**SECTION 131 FORM**

File With _____ S. 3

Appeal NO: ABP 314485

TO: SEO

Defer Re O/H ☐

Having considered the contents of the submission dated/ received 20/12/24

from Baldoyle Bayside Community Council recommend that section 131 of the Planning and Development Act, 2000 ~~be~~/not be invoked at this stage for the following reason(s): no new issues

E.O.: _____ Date: 2/1/25

To EO: _____

Section 131 not to be invoked at this stage. ☐

Section 131 to be invoked – allow 2/4 weeks for reply. ☐

S.E.O.: _____

S.A.O: _____ Date: _____

Date: _____

M _____

Please prepare BP _____ - Section 131 notice enclosing a copy of the attached submission

to: _____

Allow 2/3/4weeks – BP _____

:O: _____ Date: _____

A: _____ Date: _____

S. 37

File With _____

# CORRESPONDENCE FORM

peal No: ABP 314485

ease treat correspondence received on 20/12/24 as follows:

. Update database with new agent for Appli cant/Appellant _____

. Acknowledge with BP 23

. Keep copy of Board's Letter ☐

1. RETURN TO SENDER with BP _____
2. Keep Envelope: ☐
3. Keep Copy of Board's letter ☐

Amendments/Comments

Resp Recd

4. Attach to file

(a) R/S ☐
(b) GIS Processing ☒
(c) Processing ☑
(d) Screening ☐
(e) Inspectorate ☐

RETURN TO EO ☐

| | |
|---|---|
| | Plans Date Stamped ☐<br>Date Stamped Filled in ☐ |
| EO: | AA: F. Mahon |
| Date: 2/1/25 | Date: 2/1/25 |

**Lisa Quinn**

**From:** Admin <ballyboughalcc@gmail.com>
**Sent:** Friday, December 20, 2024 2:44 PM
**To:** Appeals2
**Subject:** Ballyboughal Community Council observations on case #314485
**Attachments:** ABP draft decision observations - Ballyboughal Community Council.pdf; Appendix 1 - WDA230901TN_A_01 Noise Survey and Assessment.pdf



An Bord Pleanála

Case Reference PL06F. 314485: Dublin Airport, Co. Dublin (F20A/0668)

Re: A proposed development comprising the taking of a 'relevant action' only with the meaning of Section 34c of the Planning and Development Act 2000, as amended, which relates to the night-time use of the runway system at Dublin Airport, Dublin Airport, Co.Dublin

To Whom it may concern,

Please find attached our new observations on the above draft decision by ABP including Appendix 1.

Kind regards,

David Walton

Ballyboughal Community Council

086 2608225

Ballyboughal Community Council

C/O David Walton

Crannóg,

Mainscourt,

Ballyboughal

Co. Dublin

20th December 2024

**An Bord Pleanála**

**Case Reference PL06F. 314485: Dublin Airport, Co. Dublin (F20A/0668)**

**Re: A proposed development comprising the taking of a 'relevant action' only with the meaning of Section 34c of the Planning and Development Act 2000, as amended, which relates to the night-time use of the runway system at Dublin Airport, Dublin Airport, Co.Dublin**

To Whom it may concern,

ABP will be aware of Ballyboughal Community Council's observations previously registered in relation to the 'Relevant action' by the DAA and having reviewed your draft decision regarding the above now submit the following observations. These observations concur and align with many the observations of SMTW forum group which, as a representative group of our wider communities in North Dublin and East Meath, we concur with and fully endorse, however where we deem it necessary we have included additional observations.

**Introduction**

Ballyboughal Community Council wishes to make the following observations regarding this development. We welcome ABP's efforts to protect the residential amenity and the health and welfare of residents affected, in particular, by night-time flights. However we also wish to remind ABP that the DAA has not previously respected our complied planning conditions to protect same and has operated very much as a law unto itself where those conditions do not suit their commercial objectives. We refer specifically to breaches of strict night-time flights limits, the passenger cap at Dublin airport, and flightpaths which bear no relation to the flightpaths the original planning was granted on. Given the distress and impact these actions by the DAA Executive has caused to many thousands of residents in North Dublin and East Meath , and the failures of Fingal County Council to effectively monitor and enforce compliance we believe that ABP must insist that any planning conditions granted under this 'relevant action' will have to be independently monitored going forward, either by ABP or another independent and effective body. There seems little point in the current planning process or ABP passing rulings on planning appeals if, as we all know beyond any reasonable doubt, the current system of enforcement and regulatory governance over the DAA has failed and will continue to fail the residents and the protection of the residential amenity miserably. This scandalous situation must be addressed by ABP.

