

 When asked which sectors should be included in the Community Fund the top three mentions were "Environment and Sustainability", "Health and Wellbeing" and "Social Inclusion and Community Development".

4. Observations Received Independent of Consultation Survey

Some of the consultation participants preferred to email their comments and observations to the North Runway Stakeholder Team directly. In total 23 submissions were received in this format. These submissions were also sent to the EIS Project Team who will consider the observations raised when carrying out investigations into the topics of the EIS related to the Proposed Change to Permitted Operations.

In this section, a number of the responses emailed to the North Runway team are summarised.

Ten local residents took the opportunity to highlight their opposition to the Proposed Change to Permitted Operations, submitting short statements for example: 'I am opposed to removing conditions 3(d) and 5 and am against unrestricted night flights at Dublin Airport'.

Two local resident groups also contributed to the consultation process using this channel and highlighted a number of issues within their submissions including:

- Health impacts of aircraft noise and emissions and night time noise e.g. cardiovascular health, sleep disturbance, annoyance etc.
- Implementation of WebTrack
- Devaluation of residential amenity and compensation measures
- Location of North Runway crash zones
- Perception that the information provided at consultation events was misleading and flawed

The consultation invited feedback on the criteria for the allocation of Community Funds and two groups requested funding for their individual projects, which were the provision of a general purpose hall and an extension to an existing sports facility.

Some submissions listed a number of individual concerns and issues relating to the North Runway project:

"It is common and also considered best practice within major European city based airports that they have night time restrictions relating to the number and frequency of aircraft movements. The daa appears to be breaching this at present

It is also not possible to assess or determine the level of impact that the development of a northern runway will have on amenity and indeed on property values"

A resident of Malahide, Co.Dublin

"This new runway will facilitate major increases in flights to and from the airport and carbon emissions will increase significantly as a result"

A resident of Dublin 12

"These mitigation measures no longer offer adequate protection against existing southern runway noise levels or projected extra northern runway noise levels"

A resident of Cloghran, Co Dublin

"While there is a preferred centre line for a flight path, aircraft can/will deviate off that centre line by 900m either side which inevitably means that aircraft will be flying over Portmarnock or Malahide..therefore the flight path is unacceptable"

A resident of Portmarnock, Co Dublin

Some responses welcomed the North Runway project, however emphasised the need for the appropriate consideration of community needs.

"Continued access to a choice of frequent and direct services to a range of short and long haul destinations is critically important to enterprise development in an increasingly globalised economy.

As such, Enterprise Ireland welcomes the developments which can optimise benefits for the Irish economy while taking into account the needs of local communities"

Enterprise Ireland

"It is vital that inward investment, tourism and international trade are not hampered by avoidable capacity bottlenecks in the terminals or runways at Dublin Airport.

In order for the new runway to deliver its full potential it will undoubtedly be necessary to address some of the operating restrictions currently in place but there is a need for adequate, appropriate mitigation and/or compensation measures to be put in place for local residents"

IBEC

"From an operational point of view, the IAA ANSP is of the view that it is possible to strike the appropriate balance between noise mitigation and operational efficiency and flexibility. Ensuring this balance is reached will allow for Dublin Airport to grow as required to support economic development in north Dublin and the Irish economy in general, whilst at the same time ensuring that aircraft noise does not become an unreasonable environmental burden for the airport's neighbours"

IAA ANSP (Irish Aviation Authority – Air Navigation Services Provider)

5. NEXT STEPS

Throughout this consultation process, we received important feedback not only on the consultation topics of flight paths and the Proposed Change to Permitted Operations but also on other aspects of the North Runway project. This feedback is invaluable in progressing the project and in developing the future of Dublin Airport operations as a whole.

Based on the feedback we received, there are a number of steps being developed and undertaken:

- An impact assessment is currently underway of the Proposed Changed of Permitted Operations using the chosen NPR of "Straight out on south runway; split divergence of 15° and 75° on departures for North Runway depending on ultimate destination of aircraft"
- The EIS will take into account a suite of mitigation measures to address the impacts that may be identified as a consequence of the Proposed Change in Permitted Operation of North Runway
- Planning for the development and implementation of the Community Fund is also ongoing and feedback received through this process will be utilised in the development of the fund. daa is committed to investing in local communities and it is our hope that this fund will ensure that communities will continue to thrive into the future
- Finally, all of the responses received are being reviewed and considered by the Project Team
 in finalising the content of the EIS. This work is underway and is due be finalised over the
 coming months

For further information on North Runway and the Change to Permitted Operations, we would encourage all interested stakeholders to refer to our website https://www.dublinairport.com/north-runway and subscribe for regular project updates. The website is also a core source of information for the project and is regularly updated to reflect the new developments in the project.

We are committed to continued engagement with our local communities and providing information to all stakeholders. We thank all our local communities and neighbours for taking the time to come to meet us at the consultation events and for giving us feedback on the project.

We operate an open door policy and continue to be available to meet with residents associations, individuals and other stakeholders to discuss the project and share information about our plans.

Appendix A – Brochures



daa Consultation
on Flight Paths
and Change to
Permitted Operations

Information Booklet

October 2016





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Background to Consultation

As a small, open, island economy without a land link to other countries, Ireland is critically dependent on air transport.

- The recent economic recovery has seen rapid growth in passenger numbers at Dublin Airport, with the airport serving a record 25 million passengers in 2015. This is due to a combination of almost 50 new routes and services, significant additional capacity on a number of existing routes and nine new airlines operating at Dublin.
- Traffic forecasts indicate that this growth will continue, with potential for passenger throughput figures of up to 36 million by 2022 and up to 50 million by 2037.
- To facilitate this growth and to enable Ireland to reap the economic and societal benefits of greater connectivity, daa is delivering its new North Runway.

Dublin Airport is a key economic driver, both for Dublin and the whole country. Dublin Airport currently contributes approximately €6.9bn per annum to the Irish economy (c. 4% of national GDP) and activity at the airport currently supports approximately 97,400 jobs.

Planning Conditions 3(d) and 5 for North Runway will damage Dublin Airport's connectivity and limit the future potential of the Airport.

Planning permission for North Runway
has been granted, however, two of the 31
conditions are onerous and we believe
unwarranted given the level of growth
forecast and the importance of the airport
to the economy of Ireland. These onerous
conditions limit the potential of the airport
to operate, grow and deliver the maximum
economic and societal benefits for Fingal,
for Dublin and for Ireland as a whole.

Condition 3(d) would prohibit the use of North Runway for landings and takeoffs between the hours of 11 pm to 7 am.

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 per night (between 11 pm to 7 am).

- In 2016, Dublin Airport will be the number five airport in Europe for flights to North America with growth in connectivity of over 65% since the opening of Terminal 2 in 2010. The proposed restrictions in the 11 pm to 7 am period have the potential to limit the scope for developing those longhaul services to North America.
- At 3,110 metres, North Runway can accommodate larger aircraft which would facilitate direct flights to the Far East, Asia and South America. Attracting new long-haul services ahead of other European airports could be jeopardised by restrictions which impede operational flexibility.
- Connecting passenger numbers increased by 89% from 2013 to 2015. An increasing proportion of long-haul passengers are seeking to connect onto early-morning UK and European flights. The proposed restrictions would negatively impact opportunities for flight connections. This reduces the likelihood of new routes being established.

- Changing travel patterns mean that people now want to make same-day business trips, requiring more capacity in the earlymorning and late-evening peaks.
- The main source of growth at Dublin
 Airport continues to be from based and
 network carriers. Based operators have a
 particular requirement for capacity in the
 early morning and late evening to get the
 most efficient use from their aircraft. The
 one-hour time difference between Ireland
 and continental Europe adds to the need
 for based aircraft to depart early.

daa's objective is to develop North Runway in a manner which delivers the best possible outcome for the Irish economy, while also balancing the needs of local communities. This consultation is the latest stage in that process.

A change to Permitted Operations is required to maintain operational flexibility

- In light of the challenges outlined, daa will be seeking a change to the operations permitted under Conditions 3(d) and 5 in order to retain the operational flexibility that currently exists at Dublin Airport.
- That process will involve the preparation of an Environmental Impact Statement (EIS) to assess any potential impacts arising from the changes proposed
- The EIS will make an assessment of the implications of the proposed change in permitted operations, and this requires a decision around future flights paths at Dublin Airport.

This consultation is about helping to determine the new flight paths for North Runway.

- Since announcing our plans for North Runway, daa has met with a large number of community groups and individuals as part of our ongoing communications.
- We are passionate about engaging in open, honest and genuine conversation with our neighbouring communities, and about ensuring that all interested individuals and groups are fully informed of the facts regarding this significant piece of strategic infrastructure for Fingal and Ireland.
- A full report on feedback from the first round of public consultations which were held in June and July is available on our project website at www.northrunway.ie.
 This round of consultations also resulted in additional research underpinning the EIS process, including:
- In addition to our permanent noise monitoring terminals, further monitoring for aircraft noise has been carried out at a number of locations.
- The potential impact of vibration on dwellings caused by aircraft noise will be considered.
- The potential effects of odours from aircraft fuel will be considered.
- In addition to our permanent air quality monitoring terminals, further monitoring is currently being undertaken.
- An assessment will be undertaken of Dublin Airport's accessibility in the context of planned public transport infrastructure such as Metro North, Luas, Cross City and Swiftway Bus Rapid Transit.

- As part of our current community engagement, daa is consulting on emerging options for future flight paths for Dublin Airport.
- The purpose of this document is to provide an overview of the key issues associated with this consultation.

Current Operation of the Runway System at Dublin Airport

Flight Paths

- Flight paths are the designated routes aircraft follow under the direction of Air Traffic Control (ATC).
- While flight paths are often shown as single lines on a map, it is not always possible for aircraft to fly exactly along that line. In practice, flight paths will vary either side of the route within a designated flight corridor.
- ATC manages aircraft for landing or takeoff along specific flight paths, as well as keeping aircraft at safe distances from each other in the air and on the ground.
- Safe movement of aircraft is a vital consideration in the development of flight paths.
- The way in which an airport's runway system is used depends on a variety of factors such as weather conditions (especially wind direction, speed and visibility) and the number of take-offs and landings.

Noise Preferential Routes

- Unless directed otherwise by ATC, all aircraft taking off from Dublin Airport are required to follow specific flight paths called Noise Preferential Routes (NPRs).
 To minimise disruption, NPRs are designed to avoid the overflight of built-up areas, where possible.
- An NPR is a path or corridor (1.8km at its widest point) that aircraft follow from takeoff until being directed by ATC onto their main air traffic routes, typically at 3,000 feet altitude above mean sea level.
- Aircraft normally travel in the middle of this corridor. However, the precise path followed within the corridor may vary depending on factors including navigational equipment, the type and weight of aircraft and weather conditions (particularly winds that may cause drifting). Aircraft flying inside this corridor are considered to be flying on-track.

- Once an aircraft reaches the end of the NPR, normally at an altitude of 3,000 feet, ATC will turn it onto a more direct heading to its destination.
- ATC can turn aircraft off NPRs below 3,000 feet for safety reasons, for example to avoid storms.

Note: Not to scale

Subject to final safety assessment, routes are determined by:

ANSP
Air Navigation Service
Provider
(Air Traffic Control)

ANSP

Existing Flight Paths

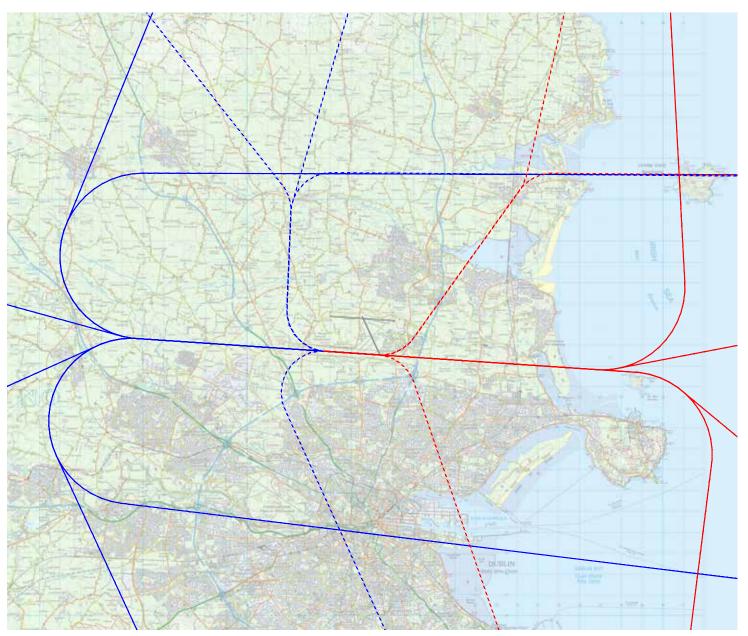
- Existing flight paths at Dublin Airport follow a straight line from the end of the runway for both arrivals and departures.
- For most aircraft operating from Dublin Airport:
 - Departures from all runways (except easterly departures on the existing southern runway) must maintain course straight out for five nautical miles after take-off before commencing a turn, unless otherwise cleared by Air Traffic Control. (One nautical mile = 1.852 metres).
 - Easterly departures on the existing southern runway must maintain course straight out for five nautical miles before commencing a turn to the north, or for six nautical miles before commencing a turn to the south.

Note: Turboprop aircraft are generally turned earlier for reasons of efficiency.

Current Runway Operations



Current Departure Flight Paths



Key



Category A&B (Turboprop) aircraft westerly departure routes

Category A&B aircraft easterly departure routes



Category C&D (JET) aircraft westerly departure routes

Category C&D aircraft easterly departure routes

Future Noise Preferential Routes

Once North Runway comes into operation, new routes to and from the Airport will be introduced. Condition 3 of An Bord Pleanála's grant of permission for North Runway introduces a preferred runway concept – Option 7b – to lessen the impact of aircraft noise on local communities.

- Most of the time the runways will operate in segregated mode, i.e. one runway for all arrivals, the other for all departures.
- However, there will be occasions during peak hours when runways will need to operate in mixed mode, i.e. both runways used simultaneously for arrivals and departures.
- For safety, and aircraft separation, international standards for mixed mode operations require that aircraft courses diverge by at least 15° approximately one nautical mile after take-off.

- Before any proposed flight path procedure and/or mode of operation can be finalised and for North Runway, a comprehensive safety case and assessment will have to be completed by the Air Navigation Service Provider (Air Traffic Control). This will occur before the opening of North Runway.
- The EIS will make an assessment of the implications of the proposed change in permitted operations and this requires a decision about the NPRs that will be used.
- This consultation is about helping to determine the new NPRs for North Runway.
- The findings and recommendations arising from this process will be published as part of the ongoing EIS consultation and public information process and will be shared with the Air Navigation Service Provider (ANSP) which has overall responsibility for airspace design.



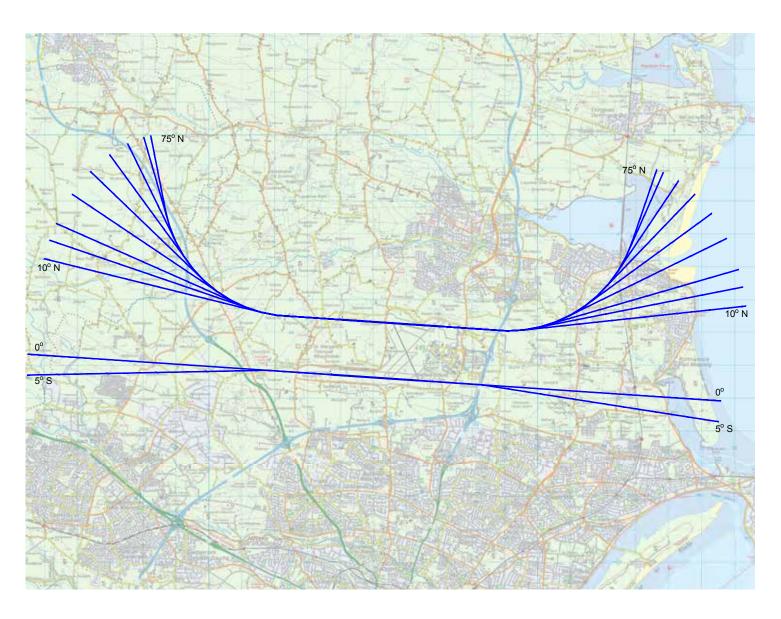


Size of plane = volume of movement

Departure Noise Preferential Routes

For safety reasons, a divergence of at least 15° will be required to allow independent departures on both runways.

Several options within the range 75°N to 5°S were considered by daa, as outlined below.



NPR Divergence Scenarios

In developing the departure NPRs, we have shortlisted two scenarios to avoid areas of dense population and to minimise the number of dwellings significantly affected by noise.

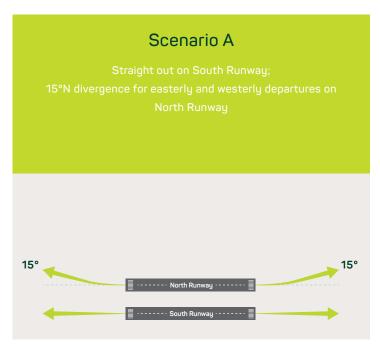
Note: NPRs will be subject to assessment based on criteria finalised post-consultation. A comprehensive safety case and assessment will also be completed by the ANSP before North Runway opens.

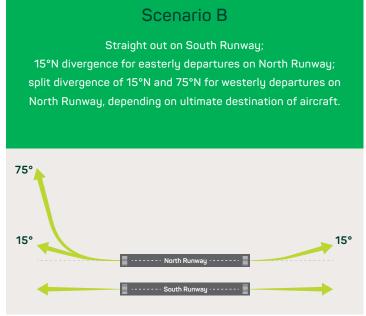
The remainder of this document will focus on detailed information relating to:

- An explanation of aircraft noise.
- Maps showing altitudes of aircraft for easterly and westerly operations.
- Altitudes of aircraft with flight movements for:
- current operations;
- 2022 with existing planning conditions and difference versus proposed operations; and
- 2037 with existing planning conditions and difference versus proposed operations; all for easterly and westerly operations.

- For Scenario A, 2022 Average (LAeq) Day and Night contours with existing conditions and proposed operations.
- For Scenario B, 2022 Average (LAeq) Day and Night contours with existing conditions and proposed operations.

Towards the end of this document, you will find information on existing and potential mitigation measures, in addition to details of how you can provide feedback.





Aircraft Noise Explained

Noise is subjective and personal to each individual. Aircraft generate noise both on the ground and in the air. The amount of noise generated depends on the type of aircraft and how it is operated. Aircraft noise is measured in decibels (dB). Aircraft entering the market today are 20dB quieter than aircraft of 40 years ago, and this trend for quieter aircraft is expected to continue into the future.

The standard method for assessing noise from airborne aircraft involves the production of noise contours which illustrate the spread of noise around the airport. The contours join together locations that are exposed to the same levels of noise. There are a number of

different parameters than can be used to describe the effects of noise, many of which determine an 'average' level of noise across a given period.

The choice of parameter depends on the purpose of the assessment. The most commonly used unit to rate airborne aircraft noise is the LAeq unit, known as the equivalent continuous sound level, which describes the average noise received at a point over a given time.

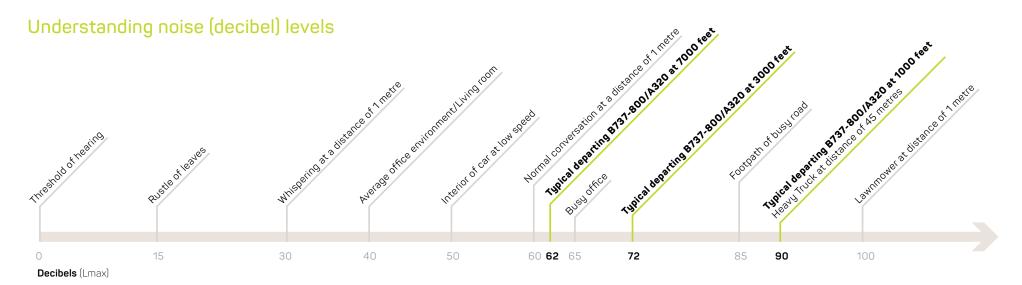
A common pair of parameters used for this purpose are the daytime level (LAeq,16h) and the night-time level (LAeq,8h) for an average summer day period. These illustrate

the average level, as on a daily basis there will be some variation. The summer period is used as it is usually the busiest period for an airport. The contours can be prepared at a range of values which have different levels of significance, based on aircraft movements, types and associated noise emission levels for the given period. This approach is in line with international best practice and is used at a number of airports worldwide.

For North Runway:

- LAeq day noise contours cover a 16-hour period (7 am to 11 pm) over 92 days during the airport's busiest summer months.
- LAeq night noise contours cover an 8-hour period (11 pm to 7 am) over 92 days during the airport's busiest summer months.

A comparison of noise from various sources is shown in the diagram below. These values are maximum sound levels that occur for each example (Lmax).



Flight Movements

The following are the aircraft altitudes and number of flight movements anticipated for each runway in 2022 and 2037. These numbers are based on high growth forecasts and may be subject to change.

We have illustrated using a 15°N divergence for easterly and westerly departures on North Runway as this is the minimum requirement. Regardless of the degree of divergence chosen, the number of movements will be the same. Current operations reflect aircraft movements at Dublin Airport today.

- Existing planning conditions relate to the number of aircraft movements which would occur as a result of the implementation of An Bord Pleanála's 2007 grant of planning permission for North Runway. These would come into effect on both runways when North Runway is operational.
- Proposed operations relate to the removal of Condition 3(d) and Condition 5. These figures show the difference in the number of movements if a change in existing planning conditions was agreed.