The Inspector's Report has correctly concluded that the adverse impact of the Relevant Action on the surrounding communities would be too severe to justify granting permission. The proposal's projected increase in night-time activity would result in significant additional awakenings, which are well-documented to cause substantial health and well-being consequences, including increased risks of cardiovascular disease, mental health disorders, and sleep-related cognitive impairments. These impacts underscore the urgent need for stringent controls to protect affected communities.

Given these findings, it is essential that any current or future expansion of airport activity during night-time hours be strictly limited by a movement cap of 13,000 annual night-time flights, as proposed. However, the severity of the projected health and environmental impacts suggests that a complete ban on night-time flights may ultimately be necessary to ensure the well-being of affected communities. Night-time operations present unacceptable risks to health and quality of life, and the evidence strongly supports minimising or eliminating such activity to meet public health and sustainability goals.

Without such measures, the application should have been refused outright by the planning authorities, as the adverse impacts clearly outweigh any potential benefits. Therefore, the application must now be rejected to protect the integrity of the planning process, uphold public health standards, and ensure that the needs of the local community are prioritised over operational convenience.

The following expanded summary highlights the inadequacies of the DAA application, the breaches of planning conditions, and the need for a comprehensive approach to managing night-time flights, which includes the retention of the movement cap as an immediate measure and consideration of a full ban on night-time operations to safeguard public health and community welfare.

1. **Breaches of Planning conditions, Flight paths and noise contours**

An essential prerequisite of the measures and conditions to mitigate aviation noise on the human population is that aircraft follow the approved flightpath and altitude limits known as the noise preferential route (NPR). If aircraft vary from the approved NPR, planning noise mitigation measures and conditions will not be effective. NPR control and monitoring is a fundamental pilar of any noise quota scheme, if aircraft do not follow the authorised NPR, noise exposure measurements and statics will not be accurate, and noise abatement objectives will not be achieved.

The An Bord Pleanála inspectors report page 223 states:

"12.6.75. As per my assessment below, and in the interest of clarity, the Board will note that the flight patterns submitted in the applicant's supplementary information and included for the purpose of the proposed scenario of the EIAR, differ to those submitted in the original EIS for the NR application. The Board will note that the flight patterns submitted to the planning authority for the original Relevant Action also differed from those submitted with the original EIS for the NR application. The main difference between the revised EIAR and the amended supplementary EIAR is the divergence north from the NR, earlier than previously indicated in the revised EIAR permitted by the planning authority."

The flightpaths and noise contours presented in the DAA's EIAR supplement (in response to An Bord Pleanála's Request) are materially different from those approved in the application for the North Runway EIS 2004 -2007 Option 7b. and Noise Abatement & Flight Procedures in the North Runway Planning Permission (ABP Ref. No.: PL06F.217429) documentation. See extract below:

"6.2.4 Aircraft of Categories C/D (medium to heavy jets) departing to the west (Runway 28) are required to maintain straight ahead after take-off to 5NM before commencing turn, unless otherwise cleared by ATC above 3000 feet.

6.2.5 Aircraft of Categories C/D (medium to heavy jets) departing to the east (Runway 10) are required to maintain straight ahead after take-off to 5NM before commencing turn (if turning left), and 6NM (if turning right), unless otherwise cleared by ATC above 3000 feet. The disparity here is to ensure that southbound aircraft do not over-fly Howth Head. Northbound aircraft will turn over the sea thereby avoiding the communities of Portmarnock and Malahide."