Aircraft Altitudes and Flight Movements in Easterly Operations (approx. 30% of the time) on a Representative Summer's Day



Legend
Aircraft Altitudes (above airport level)

0-1000 ft 1000-2000 ft 2000-3000 ft 3000-4000 ft 5000-10000 ft >10000 ft

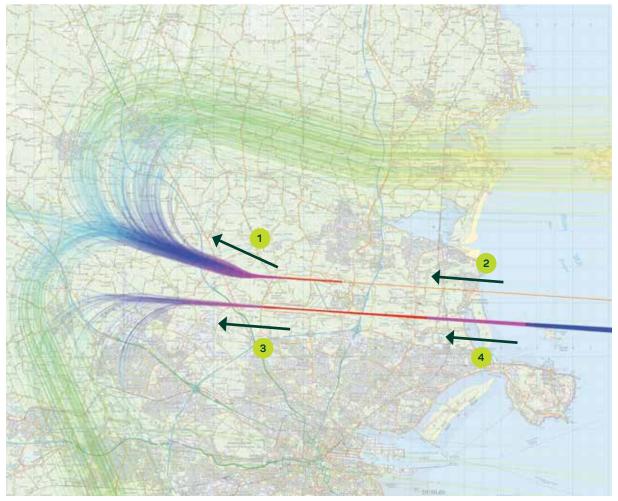
Time	2016	2022	2022		2037		
	Current Operations	With Existing Planning Conditions	With Proposed Operations	With Existing Planning Conditions	With Proposed Operations		
	No. Flights	No. Flights	+/- No. Flights	No. Flights	+/- No. Flights		
0400-0500	N/A	0	0	0	0		
0500-0600	N/A	0	0	0	0		
0600-0700	N/A	0	0	0	0		
0700-2200	N/A	299	+19	362	-20		
2200-2300	N/A	29	-9	33	-5		
2300-0000	N/A	0	0	0	+6		
0000-0400	N/A	0	0	0	0		

Time	2016	2022		2037		
	Current Operations	With Existing Planning Conditions	With Proposed Operations	With Existing Planning Conditions	With Proposed Operations	
	No. Flights	No. Flights	+/- No. Flights	No. Flights	+/- No. Flights	
0400-0500	N/A	0	0	0	0	
0500-0600	N/A	0	0	0	0	
0600-0700	N/A	0	+16	0	+19	
0700-2200	N/A	30	-14	55	+49	
2200-2300	N/A	0	0	0	0	
2300-0000	N/A	0	0	0	0	
0000-0400	N/A	0	0	0	0	

Time	2016	2022		2037		
	Current Operations	With Existing Planning Conditions	With Proposed Operations	With Existing Planning Conditions	With Proposed Operations	
	No. Flights	No. Flights	+/- No. Flights	No. Flights	+/- No. Flights	
0400-0500	4	3	+2	3	+6	
0500-0600	6	7	+5	7	+8	
0600-0700	3	4	+3	4	+5	
0700-2200	265	23	-15	42	+43	
2200-2300	16	0	0	0	0	
2300-0000	22	12	+15	13	+20	
0000-0400	18	10	+1	9	+3	

Time	2016	2022		2037		
	Current Operations	With Existing Planning Conditions	With Proposed Operations	With Existing Planning Conditions	With Proposed Operations	
	No. Flights	No. Flights	+/- No. Flights	No. Flights	+/- No. Flights	
0400-0500	0	0	0	0	0	
0500-0600	6	3	+2	3	+2	
0600-0700	37	25	-1	25	+8	
0700-2200	284	321	+21	378	-12	
2200-2300	4	6	0	12	-3	
2300-0000	1	0	0	0	+2	
0000-0400	2	1	0	1	+2	

Aircraft Altitudes and Flight Movements in Westerly Operations (approx. 70% of the time) on a Representative Summer's Day



Legend			
Aircraft Altitudes	(above	airport	level

0-1000 ft	1000-2000 ft	2000-3000 ft	3000-4000 ft	5000-10000 ft	>10000 ft

1. NORTH RUNWAY DEPARTURES							
Time	ne 2016 2022			2037			
	Current Operations	With Existing Planning Conditions	With Proposed Operations	With Existing Planning Conditions	With Proposed Operations		
	No. Flights	No. Flights	+/- No. Flights	No. Flights	+/- No. Flights		
0400-0500	N/A	0	0	0	0		
0500-0600	N/A	0	0	0	0		
0600-0700	N/A	0	+16	0	+19		
0700-2200	N/A	311	+22	378	+11		
2200-2300	N/A	6	0	12	-3		
2300-0000	N/A	0	0	0	0		
0000-0400	N/A	0	0	0	0		

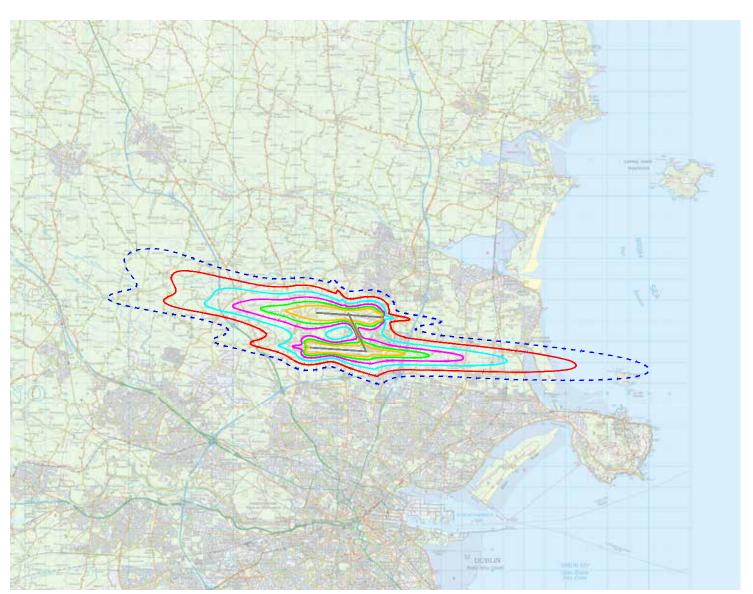
Time	2016	2022		2037	
	Current Operations	With Existing Planning Conditions	With Proposed Operations	With Existing Planning Conditions	With Proposed Operations
	No. Flights	No. Flights	+/- No. Flights	No. Flights	+/- No. Flights
0400-0500	N/A	0	0	0	0
0500-0600	N/A	0	0	0	0
0600-0700	N/A	0	0	0	0
0700-2200	N/A	12	-12	25	+6
2200-2300	N/A	0	0	0	0
2300-0000	N/A	0	0	0	+6
0000-0400	N/A	0	0	0	0

Time	2016	2022		2037	
	Current Operations	With Existing Planning Conditions	With Proposed Operations	With Existing Planning Conditions	With Proposed Operations
	No. Flights	No. Flights	+/- No. Flights	No. Flights	+/- No. Flights
0400-0500	0	0	0	0	0
0500-0600	6	3	+2	3	+2
0600-0700	37	25	-1	25	+8
0700-2200	284	39	-15	55	+26
2200-2300	4	0	0	0	0
2300-0000	1	0	0	0	+2
0000-0400	2	1	0	1	+2

Time	2016	2022		2037	
	Current Operations No. Flights	With Existing Planning Conditions No. Flights	With Proposed Operations +/- No. Flights	With Existing Planning Conditions No. Flights	With Proposed Operations +/- No. Flights
0500-0600	6	7	+5	7	+8
0600-0700	3	4	+3	4	+5
0700-2200	265	310	+15	379	+17
2200-2300	16	29	-9	33	-5
2300-0000	22	12	+15	13	+20
0000-0400	18	10	+1	9	+3

Scenario A: 2022 Average (LAeq) Day Noise Contours

Average Noise Contours on a Representative Summer's Day, with Existing Conditions



Scenario A

Straight out on South Runway;

15°N divergence for easterly and
westerlu departures on North Runway



Legend

54 dB LAeq,16h

57 dB LAeq,16h

60 dB LAeq,16h

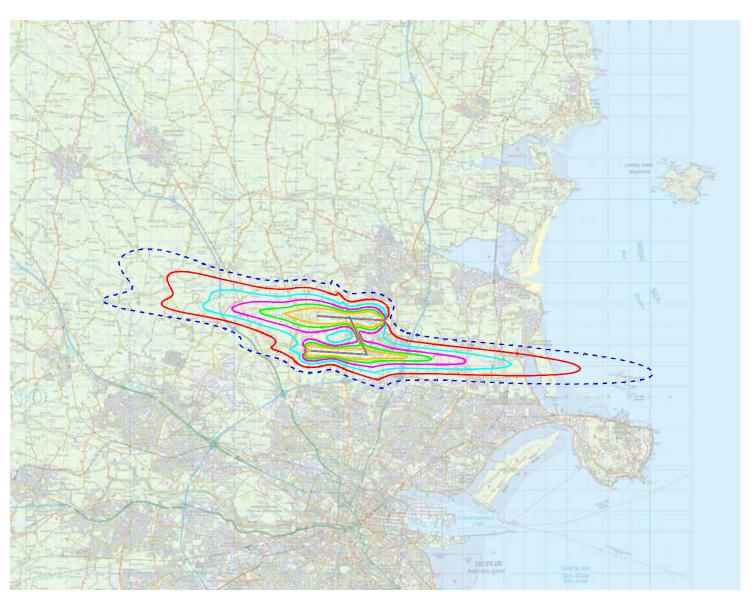
63 dB LAeq,16h

66 dB LAeq,16h

69 dB LAeq,16h

Scenario A: 2022 Average (LAeq) Day Noise Contours

Average Noise Contours on a Representative Summer's Day, with Proposed Operations



Scenario A

Straight out on South Runway;

15°N divergence for easterly and
westerly departures on North Runway



Legend

54 dB LAeq,16h

57 dB LAeq,16h

60 dB LAeq,16h

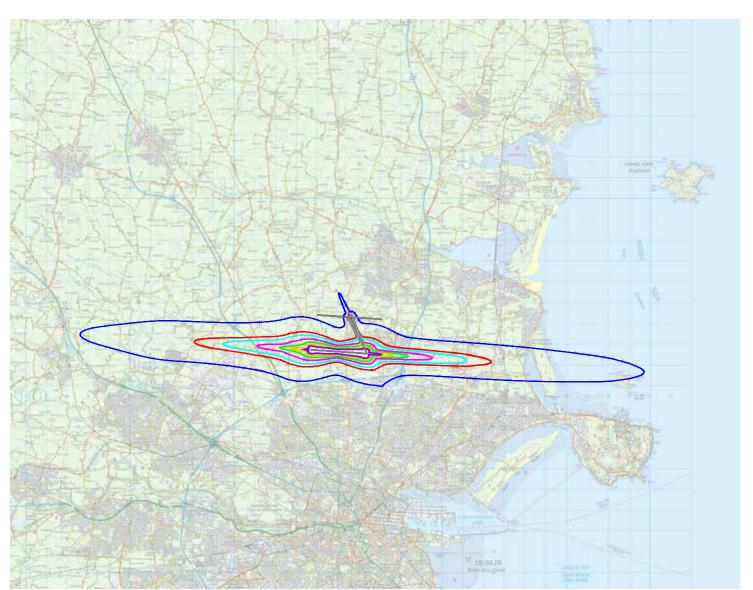
63 dB LAeq,16h

66 dB LAeq,16h

69 dB LAeq,16h

Scenario A: 2022 Average (LAeq) Night Noise Contours

Average Noise Contours on a Representative Summer's Night, with Existing Conditions



Scenario A

Straight out on South Runway;

15°N divergence for easterly and
westerlu departures on North Runway



Legend

48 dB LAeq,8h

55 dB LAeq,8h

57 dB LAeq,8h

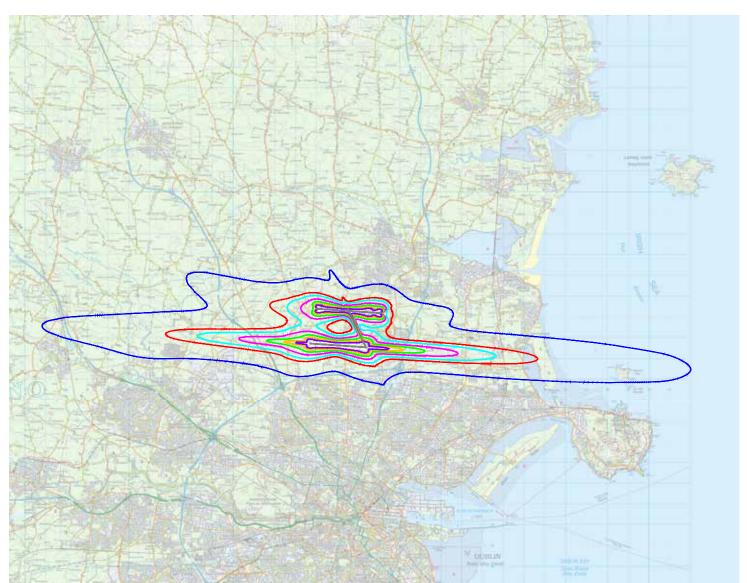
60 dB LAeq,8h

63 dB LAeq,8h

66 dB LAeq,8h

Scenario A: 2022 Average (LAeq) Night Noise Contours

Average Noise Contours on a Representative Summer's Night, with Proposed Operations



Scenario A

Straight out on South Runway;

15°N divergence for easterly and
westerly departures on North Runway



Legend

48 dB LAeq,8h

55 dB LAeq,8h

57 dB LAeq,8h

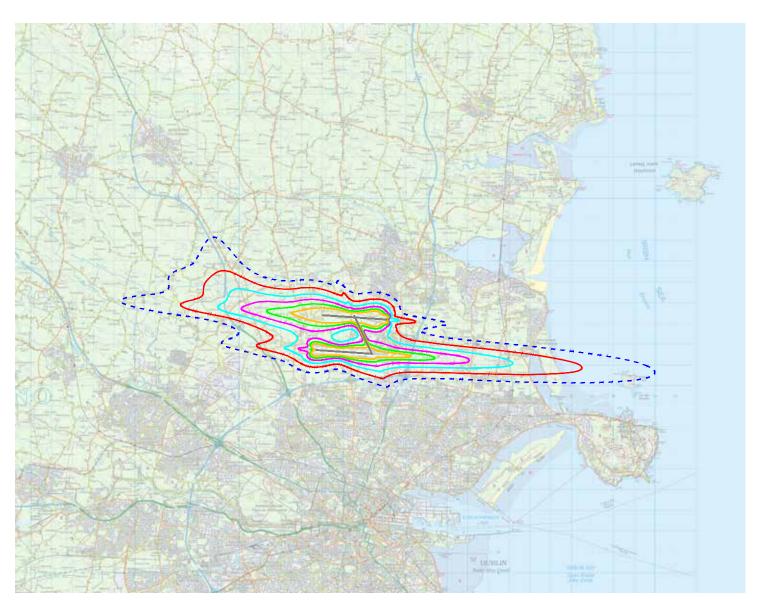
60 dB LAeq,8h

63 dB LAeq,8h

66 dB LAeq,8h

Scenario B: 2022 Average (LAeq) Day Noise Contours

Average Noise Contours on a Representative Summer's Day, with Existing Conditions



Scenario B

Straight out on South Runway;
15°N divergence for easterly
departures on North Runway;
split divergence of 15°N and 75°N
for westerly departures on North
Runway, depending on ultimate
destination of aircraft.



Legend

54 dB LAeq,8h

57 dB LAeq,8h

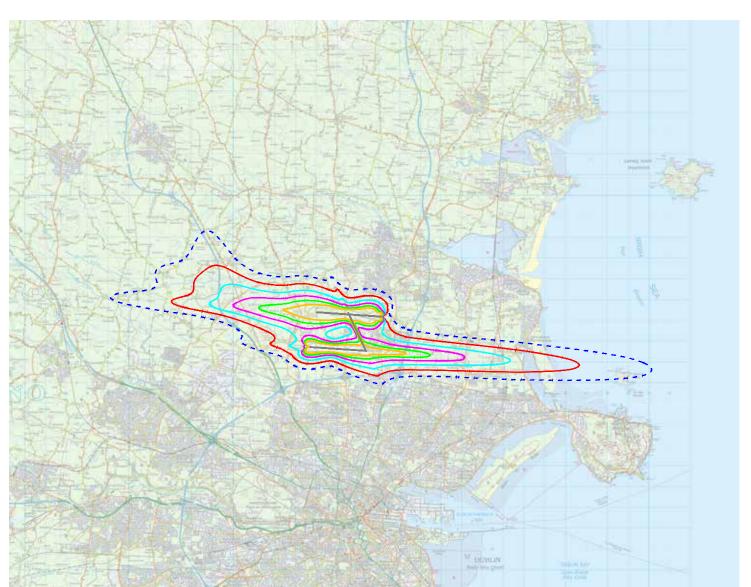
60 dB LAeq,8h

63 dB LAeq,8h

66 dB LAeq,8h

Scenario B: 2022 Average (LAeq) Day Noise Contours

Average Noise Contours on a Representative Summer's Day, with Proposed Operations



Scenario B

Straight out on South Runway;
15°N divergence for easterly
departures on North Runway;
split divergence of 15°N and 75°N
for westerly departures on North
Runway, depending on ultimate
destination of aircraft.



Legend

54 dB LAeq,8h

57 dB LAeq,8h

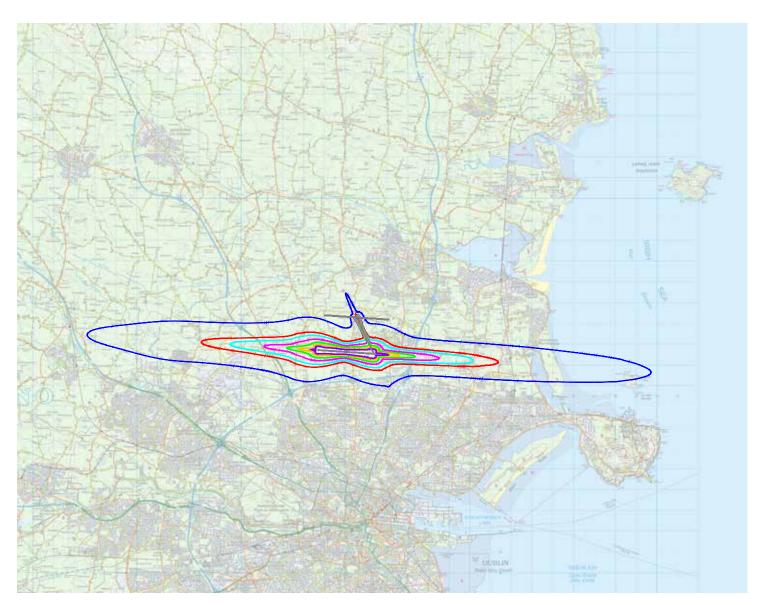
60 dB LAeq,8h

63 dB LAeq,8h

66 dB LAeq,8h

Scenario B: 2022 Average (LAeq) Night Noise Contours

Average Noise Contours on a Representative Summer's Night, with Existing Conditions



Scenario B

Straight out on South Runway;
15°N divergence for easterly
departures on North Runway;
split divergence of 15°N and 75°N
for westerly departures on North
Runway, depending on ultimate
destination of aircraft.



Legend

48 dB LAeq,8h

55 dB LAeq,8h

57 dB LAeq,8h

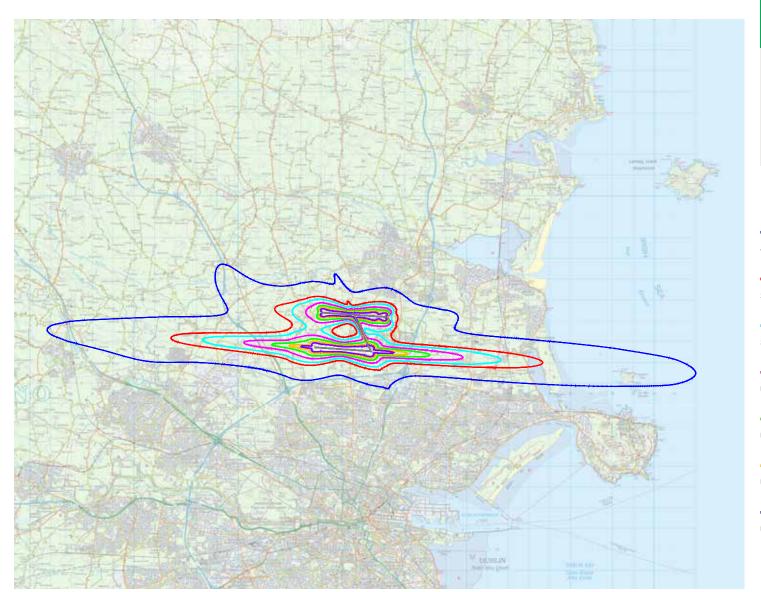
60 dB LAeq,8h

63 dB LAeq,8h

66 dB LAeq,8h

Scenario B: 2022 Average (LAeq) Night Noise Contours

Average Noise Contours on a Representative Summer's Night, with Proposed Operations



Scenario B

Straight out on South Runway;
15°N divergence for easterly
departures on North Runway;
split divergence of 15°N and 75°N
for westerly departures on North
Runway, depending on ultimate
destination of aircraft.



Legend

48 dB LAeq,8h

55 dB LAeq,8h

57 dB LAeq,8h

60 dB LAeq,8h

63 dB LAeq,8h

66 dB LAeq,8h

Mitigation Measures

Mitigation measures are actions which daa may undertake to reduce any assessed impact of the proposed change of operations (particularly noise) on the local community.

The Balanced Approach

International best practice on noise management at airports focuses on the Balanced Approach. The four pillars of the Balanced Approach are;

Land-use planning

Dublin Airport has benefitted from a farsighted planning process that has kept the approaches to the runways largely clear of development. Unlike many other international airports, we have very few people living under our flight paths, which means that land-use planning has been effective to date.

Operational procedures

Along with our airport stakeholders, we have implemented a wide range of operational procedures to minimise noise. These include flight Noise Abatement procedures for take-off and landing such as selection and compliance with Environmental Corridors, continuous descent and restrictions on

reverse thrust and ground run-up. North
Runway will be operated according to
Option 7b, which introduces the concept of
a preferred runway to lessen the impact of
aircraft noise on local communities.

Quieter aircraft

At Dublin Airport we are fortunate to have a large proportion of aircraft that meet the most stringent noise class (Chapter 4). In 2015, almost 95% of aircraft operating here were Chapter 4, the quietest models. There is a ban on the use of the noisiest aircraft (Chapter 2) at the airport.

Operating restrictions

To be applied only as a last resort when other pillars have been exhausted

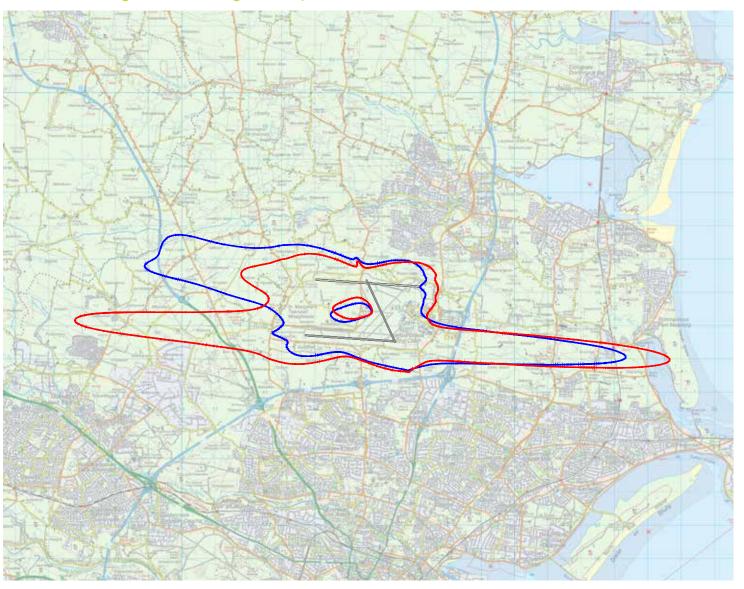
Current Mitigation Measures

Under Conditions 6 and 7 of the planning permission associated with North Runway, daa will develop insulation schemes for schools and residential dwellings located in the 60dB and 63dB contours, respectively. This work is at an advanced stage and full details will be made available to all eligible residents and schools when approved by Fingal County Council. daa is also offering a Voluntary Dwelling Purchase Scheme to eligible residents.

Further potential mitigation

daa will consider mitigations it could put in place to address issues which may be identified in the EIS as a result of a change of permitted operations, should this be implemented. These may include insulation measures for dwellings located in 55dB LAeq 8 hours night and 60dB LAeq 16 hours day contours.

2022 60dB day and 55dB night LAeq contours



Legend

60dB LAeq 16 hours day

55dB LAeq 8 hours night

Issues for Consultation & Next Steps

We wish to ensure that the flight paths chosen have as little impact as possible on our local communities. With that in mind we are seeking feedback on:

NPR Scenarios

Scenario 1: Straight out on South Runway; 15° divergence for easterly and westerly departures on North Runway.

Scenario 2: Straight out on South Runway; 15° divergence for easterly departures on North Runway; split divergence of 15° and 75° for westerly departures on North Runway, depending on ultimate destination of aircraft.

Criteria for Selecting NPRs

Based on stakeholder feedback to date, the number of dwellings exposed to noise is the major concern for communities surrounding the airport; therefore, daa proposes to select NPRs which minimise the number of dwellings (and other sensitive buildings e.g. schools, hospitals) that are impacted.

Mitigation Measures

To address potential noise impact in the delivery of the change in permitted operations, daa is considering additional mitigation which may include insulation measures for dwellings located in 55dB LAeq 8 hours night and 60dB LAeq 16 hours day contours.