The unapproved flightpaths currently being used and presented in the DAA EIAR supplement are based on aircraft turning before the 5NM and 3000 feet limits. This has resulted in intolerable noise problems for thousands of residents in North County Dublin who were not included or consulted in the original planning.
Areas such as Ashbourne, Oldtown and Ballyboughal are being overflown by aircraft causing aviation noise in the region of 60 to 80 dBA. These areas were not previously overflow by aircraft until the opening of the North runway and were not included in any insulation scheme. This in breach of condition 6 of Planning Permission (ABP Ref. No.: PL06F.217429).

Ballyboughal Community Council have attached a one-day report undertaken (see Appendix 1 attached) by independent consultants Wave Dynamics last April 2024 which clearly shows that Ballyboughal village and environs is already severely negatively impacted by the current flightpaths relative to the original flightpaths on which planning permission was granted. While primarily relating to daytime flights , as a first step, this proves conclusively that the DAA's existing modelling and noise contours are completely flawed. A full 3-month aircraft noise study has been completed for Ballyboughal in September 2024 which will reconfirm this over a

longer period of data and will be used in subsequent legal actions however there is already strong already enough evidence in this report to show that the noise impacts in previously unaffected areas have been totally underestimated. When the South runway is out of service and these bulk of night-time flights are transferred to the North Runway the impact on the residential amenities will be detrimental and even more intolerable than the day-time flights.

While the DAA have installed a sound monitor in Ballyboughal in the summer of 2024 to suggest they are doing their job, the data from these sound monitors, very conveniently, **has not been analysed** and presented in the context of the original planning application noise contours. From our 1-day report we already know that the entire modelling is flawed for Ballyboughal. A further full 3-month report from an independent noise monitoring station has already been completed June-September in order to provide more comprehensive data for legal actions which will be undertaken by residents of Ballyboughal. Given the absence of any analysis of the DAA Ballyboughal data from the DAA as to the noise contours and the real data we are providing in our attached report, we are requesting that ABP use our data and independent report as a reason for reusing the application, until such time as the DAA provides an analysis of the data at its disposal in relation to its noise contour modelling, and until such time as it has been reviewed and approved as satisfactory by ABP.

In addition, as a result of the intolerable noise being created by the DAA unapproved flightpaths, there has been public protest and complaints to the DAA, Fingal County Council and local TDs. Based on this An Bord Pleanála should consider reiterating the approved flightpath conditions above for the purpose of clarity and to ensure that the noise mitigation measures are effective.

## 2. Unauthorised Flightpaths and Breach of Planning Conditions

As stated in our introduction the DAA have breached previous planning conditions resulting in public protests and enforcement orders from Fingal County Council.

- The DAA has implemented flightpaths that deviate significantly from those approved in the Environmental Impact Statement (EIS). These unauthorised deviations expose previously unaffected areas to significant noise impacts, creating unassessed risks.
- The deviations breach Condition 1 of the planning permission, which requires adherence to the originally assessed flight paths. No updated Environmental Impact Assessment (EIA) or planning application has been submitted for these changes.
- Affected communities have and are experiencing unreasonable noise levels without proper consultation or mitigation measures. Local schools have been impacted. The impact has been devastating for communities with families now feeling like they have no option but to sell their homes.
- The unauthorised flight paths undermine the planning system's integrity, setting a dangerous precedent for future projects. Granting permission under these conditions violates planning laws and obligations under the EIA Directive.
- There are multiple possible means of compliance with the pertinent ICAO regulations. IAA has received and approved only the one chosen by DAA as Aerodrome Operator.
- Any inference or implication that IAA instructed or caused DAA to deviate from the route approved in their planning permission **is not correct**.
- Permission should be unequivocally denied until unauthorised flightpaths cease and comprehensive reassessments are completed.