How to Make a Submission

Your views are important and we would appreciate your feedback on these and other issues related to North Runway, through our consultation feedback form.

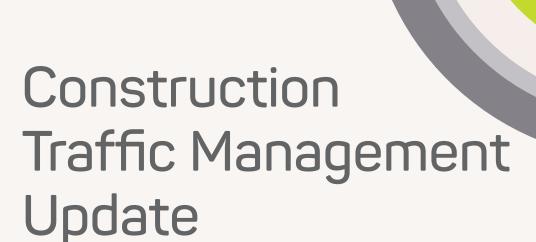
You can access and complete
the form online via our website:
www.northrunway.ie, submit your feedback
by email to northrunway@daa.ie, or by post
to the following address: North Runway
Consultation, RED C Limited., East Point
Business Park, Clontarf, Dublin 3.

Closing date for submission of all feedback is **FRIDAY, 2ND DECEMBER 2016**.

Next Steps

- Publish feedback from public consultation.
- Publish preferred route based on application of selection criteria adopted.
- Carry out impact assessment of the proposed change of permitted operations using the chosen NPRs.
- Prepare an EIS which will include a suite of mitigation measures to address North Runway environmental impacts.
- Use the EIS in the review of the noise situation at Dublin Airport which the IAA (Irish Aviation Authority) will undertake once appointed as the Competent Authority in charge of airport noise management, as per announcement by the Department of Transport, Tourism and Sport dated 22nd September 2016.





October 2016

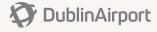
Site works for the development of the new runway at Dublin Airport are scheduled to commence in November 2016.

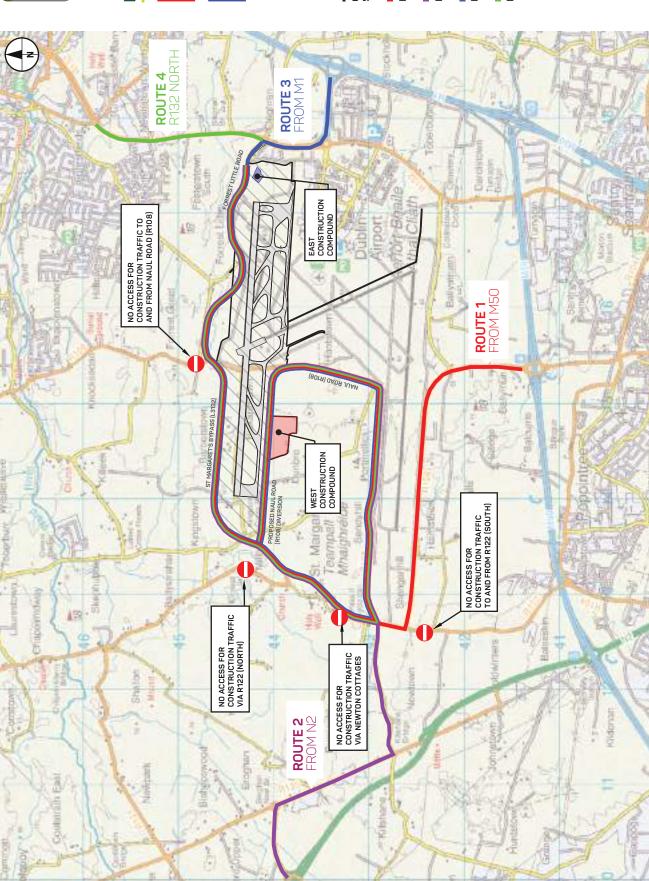
Access routes for construction traffic have now been designated from both east and west of the airport and contractors will be required to use these routes exclusively. These modifications have been made as a direct result of representations by local residents and afford a more even allocation of traffic around the airport with corresponding benefits for our neighbours.

daa has also prepared an outline
Construction Environmental Management
Plan (CEMP) and stipulated a number
of requirements of contractors which
are designed to mitigate the impact of
construction traffic in the local area:

- Once the contractor is appointed, the CEMP will be finalised in advance of any works taking place and will set out measures to minimise disruption to local communities in terms of traffic, noise, dust and other constructionrelated issues. A Traffic Management Plan will form part of the CEMP and will be made available to the public so that performance can be openly measured.
- Construction works are scheduled to take place between 7am and 7pm, Monday to Friday, and from 8am to 1pm on Saturdays. We may need to work longer hours at certain periods and will consult with local communities should the need arise
- There will be no bulk materials/equipment deliveries to site during rush hours.
- Truck wheel wash units and road sweepers will be located at both construction exits.

- Noise levels will be monitored at sensitive locations at site boundaries during periods of heavy construction.
- Trucks involved in the construction of North Runway will each have signage clearly displayed to signify that they are associated with the project. Residents are encouraged to report any vehicle which breaches the Traffic Management Plan by using the North Runway Freephone Number 1800-804422 or emailing northrunway@daa.ie. daa will rapidly address any breaches with the contractor.
- Roads will be inspected prior to the start
 of construction and will be reinstated
 to pre-construction condition when the
 project is complete. A detailed map of
 construction traffic routes is provided
 overleaf.







Legend











NO ACCESS FOR CONSTRUCTION TRAFFIC

CONTRACTORS PRINCIPAL SITE WORKING AREA

ROUTE 1 TO SITE

ROUTE 2 TO SITE

ROUTE 3 TO SITE

ROUTE 4 TO SITE





Consultation on Flight Paths and Change to Permitted Operations



Change to permitted operations

Purpose of Consultation

Planning permission for North Runway has been granted, however two of the 31 conditions are onerous and limit the potential of the airport to operate, grow and deliver the maximum economic and societal benefit for Fingal, for Dublin and for Ireland as a whole.

Condition 3(d)

Condition 3(d) would prohibit the use of North Runway for landings and take-offs between the hours of 2300 to 0700.

Condition 5

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 per night (between 2300 and 0700).

- daa will be seeking to retain the operational flexibility that currently exists at Dublin Airport. That process will involve the preparation of an Environmental Impact Statement (EIS).
- The EIS will make an assessment of the implications of the proposed change in permitted operations and this requires a decision about flight paths that will be used.
- This consultation is about helping to determine the new flight paths for North Runway

Maintaining Operational Flexibility

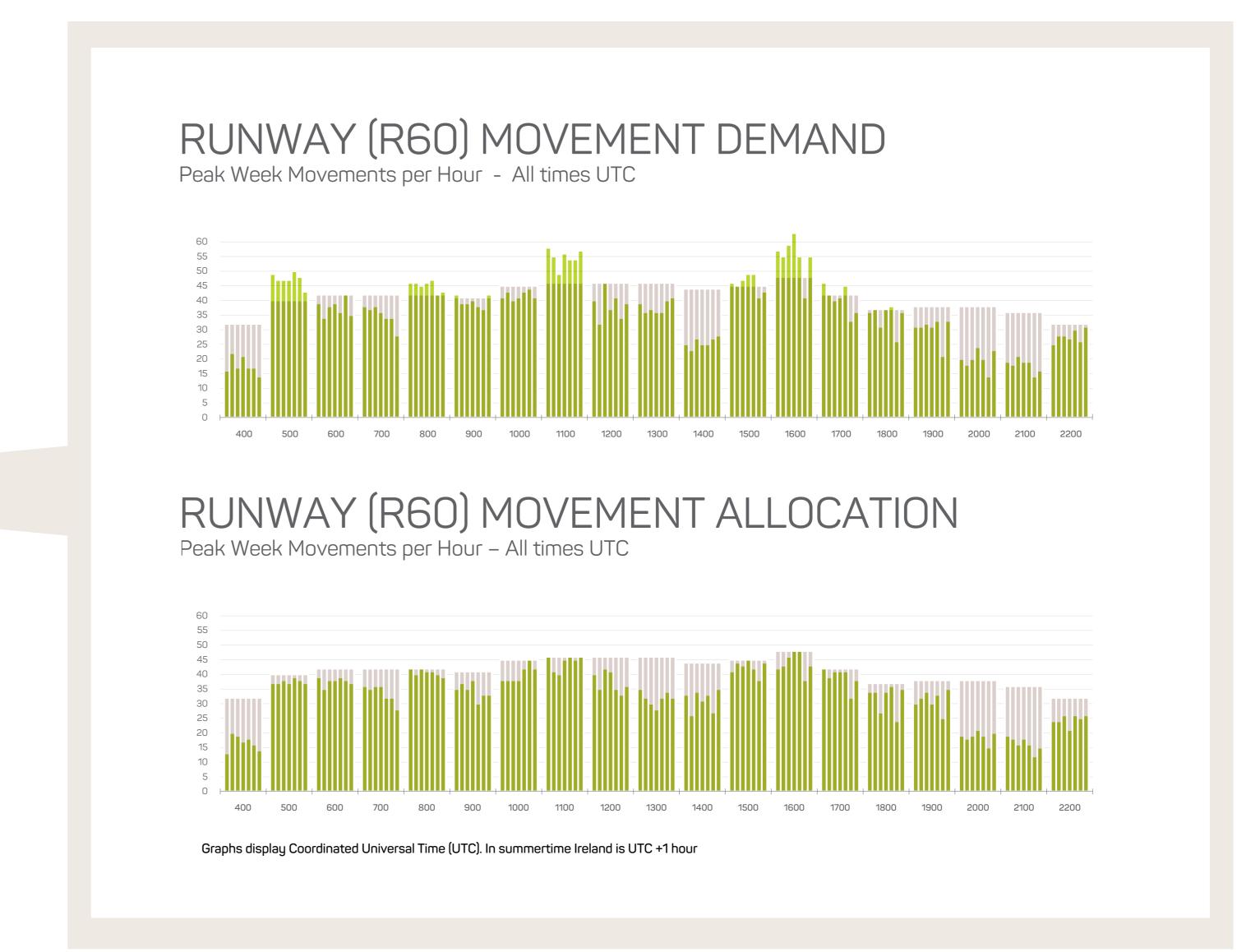
Dublin Airport has seen a return to growth with a record 25m passengers using the airport in 2015. This is due to a combination of almost 50 new routes and services, significant additional capacity on a number of existing routes and nine new airlines operating at Dublin.

Growth

- Aircraft movements increasing from 170,000 in 2013 to 180,000 in 2014 to 198,000 in 2015. Strong growth is continuing in 2016, with 12% year on year growth in passengers in the first eight months of the year.
- Traffic forecasts indicate potential for passenger throughput figures of up to 36 million by 2022 and up to 50 million by 2037.

Capacity constraints

- Dublin Airport is already experiencing capacity challenges with demand for some runway slots exceeding capacity.
- Restriction of 65 flights per night is 35 less than the 100 flights on average which are currently using the airport between 23:00 and 07:00.



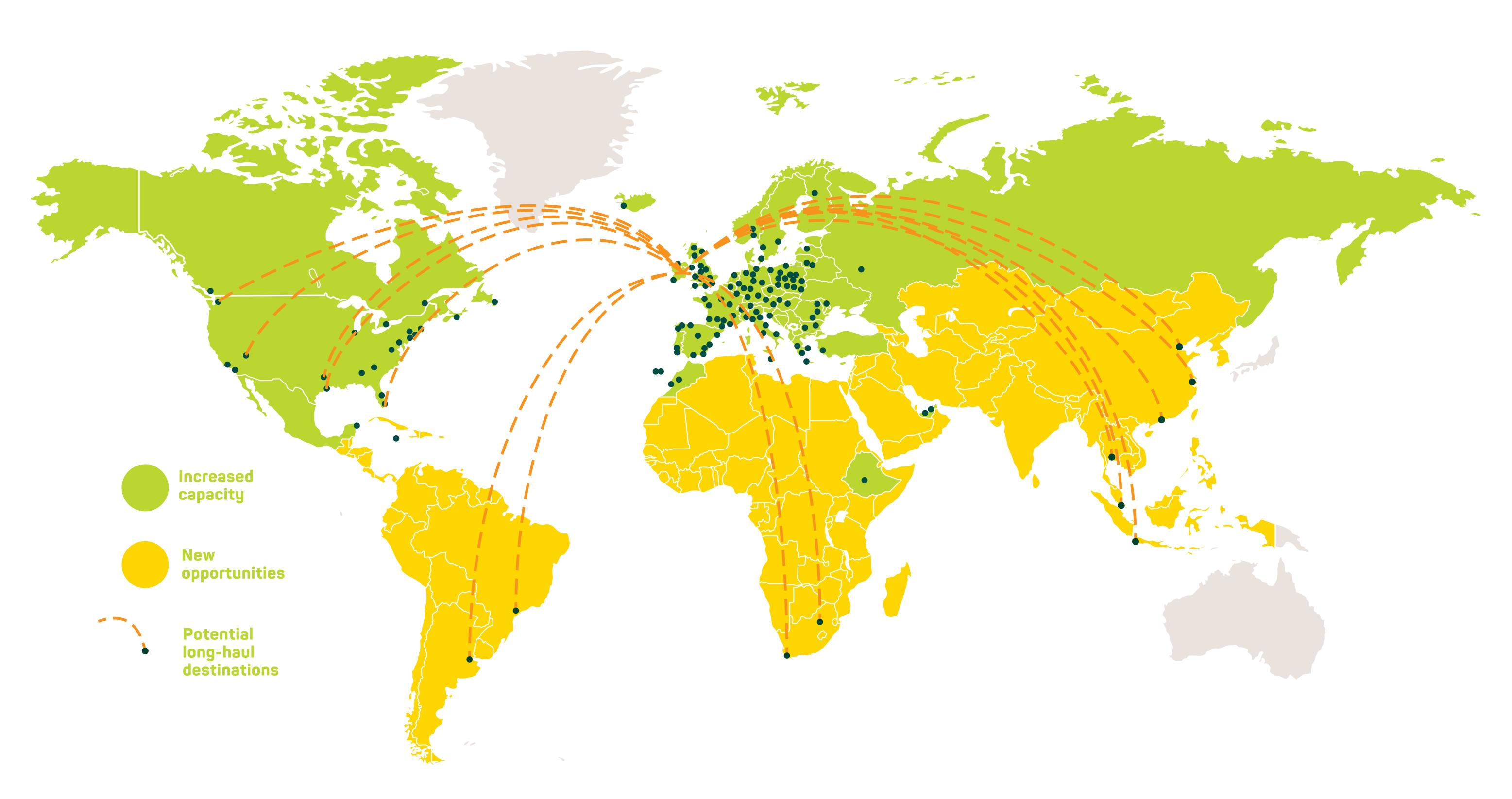
Based aircraft

services to North America.

The main source of growth at Dublin Airport continues to be from based and network carriers. Based operators have a particular requirement for capacity in the early morning and late evening to get the most efficient use from their aircraft. The one hour time difference between Ireland and continental Europe adds to the need for based aircraft to depart early.

Developing connectivity - Dublin competes with other European airports

- In 2016, Dublin Airport will be the number five airport in Europe for flights to North America with growth in connectivity of over 65% since the opening of T2 in 2010. The proposed restrictions in the 23:00-07:00 period has the potential to limit the scope for developing those long-haul
- At 3110m, North Runway can facilitate flights to the Far East, Asia and South America. Attracting new long-haul services, ahead of other European airports, could be jeopardised by restrictions which impede operational flexibility.
- Connecting passenger numbers increased by 89% from 2013 to 2015. An increasing proportion of long-haul passengers are seeking to connect onto early morning UK and European flights. The proposed restrictions would negatively impact opportunities for flight connections. This reduces the likelihood of new routes being established.
- Changing travel patterns mean that people now want to make same day business trips, requiring more capacity in the early morning and late evening peaks.





Feedback from
First Consultation
on Environmental
Impact Statement (EIS)
Scoping



Feedback from first consultation on Environmental Impact Statement (EIS) scoping

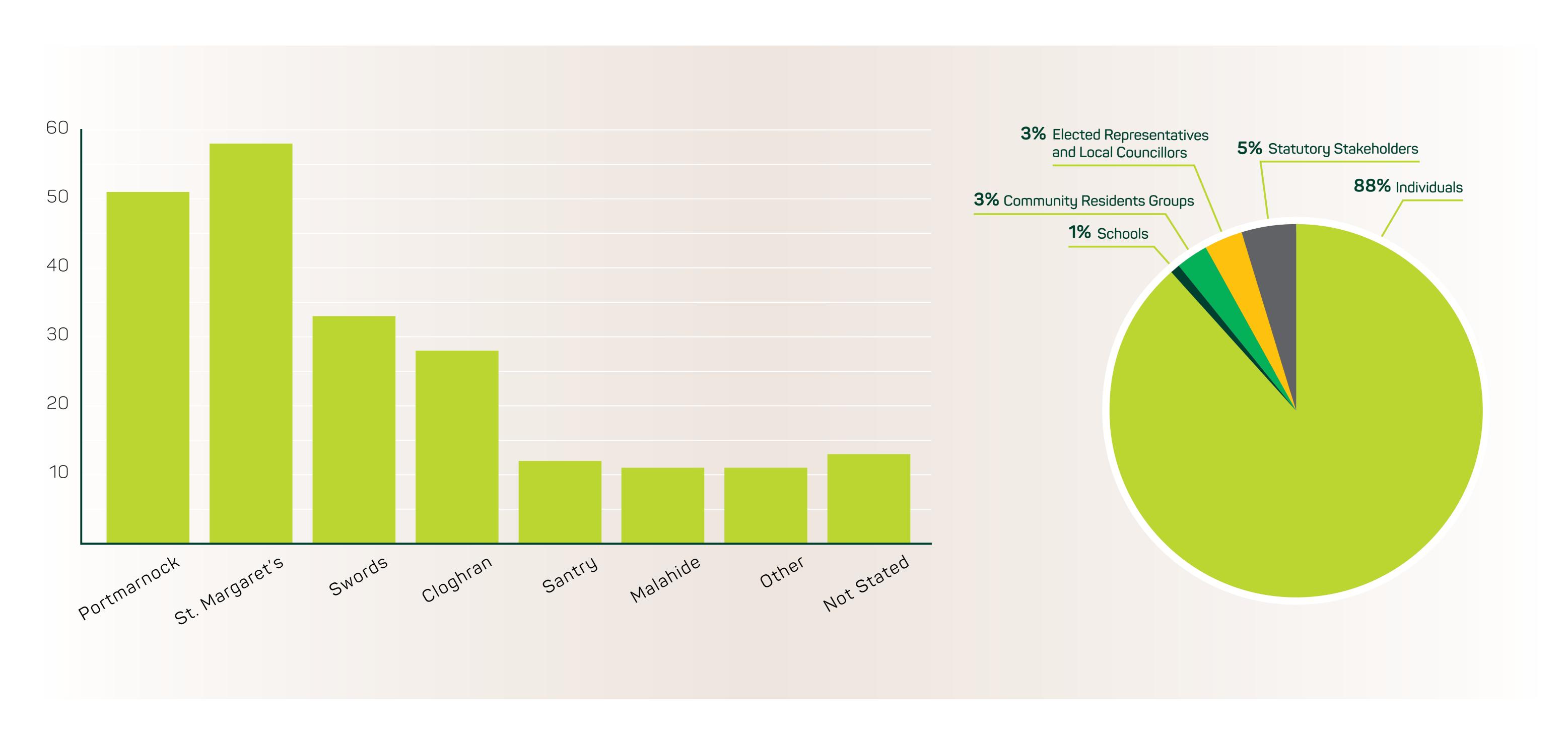
Feedback from EIS Scoping Consultation

- Five consultation events at three separate locations in June and July.
- 500+ attendees in total.
- 200+ submissions via public consultations, website and post.



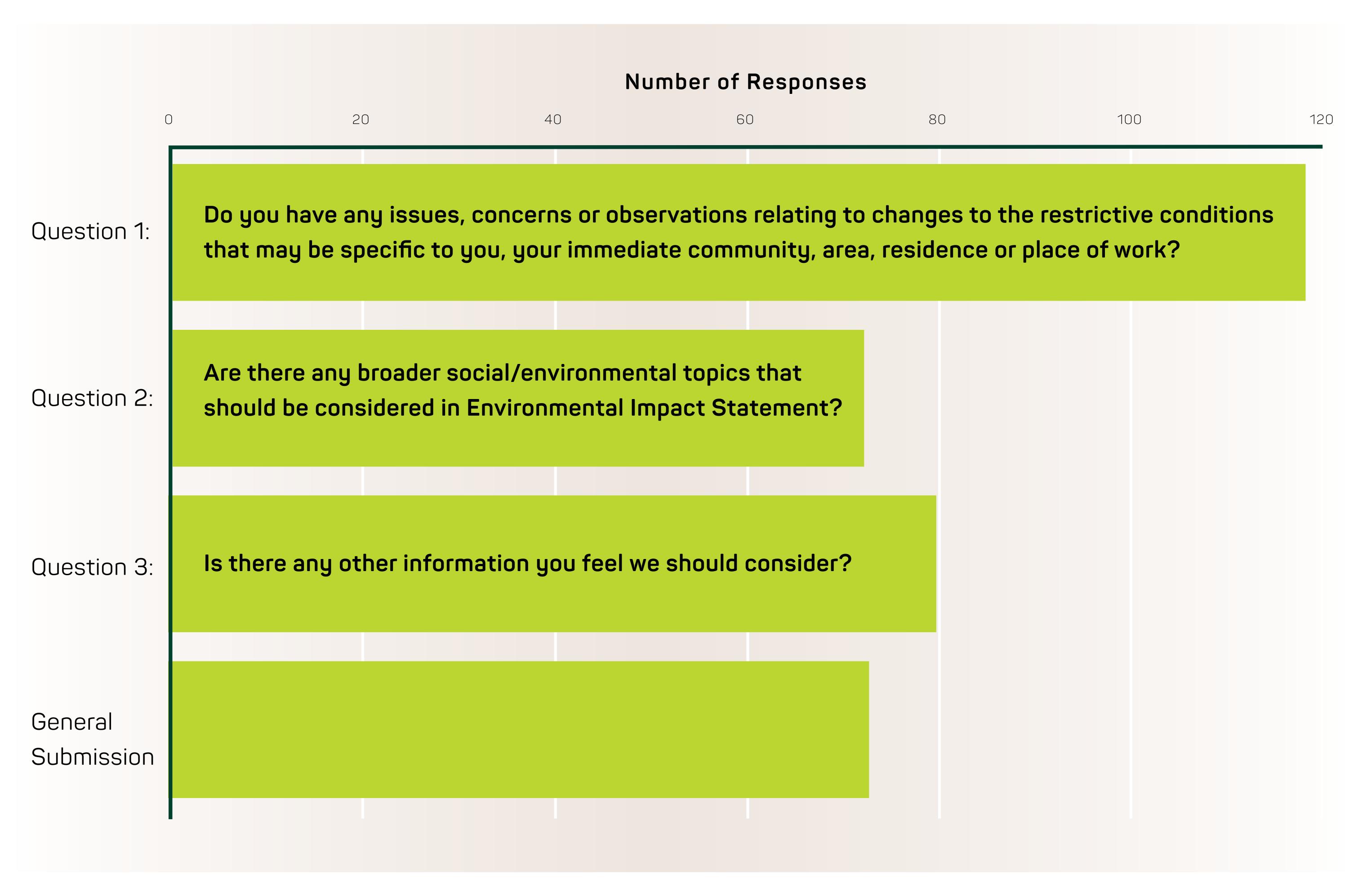
Responses by area

Volume of responses



The EIS Scoping Report outlined a range of environmental topics that would be considered together with the methodology that would be used to gather and assess that information. As part of the consultation process, the public was invited to provide feedback on the Scoping Report.

Response totals by question



Feedback from first consultation on Environmental Impact Statement (EIS) scoping

Issues Raised during Consultation Process

A full report on all feedback received has been published and is available on the North Runway website (www.northrunway.ie). Some of the issues raised by local residents and communities included:

ssue	Concerns and issues raised	
People/ Population	 Concern that property may be devalued due to increased noise levels in the area. Possible depopulation of local areas due to aircraft noise could impact on the provision of school places and public services. 	 Planning restrictions in the local area are resulting in depopulation.
Noise and Vibration	 Night time aircraft noise could impact on health. Inadequate measurement and communication of noise data by daa, e.g. location of monitoring equipment, availability and technical nature of data. Need for single event information in addition to average noise levels. A body independent of daa should undertake noise monitoring. 	 Acoustic barriers should be installed to reduce noise impacts. Concerns regarding aircraft noise causing vibration on dwellings and structures. Web Trak noise monitoring system should be put in place. Various mitigations were proposed, e.g. quotas, noise envelopes, etc.
Human Health	 Late night and/or early morning flights impact health, including hearing impairment, blood pressure, hypertension, annoyance, and sleep disturbance. Concerns expressed for the welfare of children and impact of aircraft noise on cognitive development. Impact of unburned hydrocarbons and vapour pollution from aircraft on health. 	 Concern that particulate matter, NOx, hydrocarbons and other emissions could have adverse effects on respiratory conditions. Impact of increased noise from aircraft on students, the elderly, parents with young children and people with mental health vulnerabilities.
Air Quality	 Increase in emissions due to additional flights should be considered. Concern regarding smell of aircraft fuel in homes. 	 Concern regarding pollution of dwellings and gardens as a result of aircraft flying overhead. Concern regarding increased discharge of aviation fuel and impact on air quality.
Traffic and Transportation	 Increase in traffic in local areas due to altered flight schedules. Projected impact of traffic flows on the local and national road network. 	It was proposed that a rail link should be delivered to ease future congestion.
Water: Drainage Flooding	Potential for flooding of perimeter communities.	
Climate	 North Runway development is incompatible with national carbon reduction targets. 	
Biodiversity	 Concern regarding the impact of the proposed 	d change of permitted operations on migration

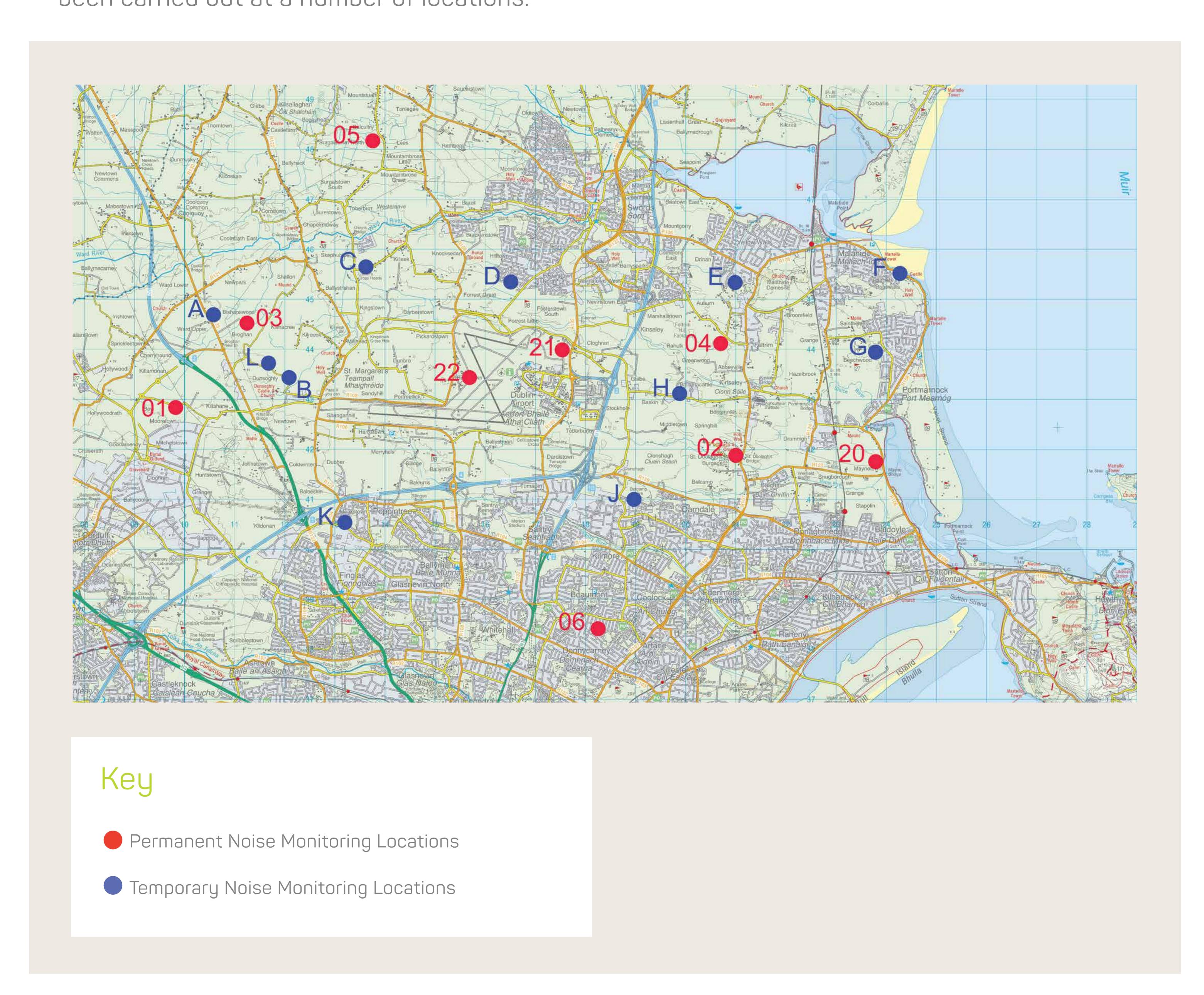
All of the responses that emerged from this first consultation with stakeholders are now being reviewed and considered by the Project Team in finalising the assessment methodology and content of the EIS.

Feedback from first consultation on Environmental Impact Statement (EIS) scoping

Actions Undertaken Based on Feedback to Date

Other issues have also been taken into account as a direct result of feedback from local residents during the first consultation. These have resulted in a number of actions:

• In addition to our permanent noise monitoring terminals, further monitoring for aircraft noise has been carried out at a number of locations.



- The potential impact of vibration on dwellings caused by aircraft noise will be considered.
- The potential effects of odours from aircraft fuel will be considered.
- In addition to our permanent air quality monitoring terminals, further monitoring is currently being undertaken.
- An assessment will be undertaken of Dublin Airport's accessibility in the context of planned public transport infrastructure such as Metro North, Luas, Cross City and Swiftway Bus Rapid Transit.





Operation of the Runway System at Dublin Airport



Operation of the runway system at Dublin Airport

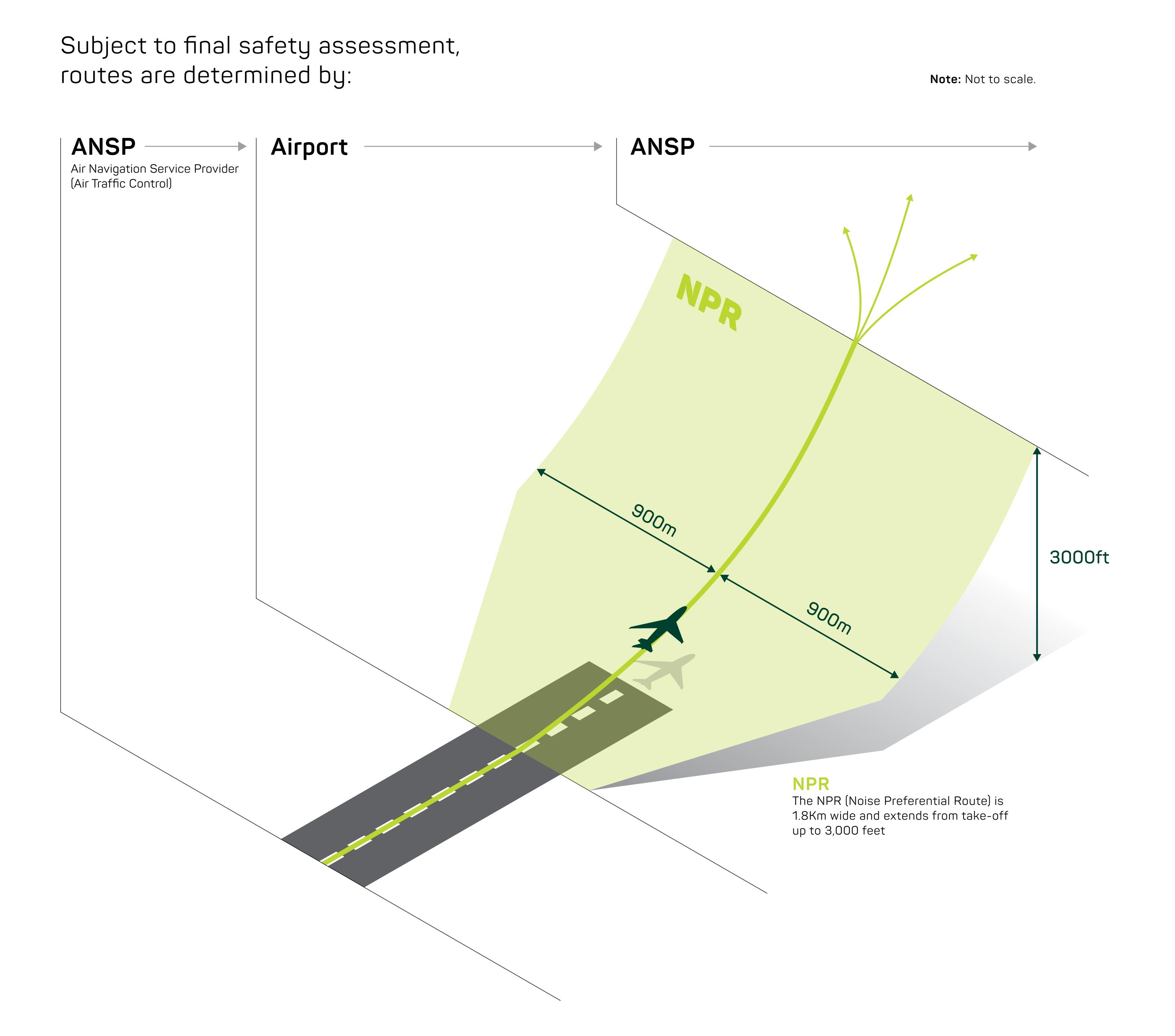
How Runways Operate

Flight paths

- Flight paths are the designated routes aircraft follow under the direction of Air Traffic Control (ATC).
- While flight paths are often shown as single lines on a map it is not always possible for aircraft to fly exactly along that line. In practice, flight paths will vary either side of the route, within a designated flight corridor.
- ATC manages aircraft for landing or take-off along specific flight paths as well as keeping aircraft at safe distances from each other in the air and on the ground.
- Safe movement of aircraft is a vital consideration in the development of flight paths.
- The way in which an airport's runway system is used depends on a variety of factors such as: weather conditions, especially wind direction, speed and visibility, and the number of take-offs and landings.

Noise Preferential Routes

- Unless directed otherwise by ATC, all aircraft taking off from Dublin Airport are required to follow specific flight paths called Noise Preferential Routes (NPRs). To minimise disruption, NPRs are designed to avoid the overflight of built-up areas where possible.
- An NPR is a path or corridor (1.8km at its widest point) that aircraft follow from take-off until being directed by ATC onto their main air traffic routes, typically at 3,000 feet altitude above mean sea level.
- Aircraft normally travel in the middle of this corridor allowing 900m of corridor space on either side of the aircraft. However, the precise path followed within the corridor may vary depending on factors including: navigational equipment, the type and weight of aircraft and weather conditions (particularly winds that may cause drifting). Aircraft flying inside this corridor are considered to be flying on-track.
- Aircraft turning:
 - Once an aircraft reaches the end of the NPR, normally at an altitude of 3,000 feet, a controller will turn it onto a more direct heading to its destination.
 - ATC can turn aircraft off NPRs below 3,000 feet for safety reasons, for example to avoid storms.



Operation of the runway system at Dublin Airport

Current Operation

Existing flight paths

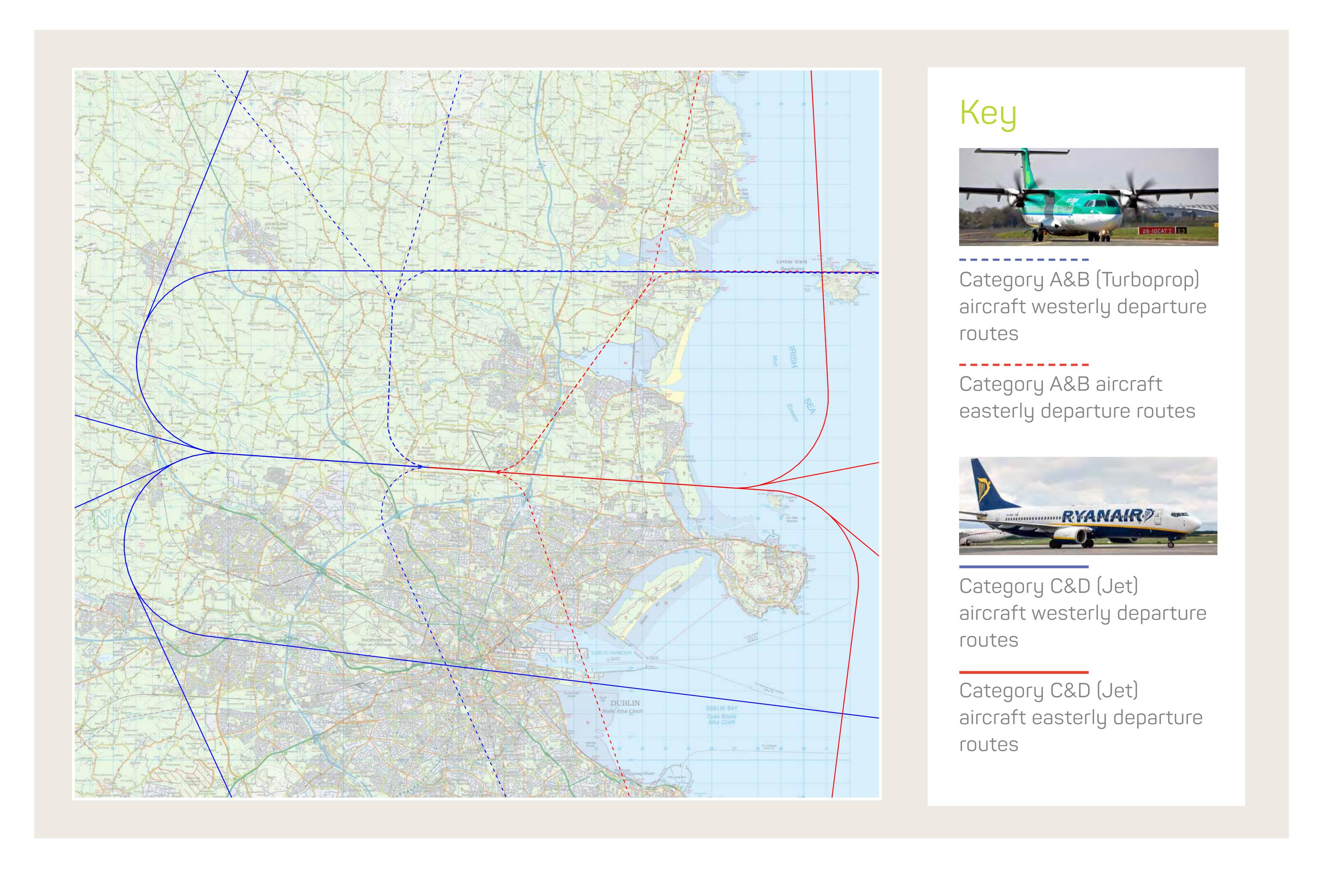
- The existing flight paths follow a straight line from the end of the runway for both arrivals and departures.
- For most aircraft operating from Dublin Airport:
 - Departures from all runways (except easterly departures on the existing southern runway) must maintain course straight out for five nautical miles after take-off before commencing a turn, unless otherwise cleared by Air Traffic Control (1 nautical mile = 1,852 metres).
 - Easterly departures on the existing southern runway must maintain course straight out for five nautical miles before commencing a turn to the north, or to six nautical miles before commencing turn to the south.
- Note: Turboprop aircraft are generally turned earlier for reasons of efficiency.

Take-off and landing on South Runway





Current flight departure paths

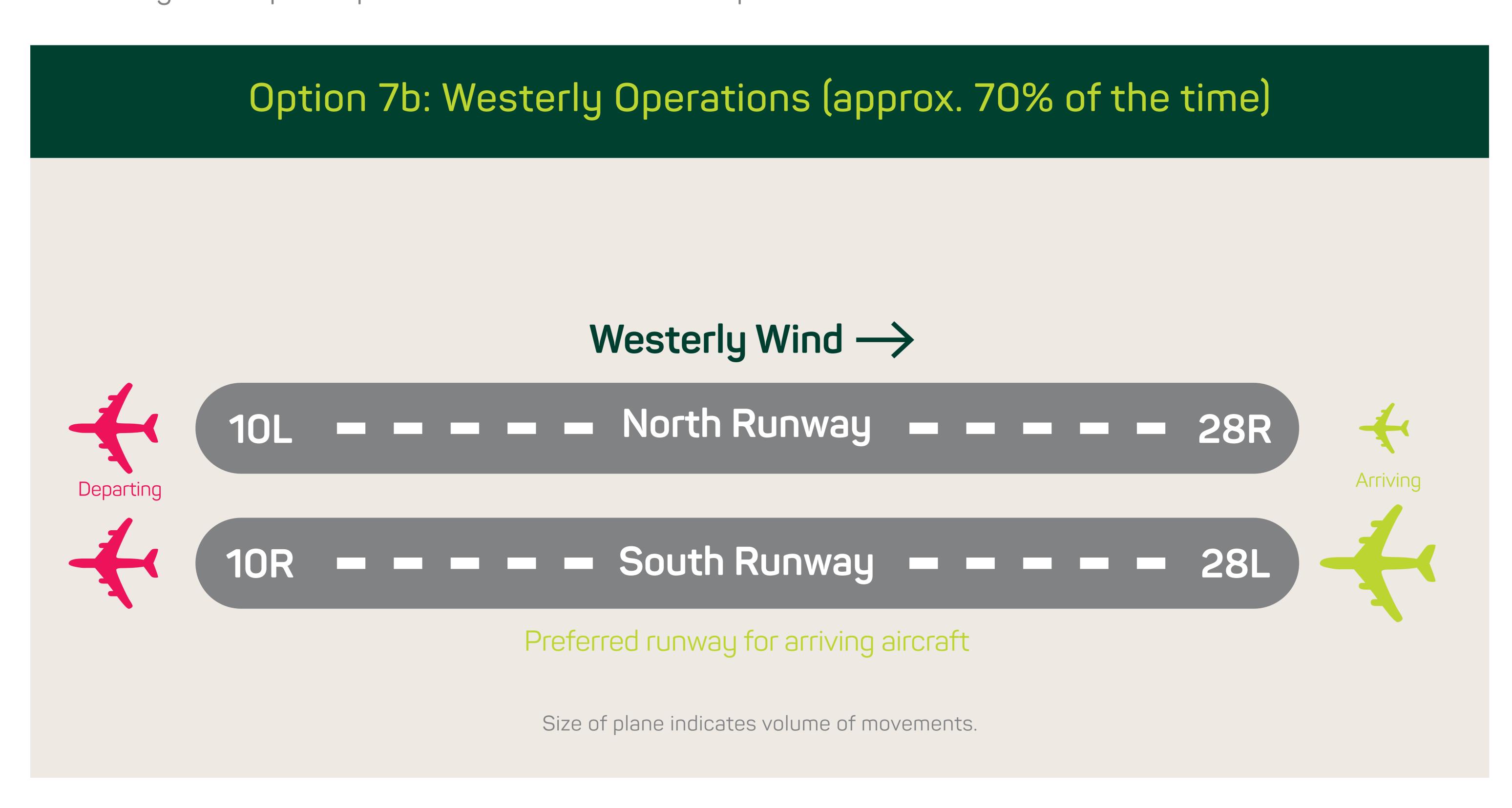






North Runway Operation

• Once North Runway comes into operation, new routes to and from the airport will be introduced. Condition 3 of An Bord Pleanála's grant of permission for North Runway introduces a preferred runway concept – Option 7b – to lessen the impact of aircraft noise on local communities.

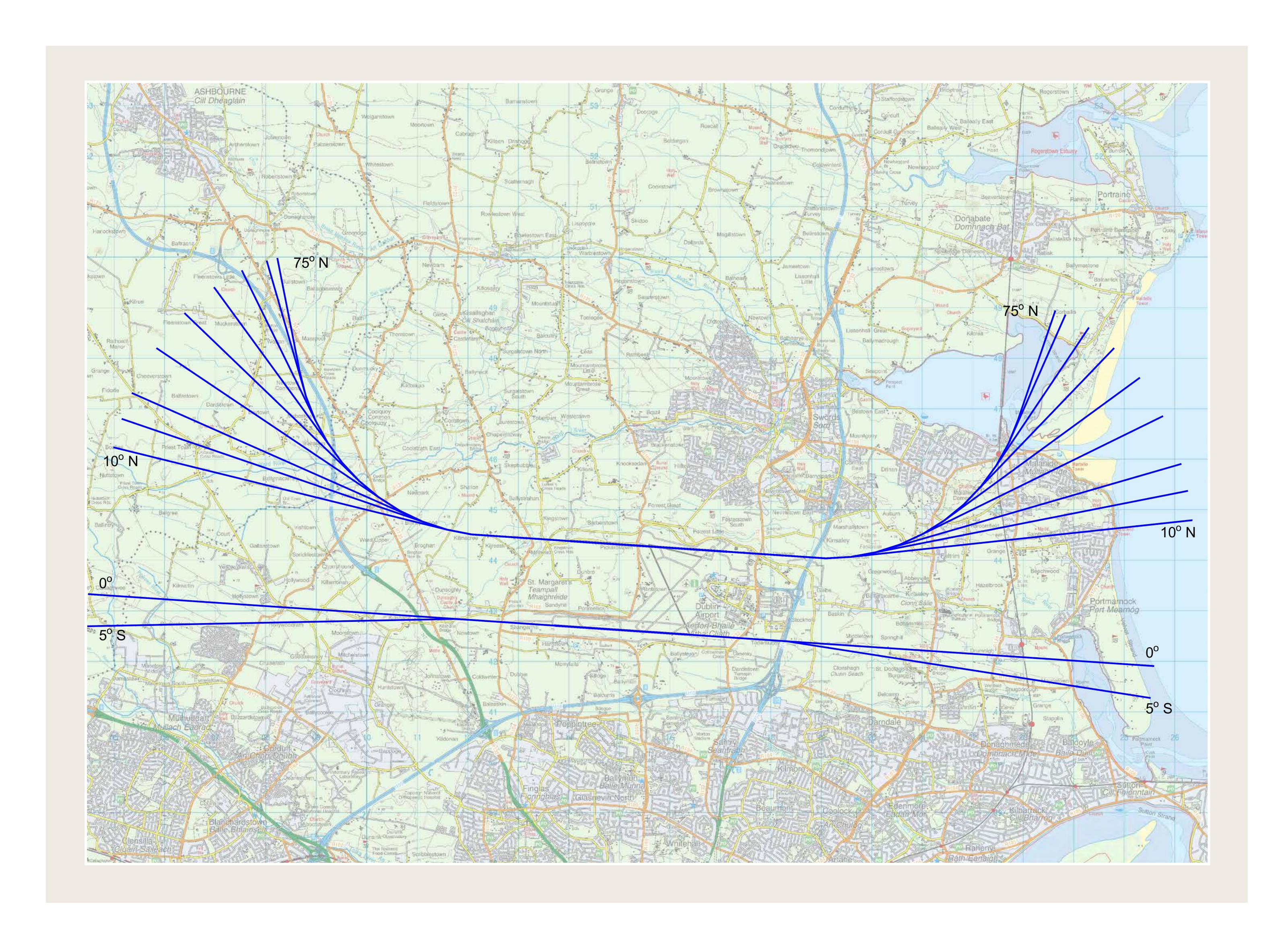




- Most of the time the runways will be operated in segregated mode, i.e. one runway for all arrivals, the other for all departures.
- However, there will be occasions during peak hours when runways will need to operate in mixed mode, i.e. both runways used simultaneously for arrivals and departures.
- For safety and aircraft separation, international standards for mixed mode operations require that aircraft courses diverge by at least 15° approximately one nautical mile after take-off.
- Before any proposed flight path procedure and/or mode of operation can be finalised and implemented for North Runway, a comprehensive safety case and assessment will have to be completed by the Air Navigation Service Provider (Air Traffic Control). This will occur before the opening of North Runway.
- The EIS will make an assessment of the implications of the proposed change in permitted operations and this requires a decision about the Noise Preferential Routes (NPRs) that will be used.
- This consultation is about helping to determine the new NPRs for North Runway.
- The findings and recommendations arising from this process will be published as part of the ongoing EIS consultation and public information process and will be shared with the Air Navigation Service Provider, which has overall responsibility for airspace design.

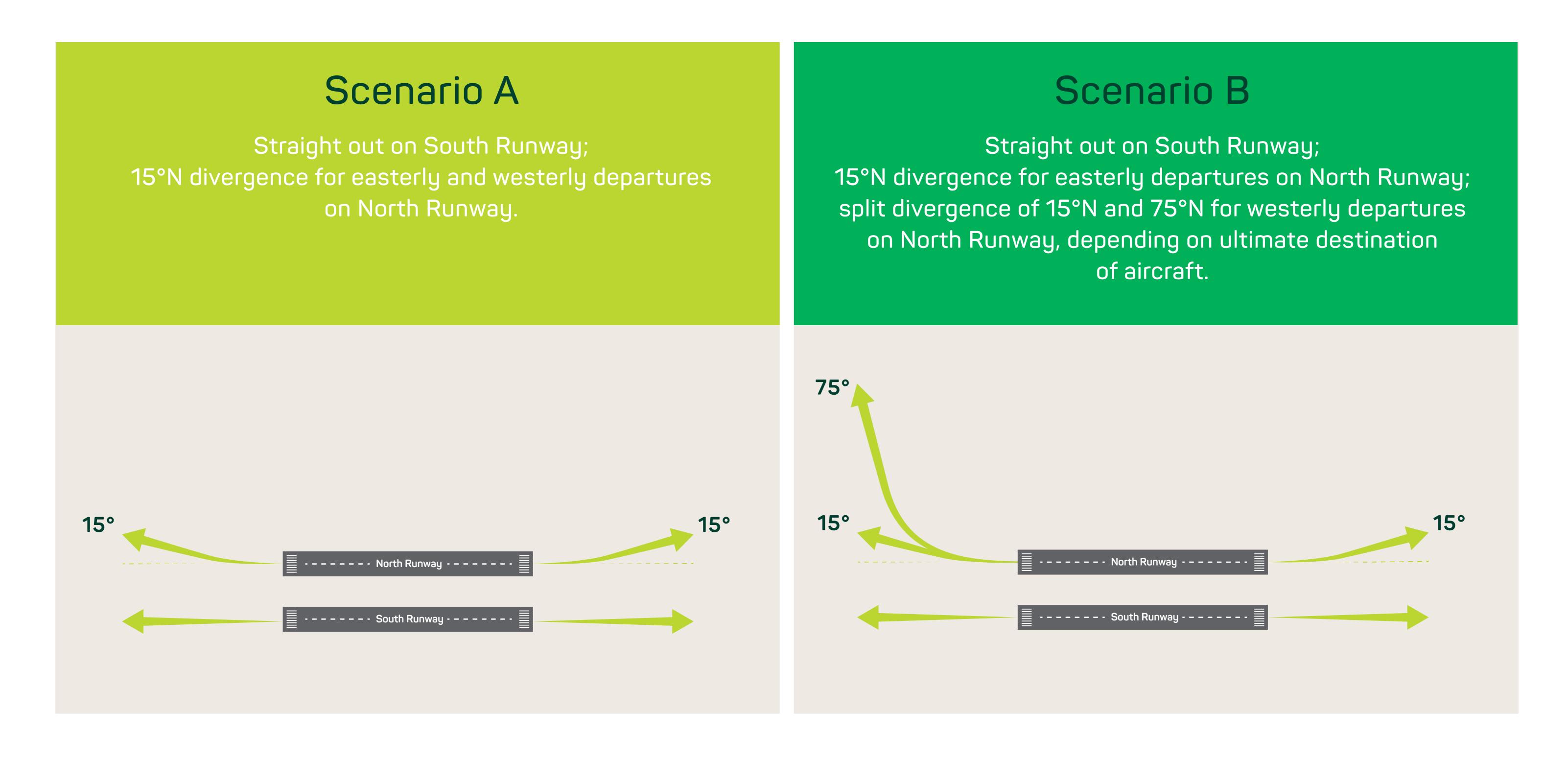
Departure Flight Paths

- For safety reasons, a divergence of at least 15° will be required to allow independent departures on both runways.
- Several options within the range 75°N to 5°S were considered.



Divergence scenarios

In developing the departure Noise Preferential Routes (NPRs) we have shortlisted two scenarios to avoid areas of dense population and to minimise the number of dwellings significantly affected by noise.



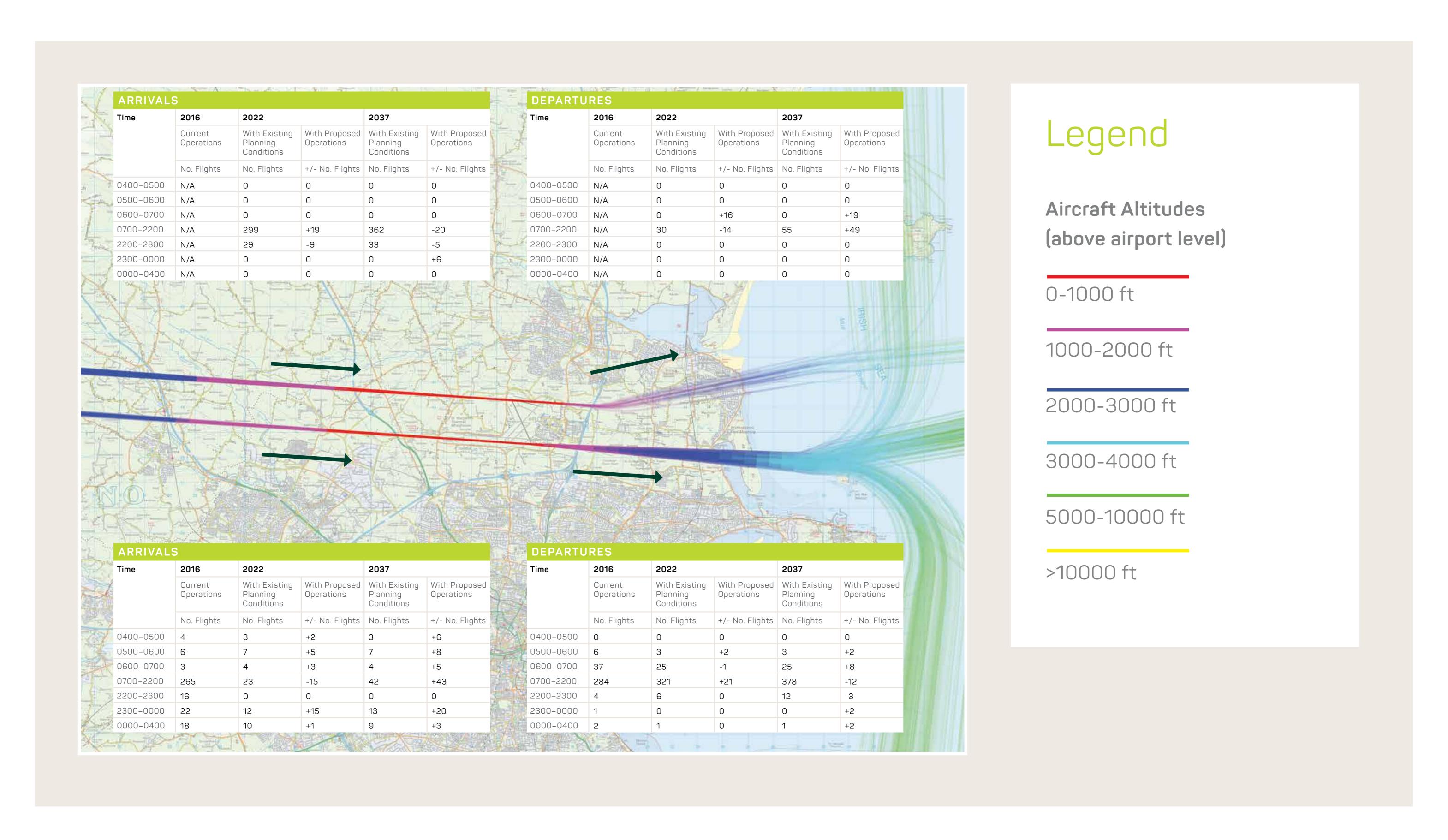
Note: NPRs will be subject to assessment based on criteria finalised post-consultation. A comprehensive safety case and assessment will also be completed by the ANSP before North Runway opens.

Flight Movements

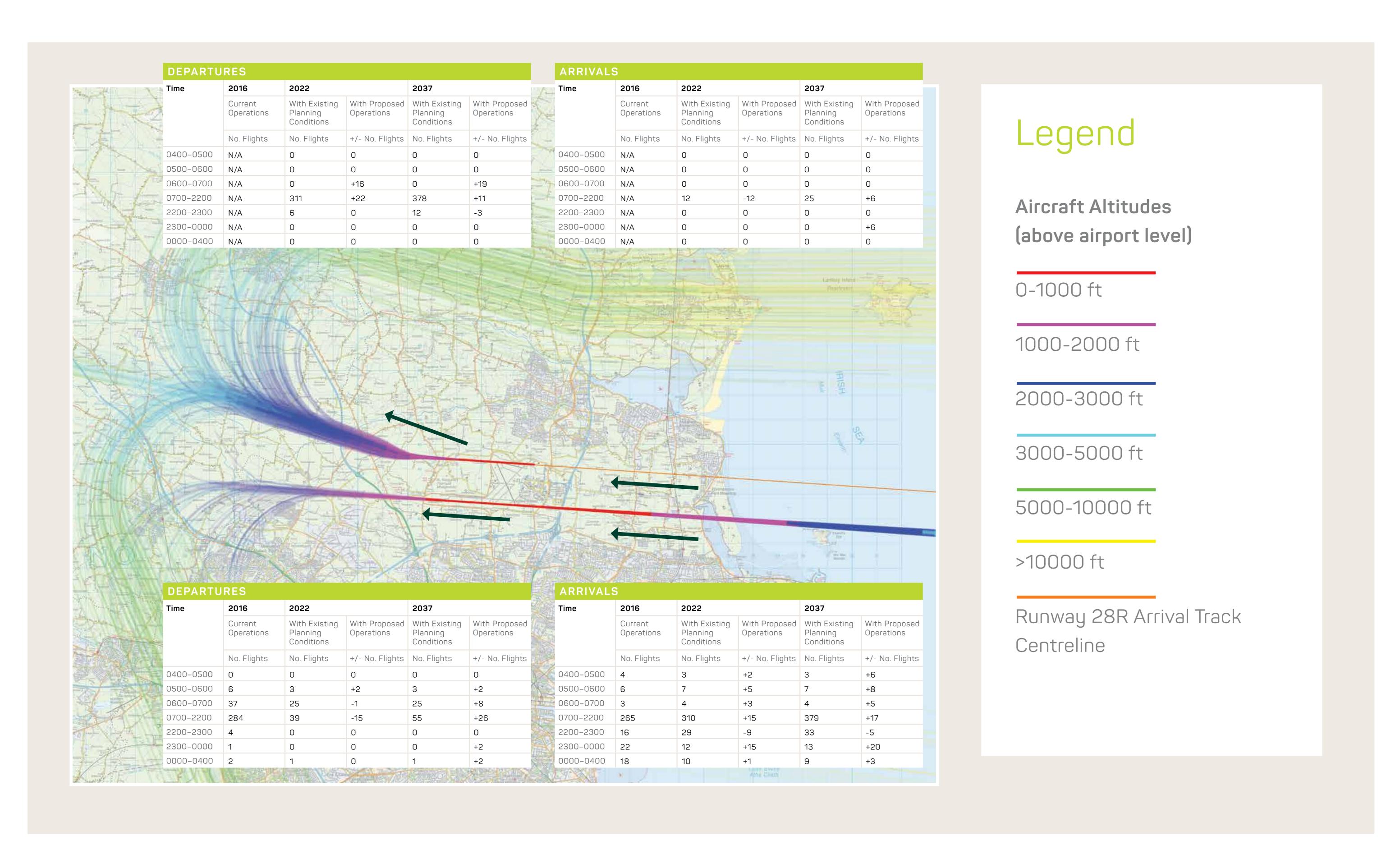
Below are the number of flight movements anticipated for each runway in 2022 and 2037. These numbers are based on high growth forecasts and may be subject to change. Note: we have illustrated using a 15°N divergence for easterly and westerly departures on North Runway as this is the minimum requirement. Regardless of the degree of divergence chosen, the number of movements will be the same.

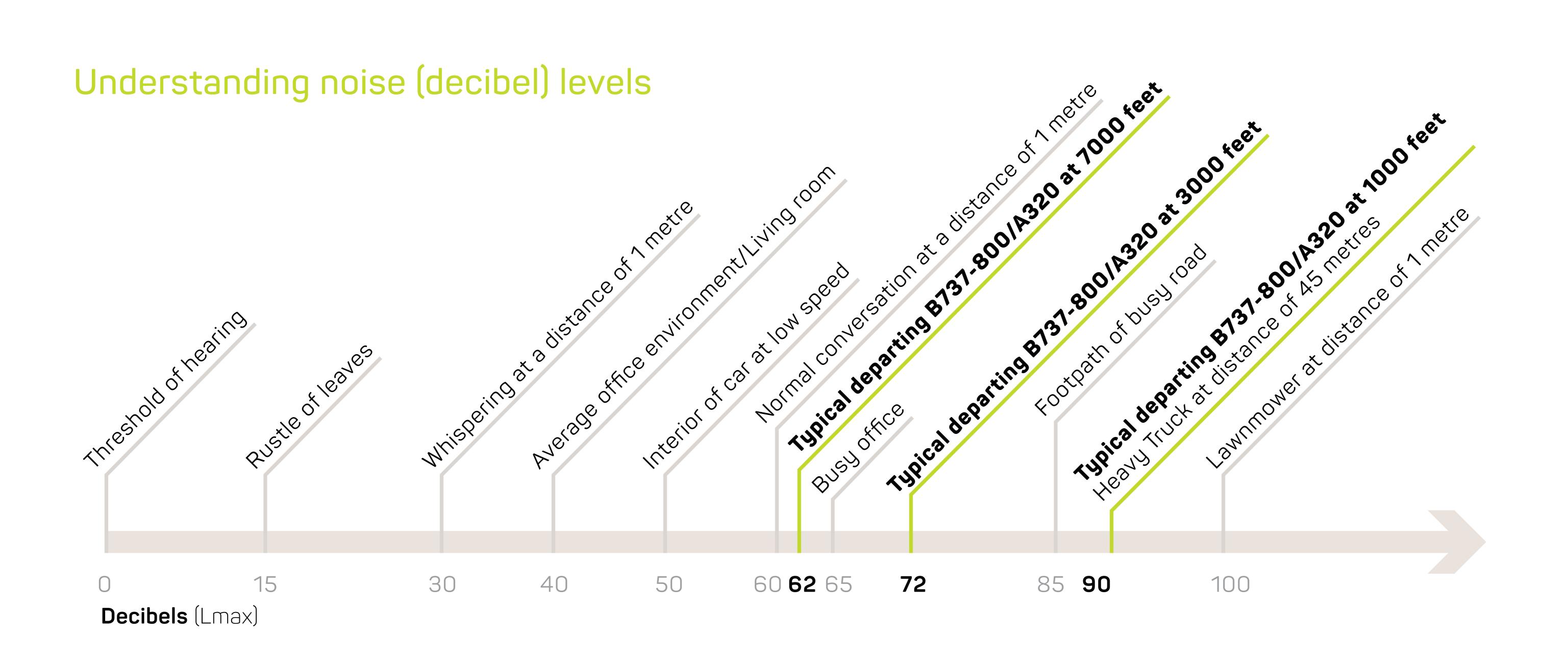
- Current operations reflect aircraft movements at Dublin Airport today.
- Existing planning conditions relate to the number of movements which would occur as a result of the implementation of An Bord Pleanála's 2007 grant of planning permission for North Runway. These would come into effect on both runways when North Runway is operational.
- Proposed operations relate to the removal of Condition 3(d) and Condition 5. These figures show the difference in the number of movements if a change in permitted operations were agreed.

Easterly Operations on a representative summer's day

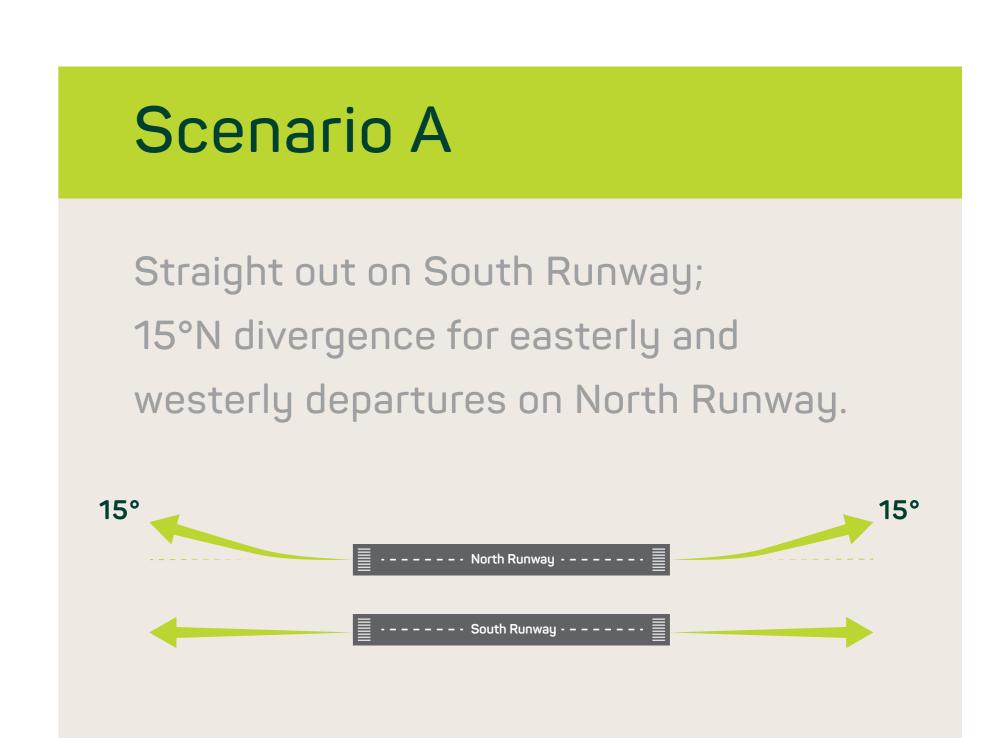


Westerly Operations on a representative summer's day





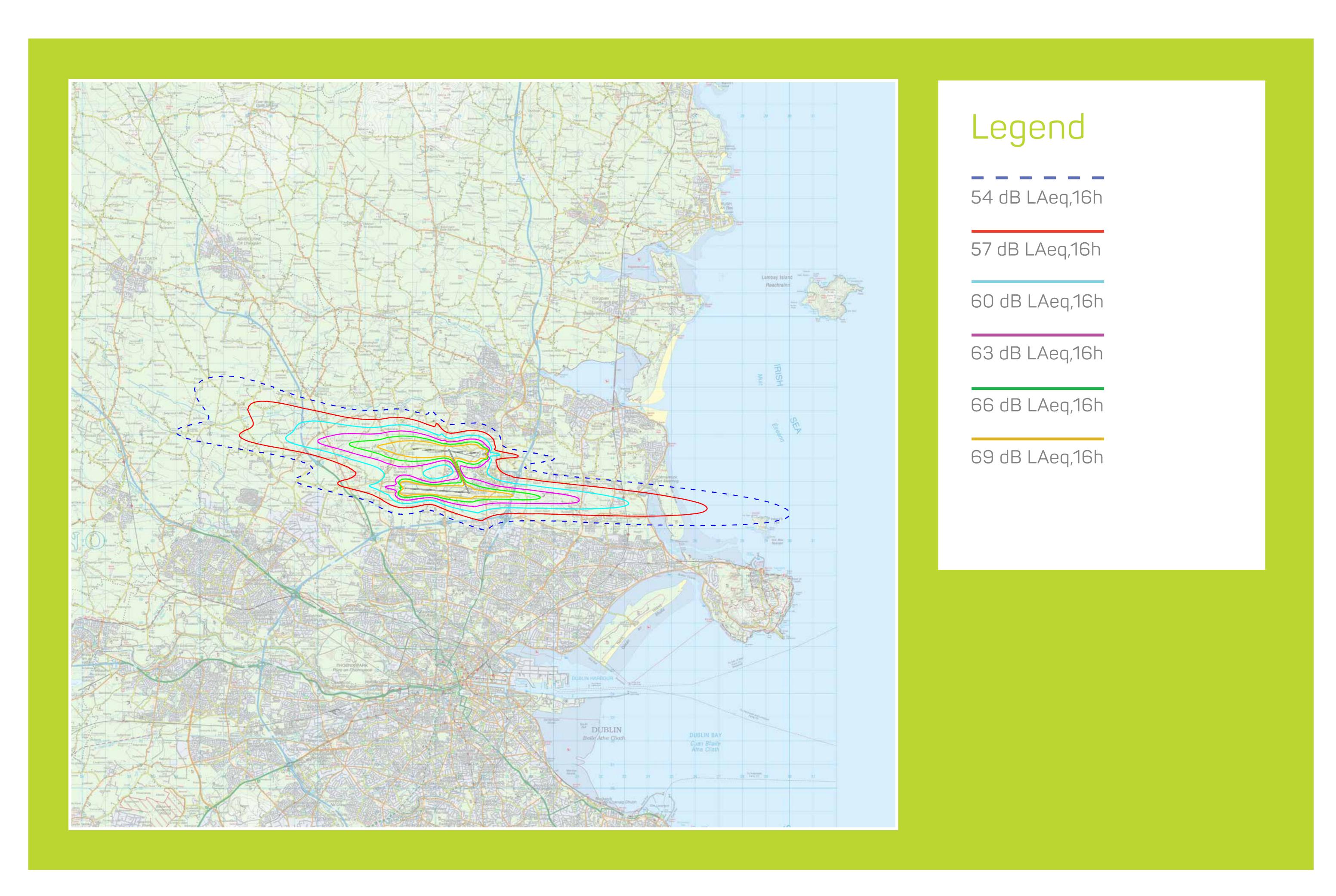
Scenario A: 2022 Average (LAeq) Day Noise Contours



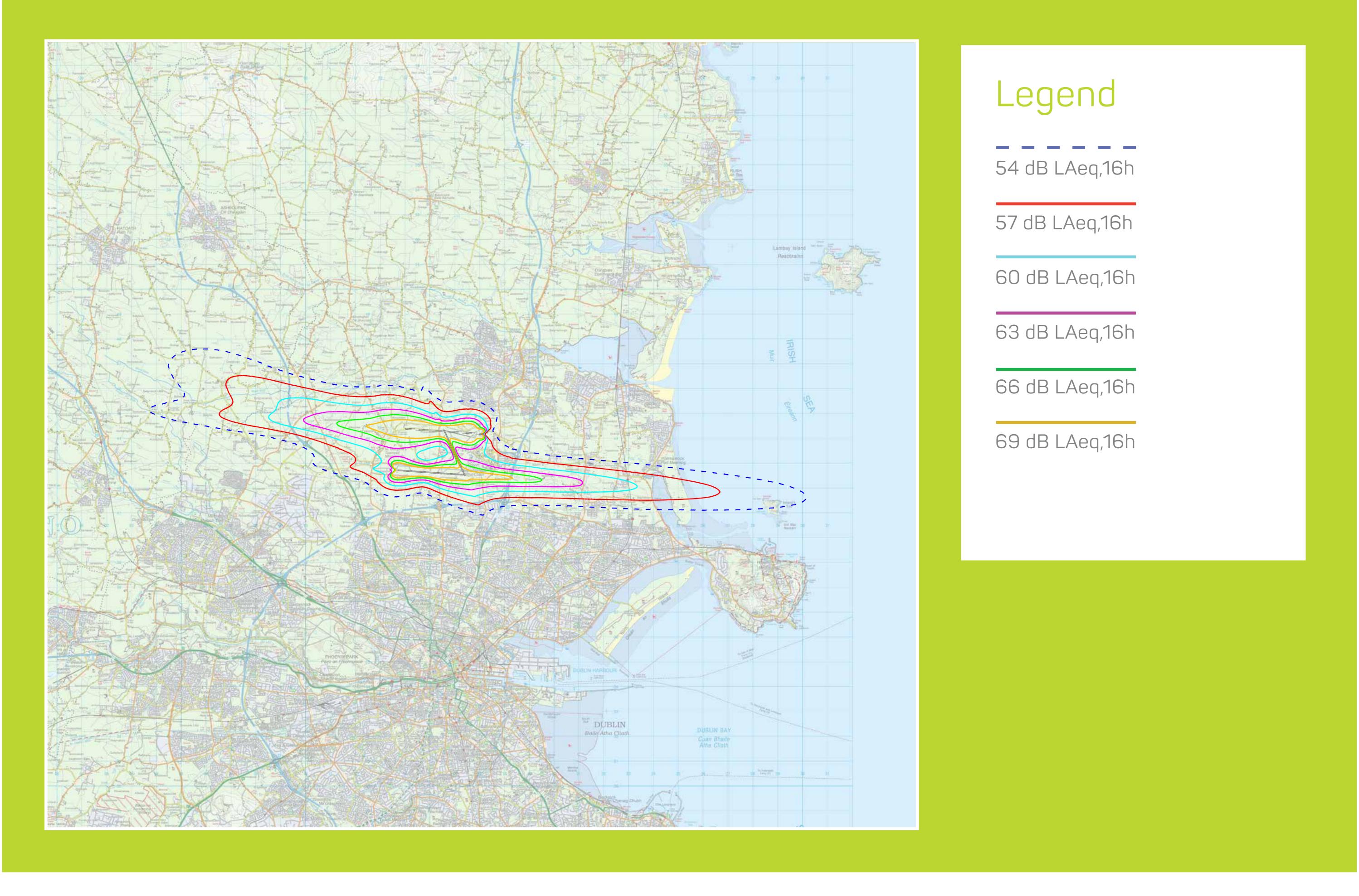
Noise contours are developed using modelling techniques which are widely used throughout the aviation industry. The day noise contour modelling covers a 16-hour period (7am to 11pm) over 92 days during the airport's busiest summer months. It takes account of a number of elements such as runway location(s), arrival and departure routes, aircraft movements (number by aircraft type), the split of movements between the runway(s) and routes, and airport procedures.

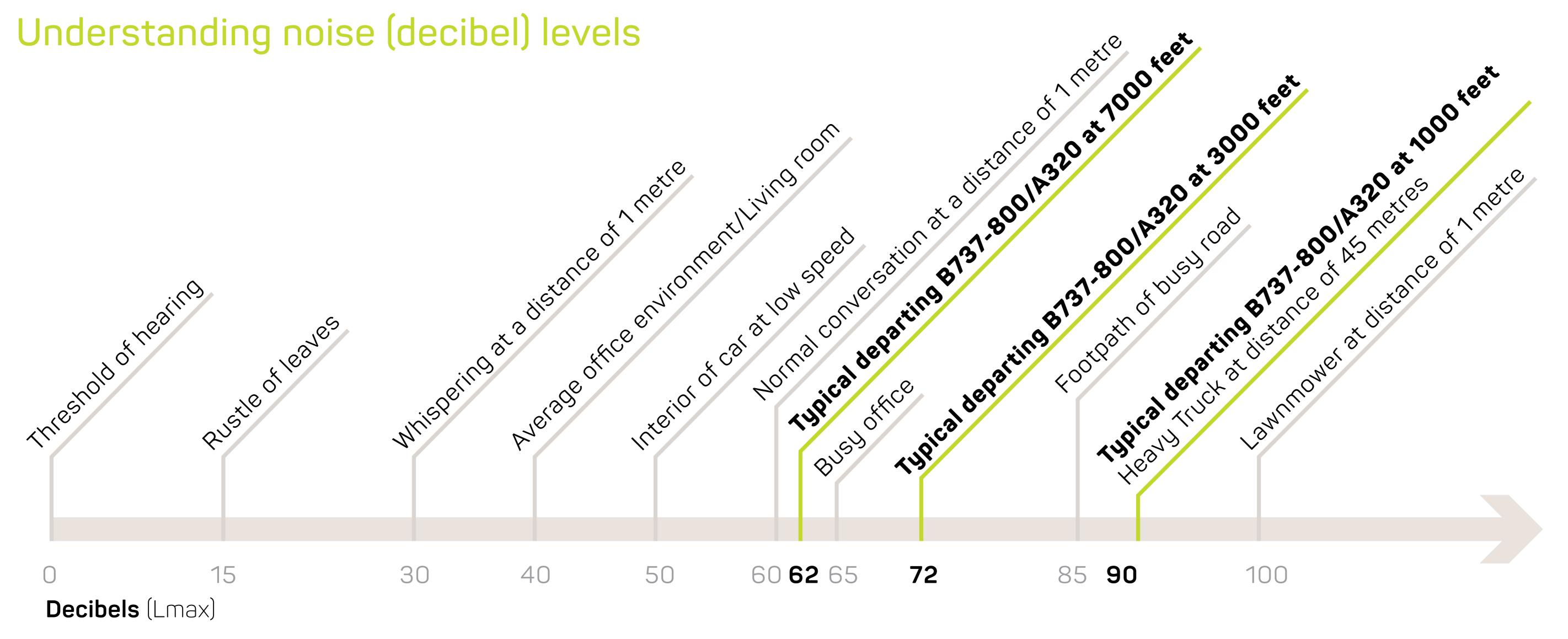
The change of permitted operations has a modest effect on average daily noise contours, as illustrated.

Average noise contours on a representative summer's day, with existing conditions

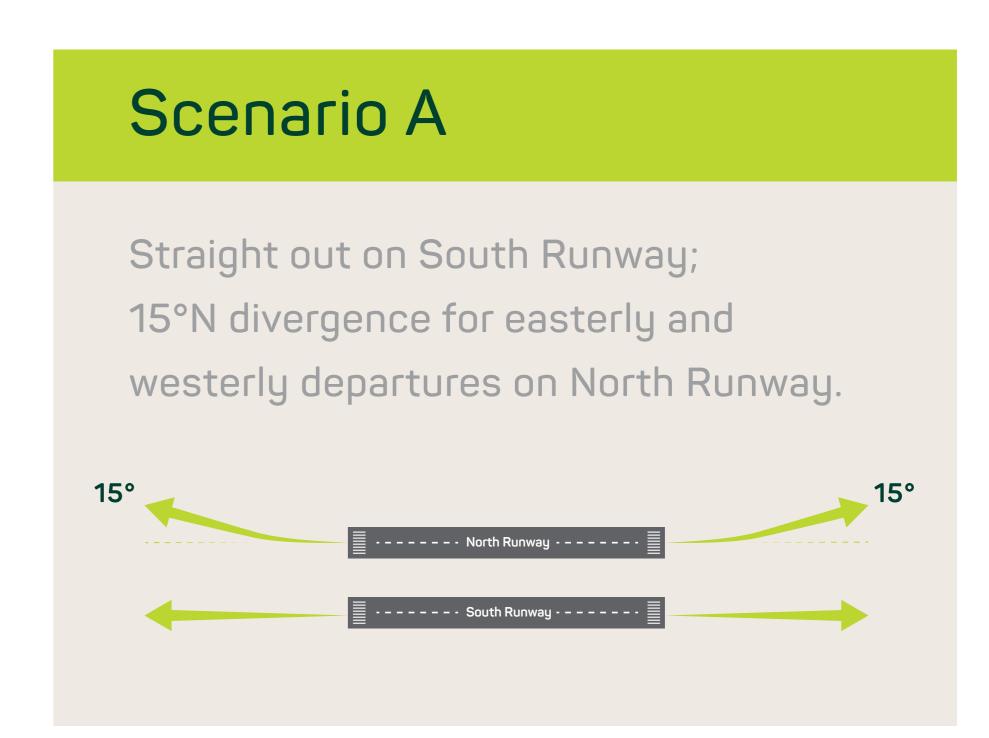


Average noise contours on a representative summer's day, with proposed operations



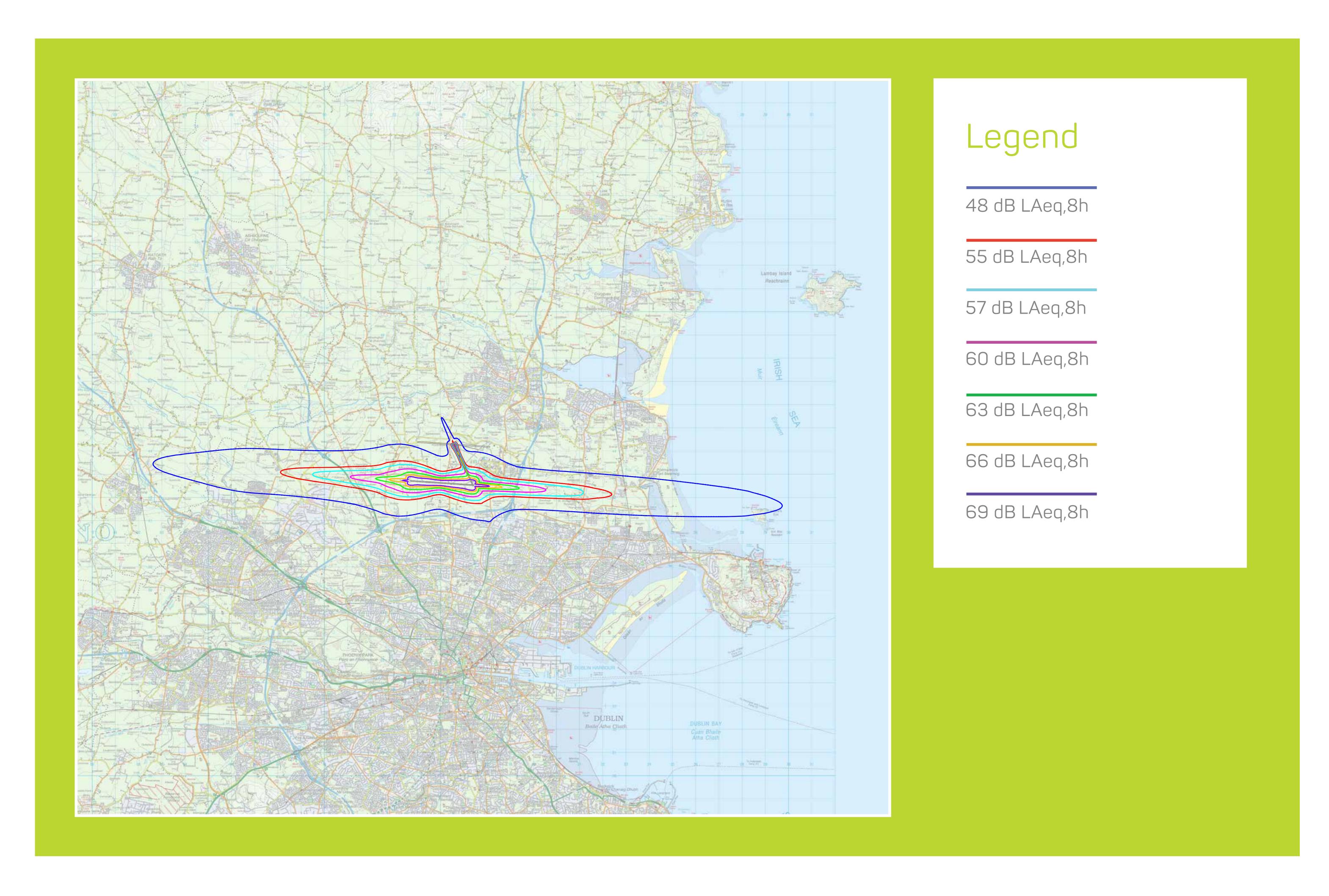


Scenario A: 2022 Average (LAeq) Night Noise Contours

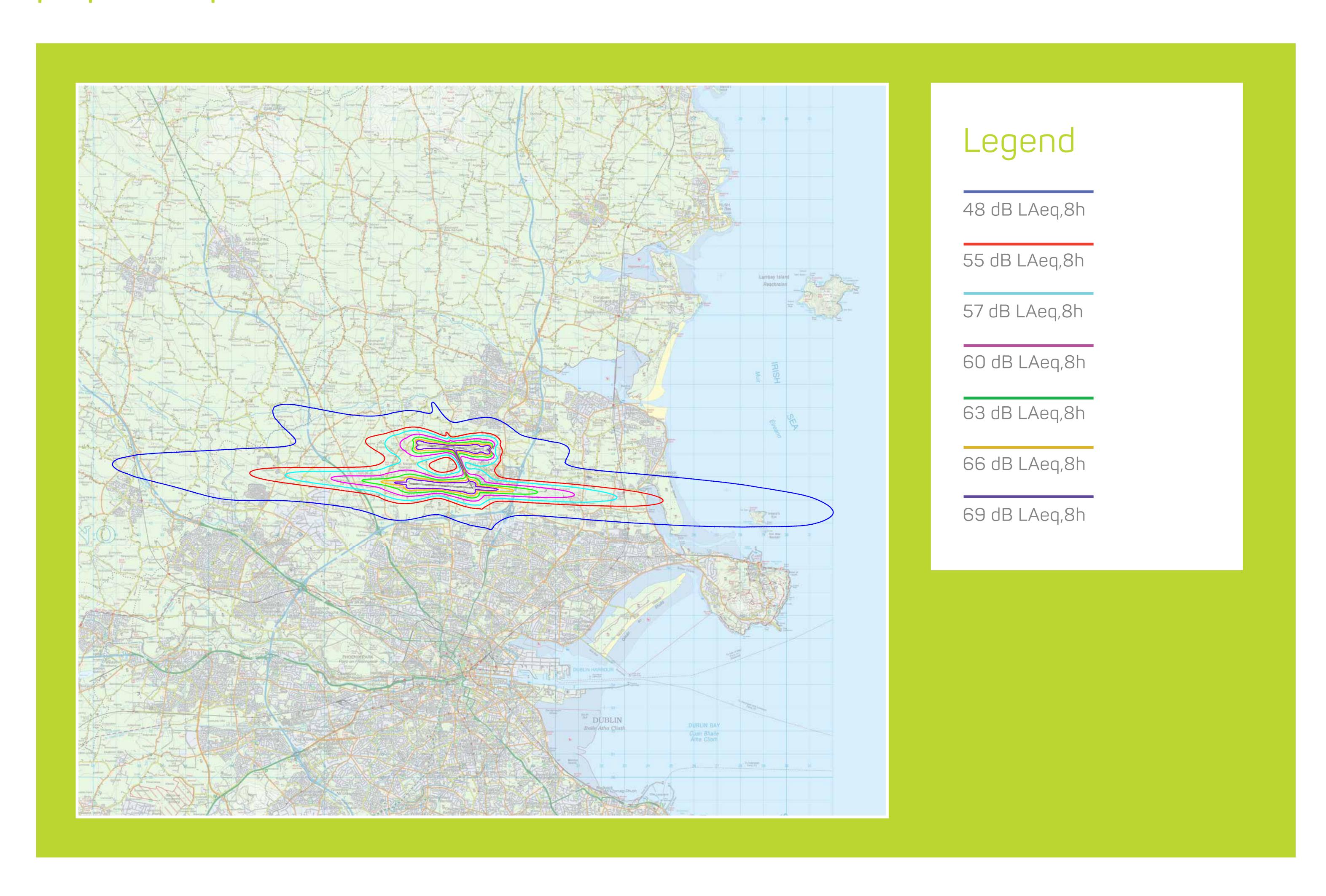


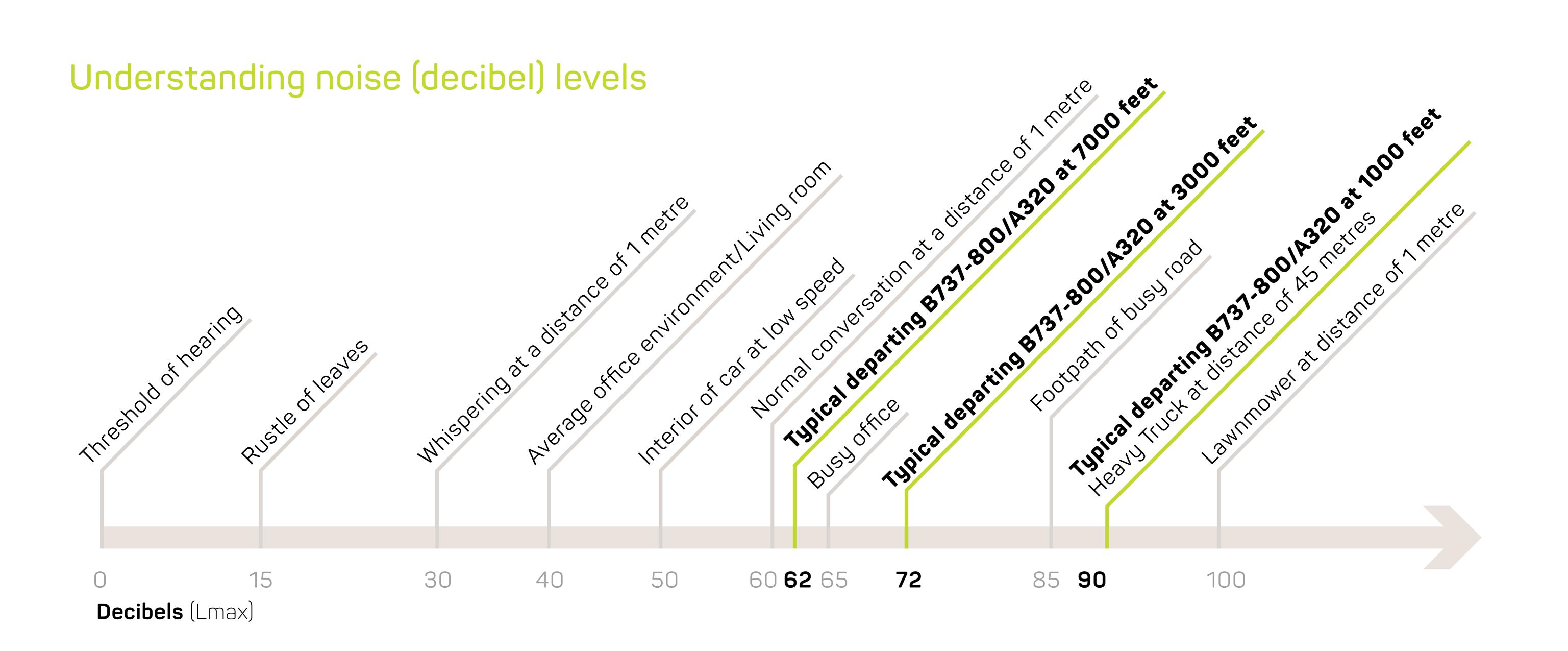
A change of permitted operations results in a larger 55db night contour. The night noise contour modelling covers an 8-hour period (11pm to 7am) over 92 days during the airport's busiest summer months. It takes account of a number of elements such as runway location(s), arrival and departure routes, aircraft movements (number by aircraft type).

Average noise contours on a representative summer's night, with existing conditions

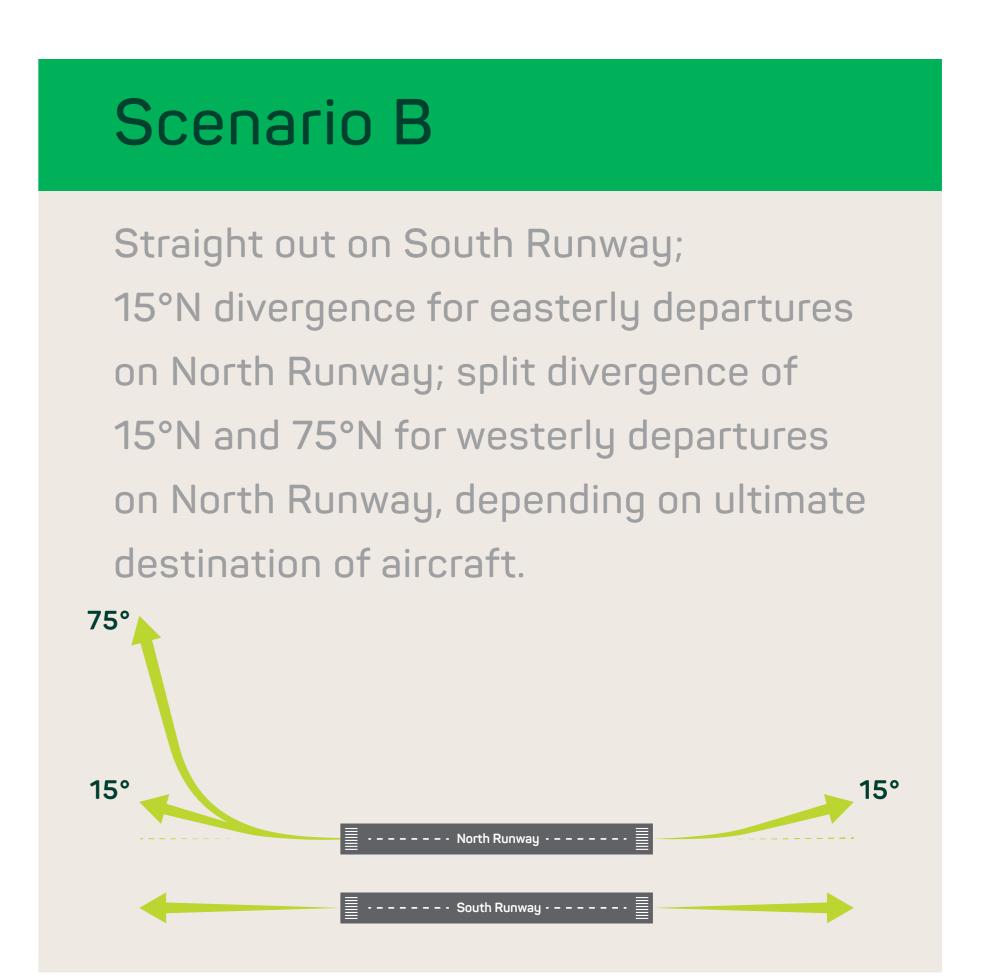


Average noise contours on a representative summer's night, with proposed operations





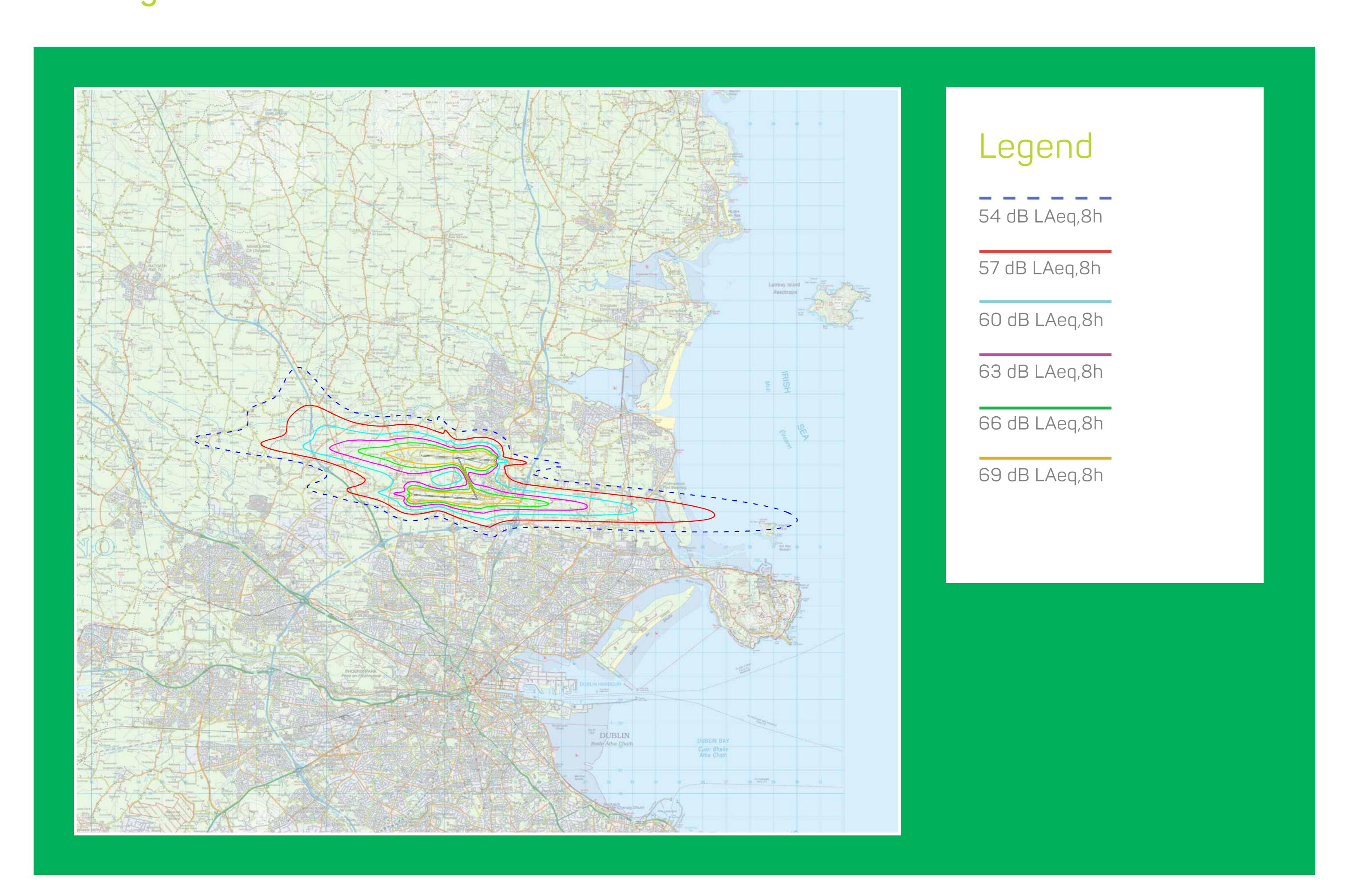
Scenario B: 2022 Average (LAeq) Day Noise Contours



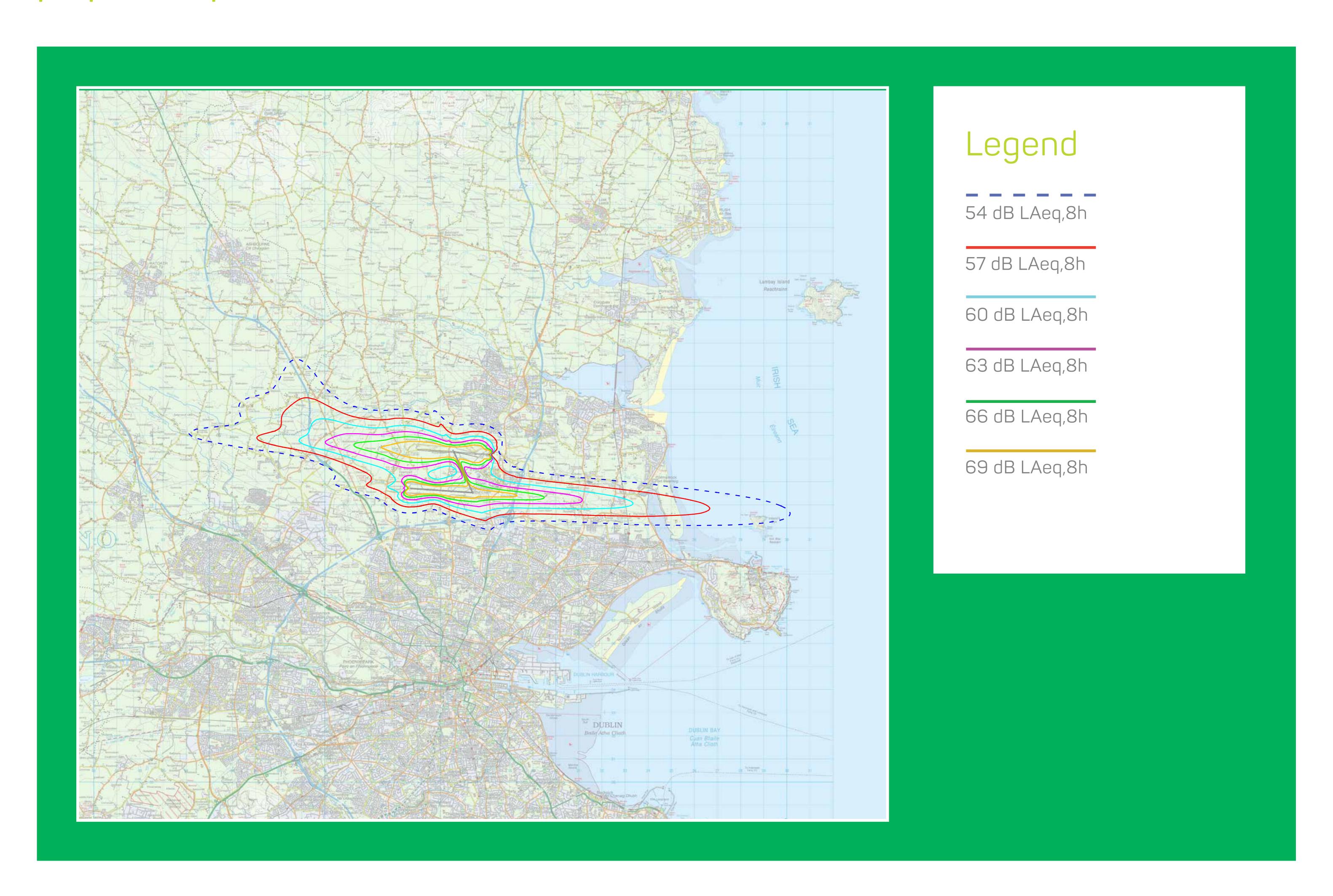
Noise contours are developed using modelling techniques which are widely used throughout the aviation industry. The day noise contour modelling covers a 16-hour period (7am to 11pm) over 92 days during the airport's busiest summer months. It takes account of a number of elements such as runway location(s), arrival and departure routes, aircraft movements (number by aircraft type), the split of movements between the runway(s) and routes, and airport procedures.

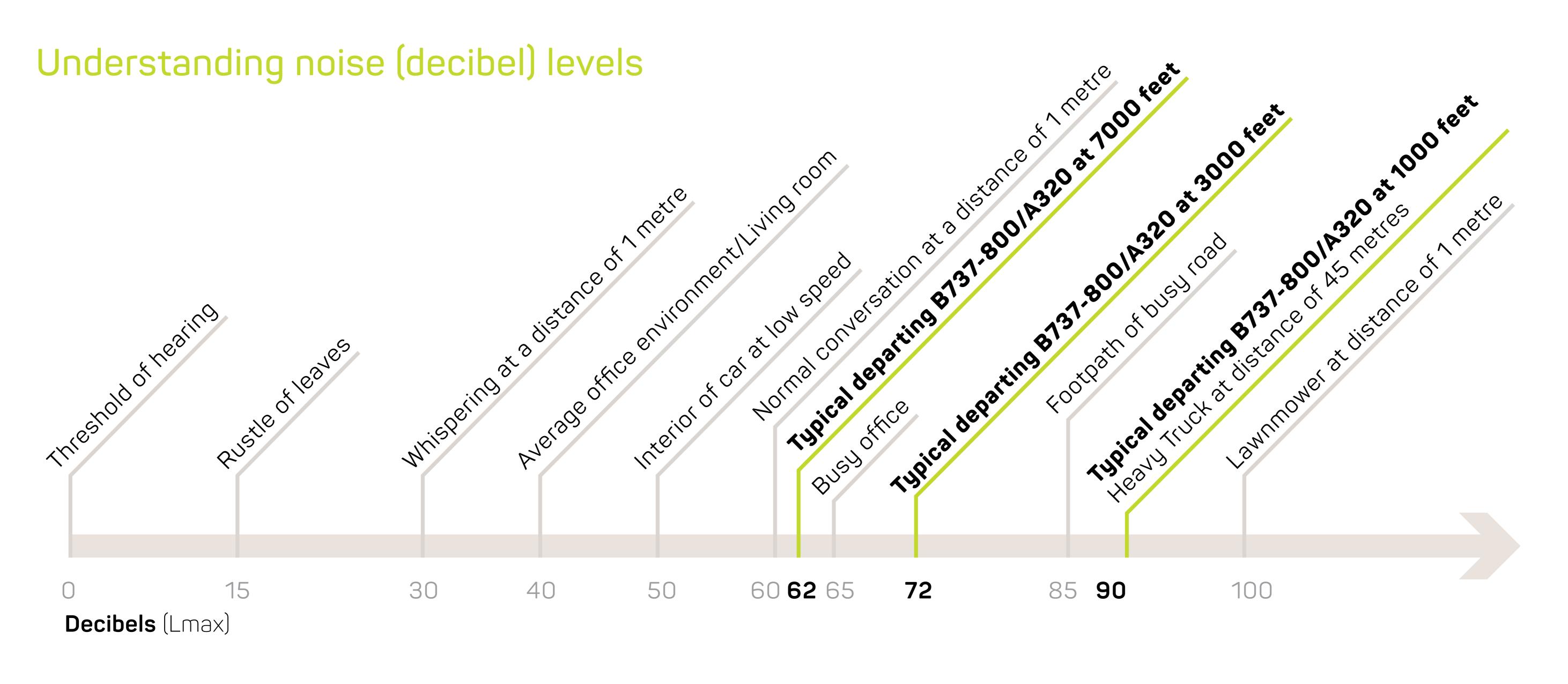
The removal of the conditions has a small effect on average daily noise levels, as illustrated.

Average noise contours on a representative summer's day, with existing conditions

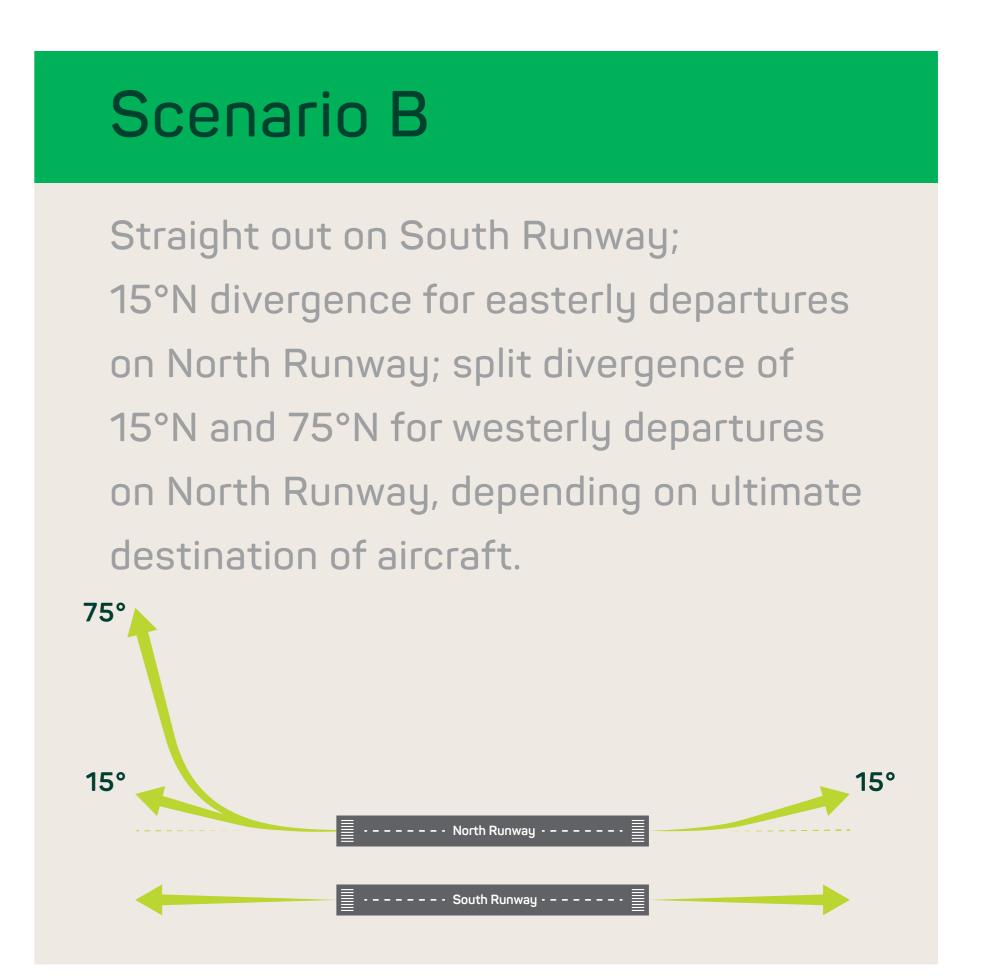


Average noise contours on a representative summer's day, with proposed operations





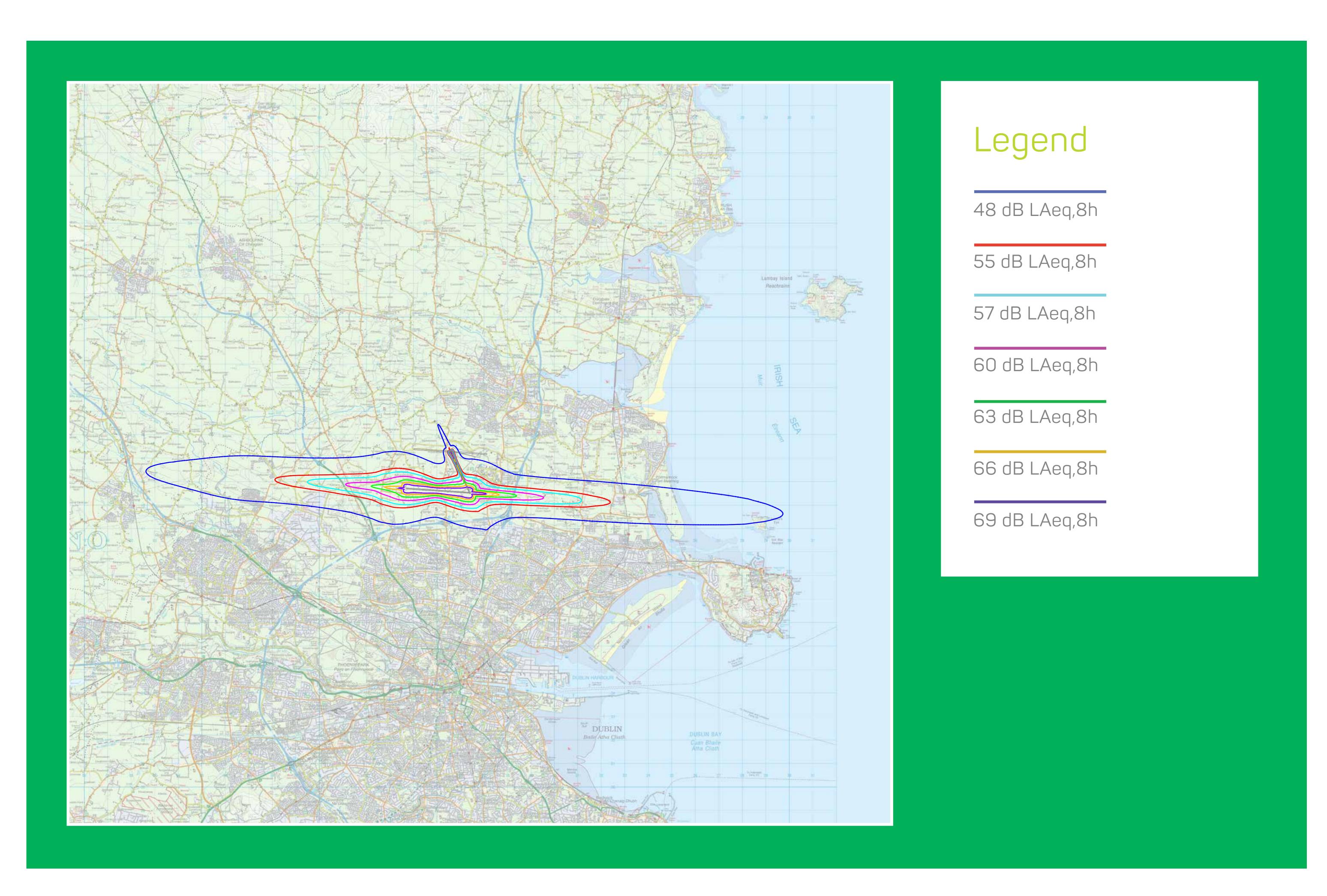
Scenario B: 2022 Average (LAeq) Night Noise Contours



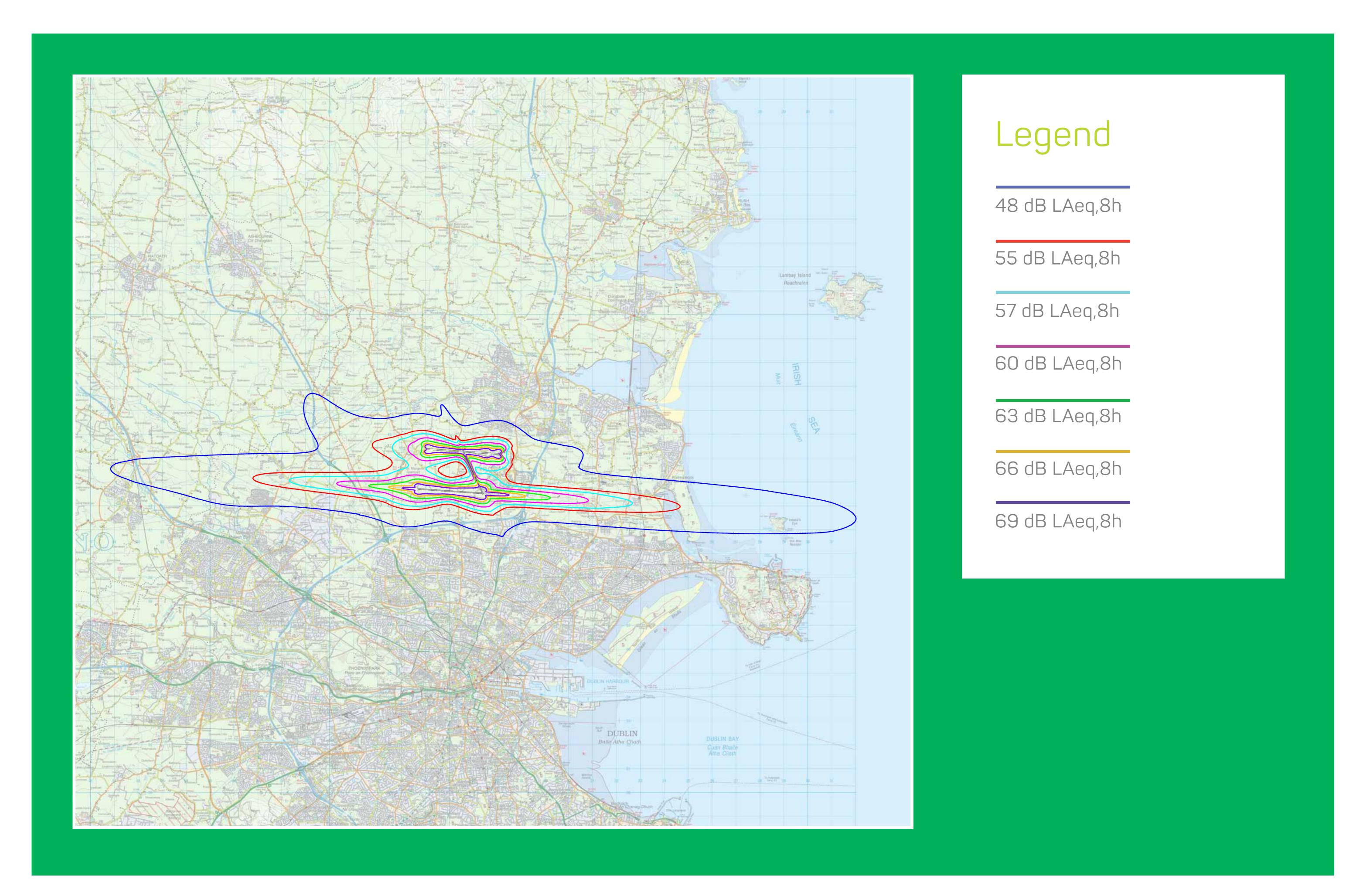
The night noise contour modelling covers an 8-hour period (11pm to 7am) over 92 days during the airport's busiest summer months. It takes account of a number of elements such as runway location(s), arrival and departure routes, aircraft movements (number by aircraft type).

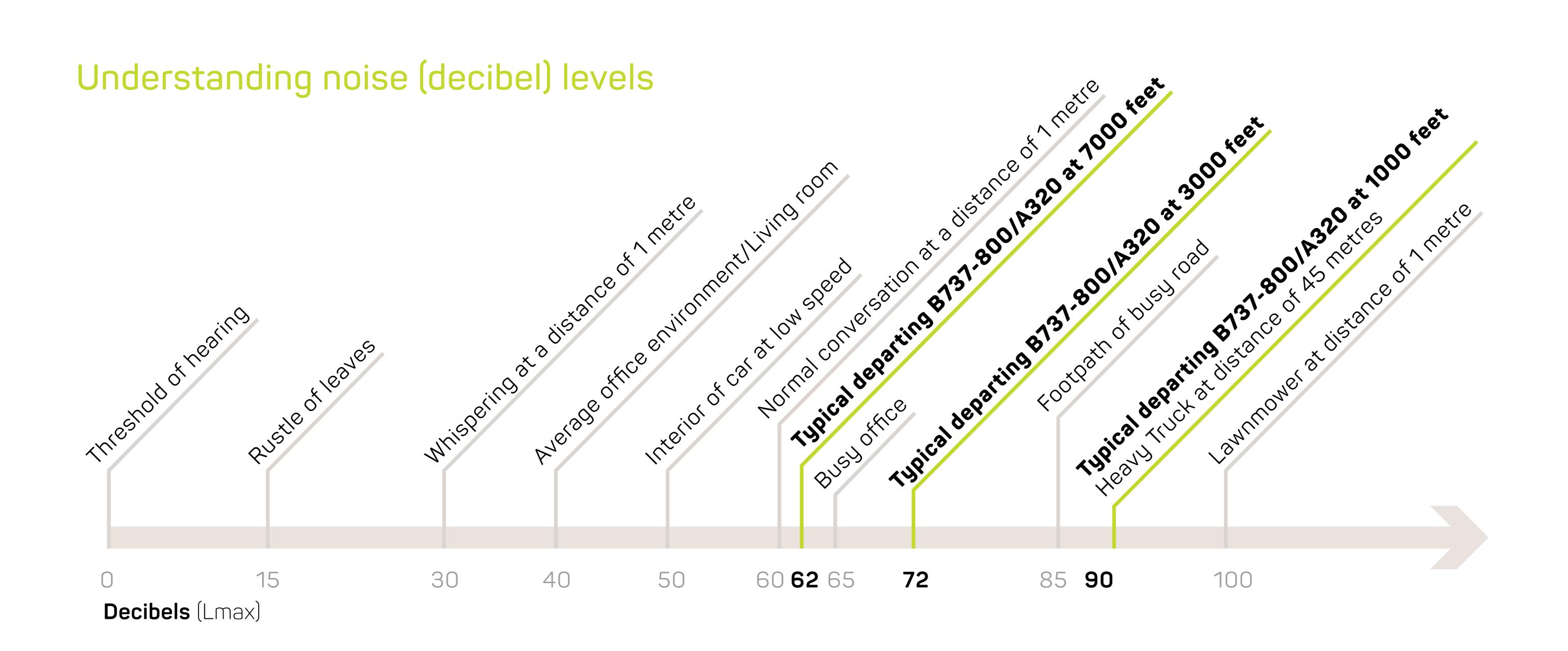
The removal of the conditions results in a larger 55dB night contour.

Average noise contours on a representative summer's night, with existing conditions



Average noise contours on a representative summer's night, with proposed operations





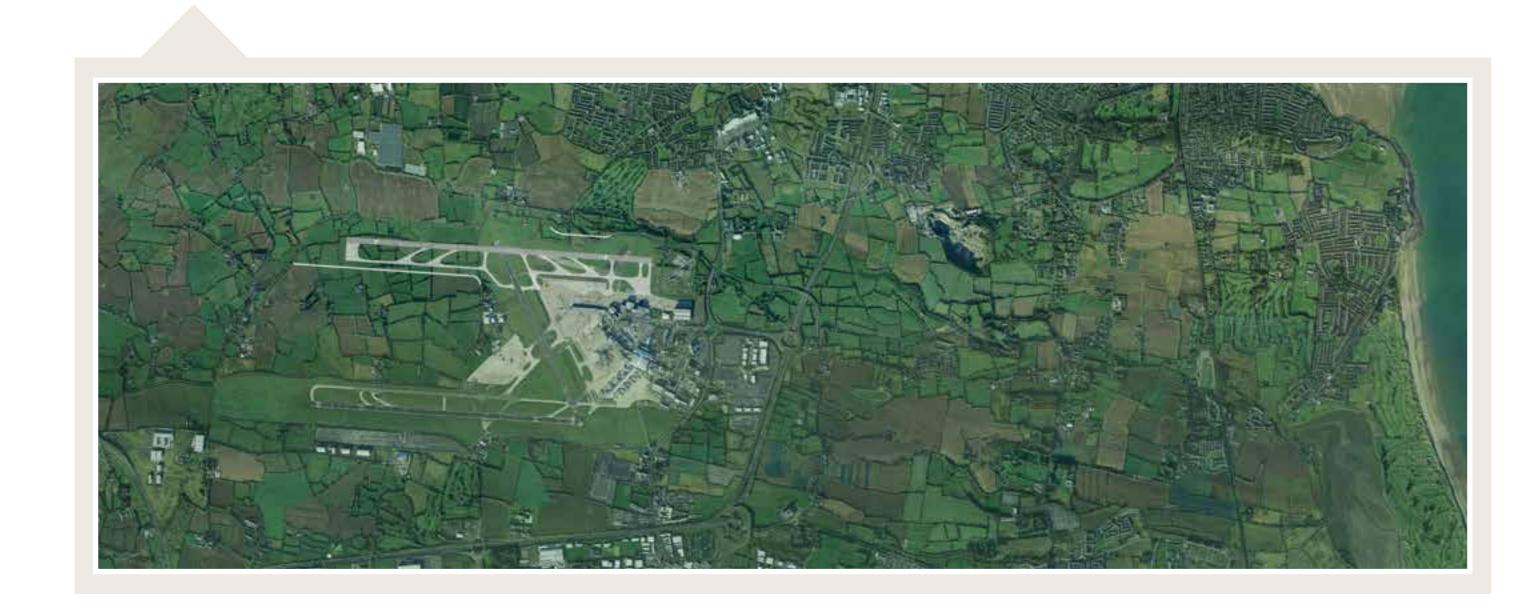
Mitigation Measures

The Balanced Approach

International best practice on noise management at airports focuses on the Balanced Approach. The four pillars of the Balanced Approach are;

Land-use planning

Dublin Airport has benefitted from a far-sighted planning process that has kept the approaches to the runways largely clear of development. Unlike many other international airports, we have very few people living under our flight paths, which means that land-use planning has been effective to date.

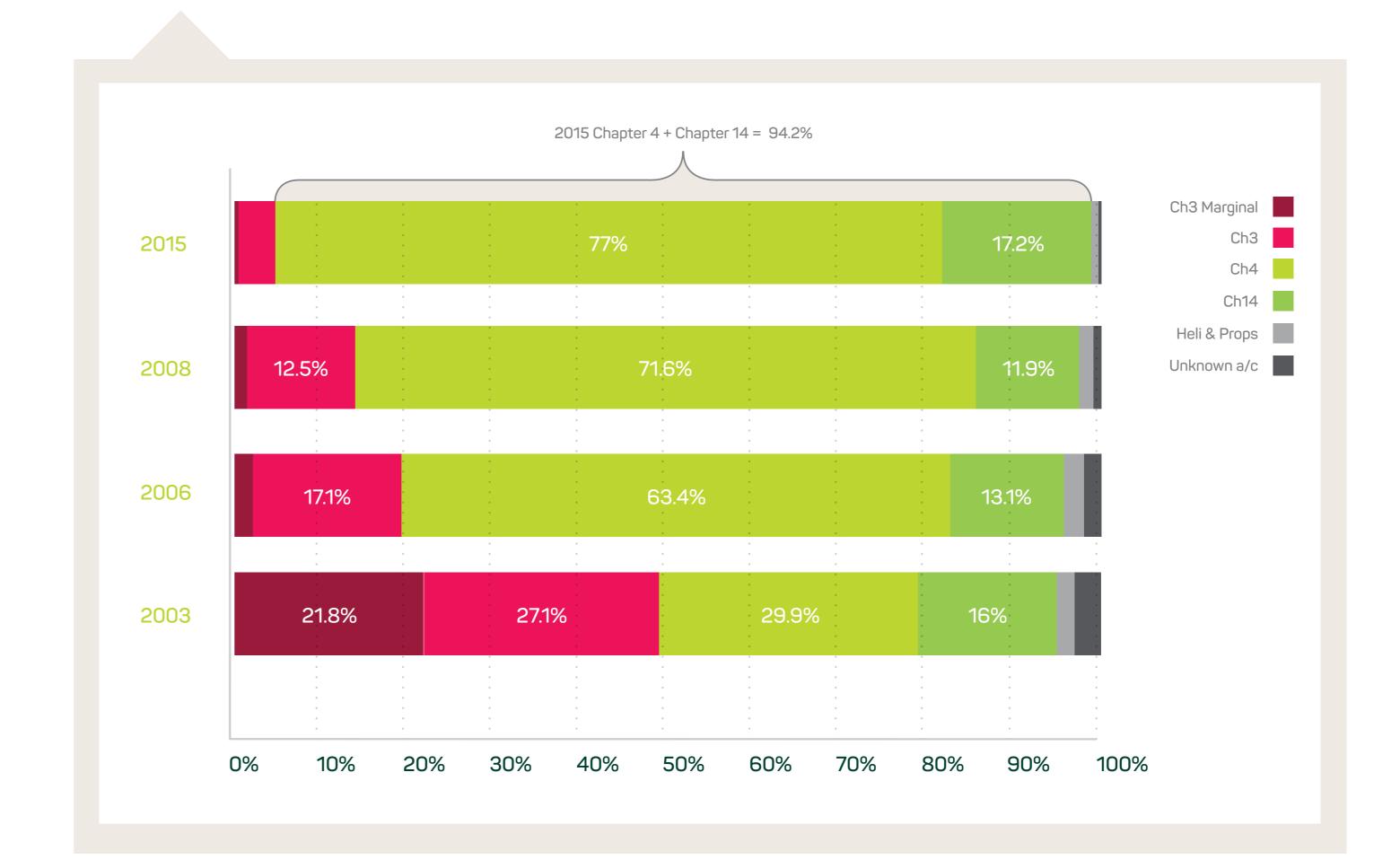


Operational procedures

Along with our airport stakeholders, we have implemented a wide range of operational procedures to minimise noise. These include flight Noise Abatement procedures for take-off and landing such as selection and compliance with Environmental Corridors, continuous descent and restrictions on reverse thrust and ground run-up. North Runway will be operated according to Option 7b, which introduces the concept of a preferred runway to lessen the impact of aircraft noise on local communities.

Quieter aircraft

At Dublin Airport we are fortunate to have a large proportion of aircraft that meet the most stringent noise class (Chapter 4). In 2015, almost 95% of aircraft operating here were Chapter 4, the quietest models. There is a ban on the use of the noisiest aircraft (Chapter 2) at the airport.



Operating restrictions

To be applied only as a last resort when other pillars have been exhausted.

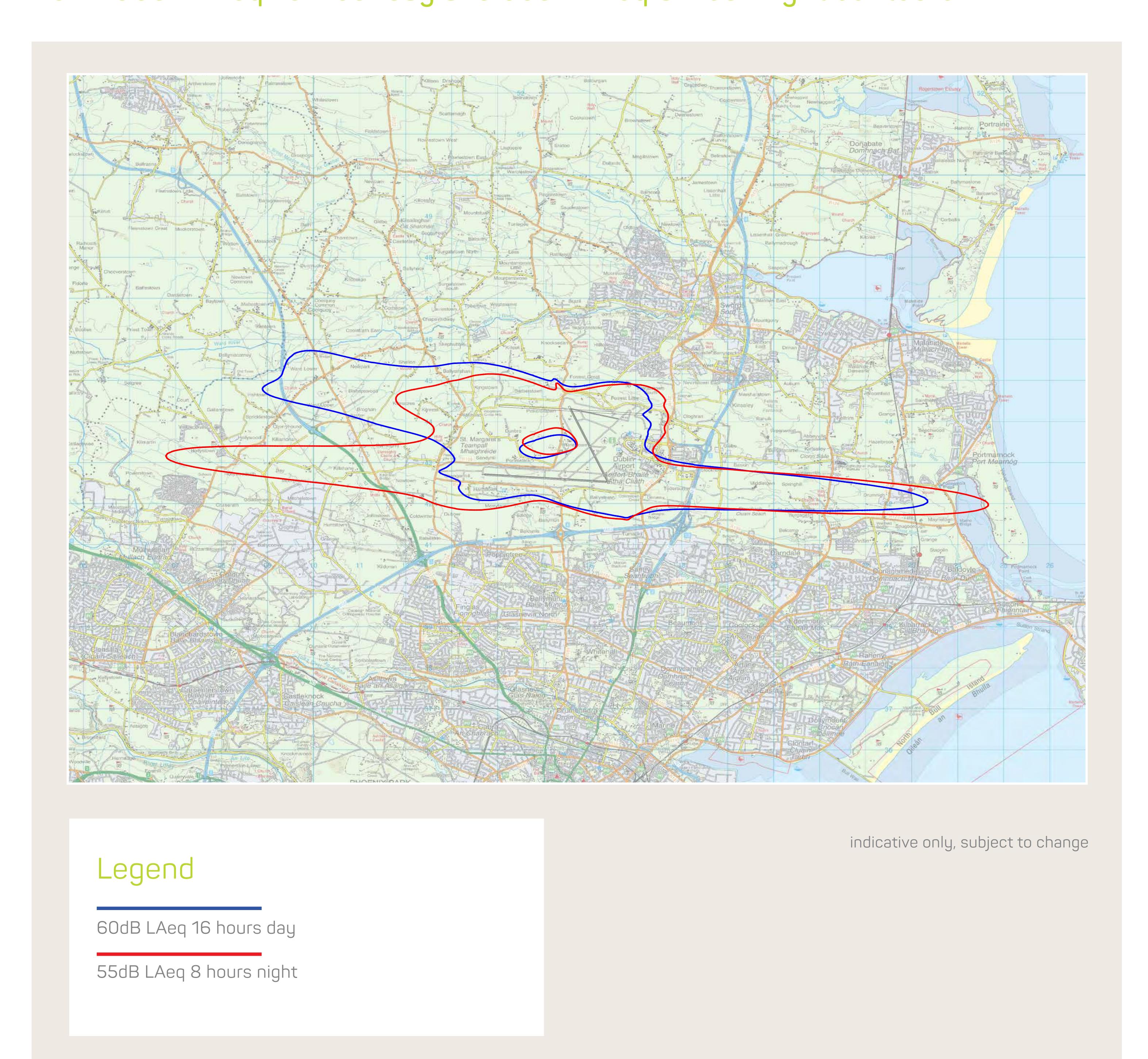
Current mitigation measures

Under Conditions 6 and 7 of the planning permission associated with North Runway, daa will develop insulation schemes for schools and residential dwellings located in the 60dB and 63dB contours, respectively. This work is at an advanced stage and full details will be made available to all eligible residents and schools when approved by Fingal County Council. daa is also offering a Voluntary Dwelling Purchase Scheme to eligible residents.

Further potential mitigation

daa will consider mitigations it could put in place to address issues which may be identified in the EIS as a result of a change of permitted operations, should this be implemented. These may include insulation measures for dwellings located in 55dB LAeq 8 hours night and 60dB LAeq 16 hours day contours.

2022 60dB LAeq 16-hour day and 55dB LAeq 8-hour night contours



Issues for Consultation

We wish to ensure that the flight paths chosen have as little impact as possible on our local communities. With that in mind we would like your feedback on:

- the departure Noise Preferential Routes (NPRs) scenarios detailed in this consultation;
- criteria we should apply in selecting optimum NPRs; and
- mitigation measures we should consider.

NPR scenarios

Scenario 1: Straight out on South Runway; 15° divergence for easterly and westerly departures on North Runway.

Scenario 2: Straight out on South Runway; 15° divergence for easterly departures on North Runway; split divergence of 15° and 75° for westerly departures on North Runway, depending on ultimate destination of aircraft.

Criteria for selecting NPRs

Based on stakeholder feedback to date, the number of dwellings exposed to noise is the major concern for communities surrounding the airport; therefore, daa proposes to select NPRs which minimise the number of dwellings (and other sensitive buildings e.g. schools, hospitals) that are impacted.

Mitigation measures

To address potential noise impact in the delivery of the change in permitted operations, daa is considering additional mitigation which may include insulation measures for dwellings located in 55dB LAeq 8 hours night and 60dB LAeq 16 hours day contours.

How to Make a Submission

Your views are important and we would appreciate your feedback on these and other issues in the feedback form provided.

Feedback forms are available at consultation events and online. You can:

- Fill it out and hand it
 back to a member of
 staff upon completion.
- Or you can email it to us at:
 northrunway@daa.ie
- Or you can complete
 online via our website:
 www.northrunway.ie
- Or, you can post it to this address:
 North Runway
 Consultation,
 RED C Limited.,
 East Point Business

Park, Clontarf, Dublin 3

Next Steps

- Publish feedback from public consultation
- Publish preferred route based on application of selection criteria adopted
- Carry out impact assessment of the proposed change of permitted operations using the chosen NPRs
- Prepare an EIS which will include a suite of mitigation measures to address North Runway environmental impacts
- Use the EIS in the review of the noise situation at Dublin Airport which the IAA (Irish Aviation Authority) will undertake once appointed as the Competent Authority in charge of airport noise management, as per announcement by the Department of Transport, Tourism and Sport dated 22nd September 2016.

Appendix C – Advertisements



Public Information and Consultation Events

daa is currently progressing North Runway at Dublin Airport. The project will facilitate the creation of more than 31,000 new jobs over two decades and will be worth more than €2 billion to the Irish economy. It will also deliver significant economic and employment opportunities for Fingal and neighbouring areas.

daa has also commenced a parallel process to change two planning conditions attached to delivery of North Runway. As part of that process, daa held a series of public consultation events in June and July to help inform a scoping process for an Environmental Impact Statement (EIS). The EIS will assess the impacts of the proposed changes on the environment.

Further information and consultation events are now being planned to provide an update on the EIS and to assist in selecting between emerging options for future flightpaths.

Details of the public events to share information on these issues are as follows:

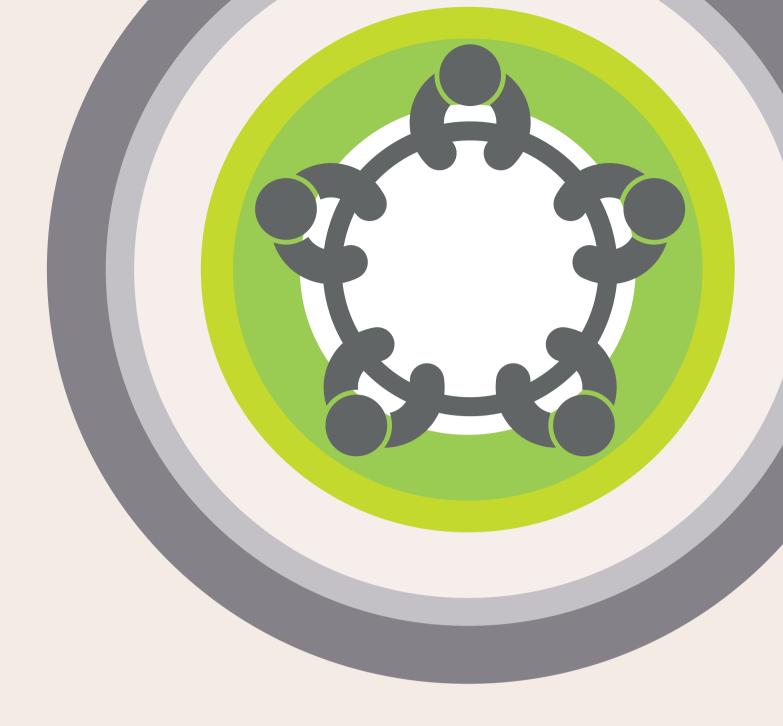
The Grand Hotel. St Margaret's GAA River Valleu Malahide Club. Kilreesk. Community Centre, 3pm - 8pm St Margaret's Swords Mondau 3pm - 8pm 3pm - 8pm 24th October 2016 Tuesdau Wednesdau 25th October 2016 26th October 2016

Details on these events and other elements of the public consultation are available on **www.northrunway.ie**



Appendix D – Poster





Public Information and Consultation Events

daa is currently progressing North Runway at Dublin Airport. The project will facilitate the creation of more than 31,000 new jobs over two decades and will be worth more than €2 billion to the Irish economy. It will also deliver significant economic and employment opportunities for Fingal and neighbouring areas.

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Further information and consultation events are now being planned to provide an update on the EIS and to assist in selecting between emerging options for future flightpaths.

Public events

Details of the public events to share information on these issues are as follows:

The Grand Hotel, Malahide

3pm – 8pm, Monday, 24th October 2016

St Margaret's GAA Club, Kilreesk,

St Margaret's

3pm – 8pm, Tuesday, 25th October 2016

River Valley Community Centre, Swords

3pm – 8pm, Wednesday, 26th October 2016



Appendix E – Leaflet





Public Information and Consultation Events

daa is currently progressing North Runway at Dublin Airport. The project will facilitate the creation of more than 31,000 new jobs over two decades and will be worth more than €2 billion to the Irish economy. It will also deliver significant economic and employment opportunities for Fingal and neighbouring areas.

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Further information and consultation events are now being planned to provide an update on the EIS and to assist in selecting between emerging options for future flightpaths.

Details of the public events to share information on these issues are as follows:

The Grand Hotel, Malahide 3pm – 8pm Monday, 24th October 2016 St Margaret's GAA Club, Kilreesk, St Margaret's 3pm – 8pm Tuesday, 25th October 2016

Centre, Swords
3pm – 8pm
Wednesday, 26th October
2016

River Valley Community



Details on these events and other elements of the public consultation are available on **www.northrunway.ie**



Publication: Swords Fings; Independent

Date: Tuesday, October 75, 2016

Page: 13 Extraot: 1 of 1 Circulation: 2000

Headline: death nost public muetings this week



daa to host public meetings this week

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Publication: North County Leader Date: Tuesday, 29th November 2016

Online

Headline: Closing Date for Runway Feedback Looms

Closing Date For Runway Feedback Looms



Dublin Airport Runway

29TH NOVEMBER 2016



The closing date for sending feedback to daa following the recent second series of public consultations and information events on North Runway is Friday, December 2nd. The consultation events, held in October, provided an update on the Environmental Impact Study (EIS) which will form part of the process to change the permitted operation of North Runway. A spokesperson for daa said, "Two of the conditions attached to the grant of permission would have significantly negative implications for the potential of the airport to operate and grow and to assist in selecting between emerging options for future flight paths."



"It is really important that our local communities, all stakeholders and the general public make their views known and contribute to this element of the consultation process. Feedback should be given via an online survey which can be found on www.dublinairport.com/north-runway.



Publication: Fingal Independent Date: Tuesday, November 29, 2016

Page: 4 Extract: 1 of 1 Circulation: 2600

Author:

Headline: Runway feedback deadline



Runway feedback deadline

RESIDENTS in communities affected by the development of a new runway at Dublin Airport have until next Friday to submit their feedback on the latest round of public consultations hosted by the das on the €320 million project.

A spokesperson for the data told the Fingal Independent: 'We'd like to remind our local communities that the closing date for sending in feedback following the second series of public consultations and information events recently is Friday, December 2.

The consultation events, held in October, provided an update on the EIS which will form part of the process to change the permitted operation of North Runway.

The dan is seeking to overturn two restrictions on night-flying attached to the planning permission for the North Runway while many of its neighbours want to see those restrictions kept in place.

The daa spokesperson said: Two of the conditions attached to the grant of permission would have significant negative implications for the potential of the airport to operate and grow and to assist in selecting between emerging options for fature flight paths. In this regard stakeholders and the general public have an opportunity to contribute to this consultation phase and are invited to provide their feedback via an online survey at www.dublinairport. com/north-runway