3. **Inadequacy of DAA Application and Necessity of Movement Limit**
   - **Failure to Address Noise Impacts**:
     - The Dublin Airport Authority (DAA) application fails to assess or mitigate the adverse effects of nighttime noise adequately.
     - Average metrics like % Highly Sleep Disturbed (HSD) and $L_{night}$ fail to capture acute impacts such as awakenings, which have immediate and long-term health consequences.
   - **Health Implications of Nighttime Noise**:
     - Chronic sleep disruption contributes to cardiovascular disease, mental health disorders, and reduced cognitive performance.
     - The WHO highlights that even one additional awakening per night represents a significant adverse health impact, ignored in the DAA's proposals.
   - **Projected Impacts**:
     - The inspector has defined that more than 1 additional awakening per night as a result of aircraft noise is a significant adverse impact.
     - The inspector has concluded "in conjunction with the board's independent acoustic expert that the information contained in the RD and the RA does not adequately demonstrate consideration of all measures necessary to ensure the increase in flights during the nighttime hours would prevent a significant negative impact on the existing population."
   - **Insulation Limitations**:
     - Insulation measures cannot fully mitigate nighttime noise due to factors like open windows, low-frequency noise, and peak noise events.
     - The WHO average insulation value of 21 dB assumes windows are open 20% of the year, making insulation less effective.
     - The introduction of a new insulation criteria of 80dB $L_{ASMax}$ is welcomed, however, without a detailed set of maps indicating who qualifies for this the decision is incomplete.
     - Furthermore, the grant value of €20,000 is considered inadequate to fully insulate those homes that qualify. Comparisons to other EU countries are incomplete and do acknowledge the fact that construction costs in Ireland and particularly Dublin are close to the highest in the EU.
     - It is fundamentally wrong that anybody who is so significantly affected by the negative impacts of noise from the proposed development should have to carry the cost of any mitigation works needed.
     - The scheme should be redesigned to cover the full cost of insulation.
   - **Necessity of the Movement Limit**:
     - The movement cap of 13,000 nighttime flights is critical to reducing noise impacts and protecting public health.
     - Without this cap, noise exposure levels will rise significantly, endangering the well-being of nearby residents.
   - **Conclusion on Permission**:
     - The permission should be denied due to the DAA's insufficient noise mitigation measures and failure to address core public health risks.

4. **Night Flights Operational Hours:**

An Boad Pleanála restricted the quantity of night flights to 56 per night and made a condition that the North runway should not be used between the hours of 11pm and 7am, in order to ensure that there would be no deterioration in noise conditions at night, per the decision on the

planning application by the DAA (Fingal County Council Reg. Ref. No. F04A/1755; ABP Ref. No. PL06F.217429).

There have been numerous news articles on the subject and an RTE Prime Time programme on the noise problems caused by the DAA change to flightpaths and exceeding the 56 flights per night.

Permission is being sought to amend part 3 (d) of the condition only so that it reads (changes highlighted):

*"Runway 10L-28R shall not be used for take-off or landing between* ***0000 hours and 0559*** *hours except in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in air traffic control systems or declared emergencies at other airports or where Runway 10L-28R length is required for a specific aircraft type".*

The net effect of the proposed change, if permitted, would change the normal operating hours of the North Runway from the 07:00 to 23:00 (16 hours/day) to 06:00 to 00:00 (18 hours/day).

In the interest of public health, residential amenity and the proper planning and sustainable development of the area, the operations hours of the North Runway should not be increased from 16 hours / day to 18 hours per day. As it will lead to a deterioration in noise conditions at night and will reduce sleeping hours for residents in the area of the airport from 8 hours to 6 hours.

The DAA have shown that they can meet their passenger numbers and aircraft movements within 16 hours per day so there is no need to extend operating hours to 18 hours per day. The DAA have demonstrated that they can achieve in the region of 97000 passengers per day under the present An Bord Pleanála conditions which is approx. 35M passengers per year.

The movement cap of 13,000 nighttime flights is critical to reducing noise impacts and protecting public health. Without this cap, noise exposure levels will rise significantly, endangering the well-being of nearby residents.

The proposed additional operating hours from 6am to 7am and from 11pm to midnight on the north runway are completely unacceptable. The flightpaths in operation from north runway are causing huge suffering, distress and sleep disturbance for tens of thousands of people in Fingal and Meath.

Adding a further two hours to the schedule when most people are trying to sleep only makes and unreasonable situation even worse. The flightpath issue must be solved firstly before any other changes can be considered. For context, there were 40 departures between 6am and 7am on Monday 16 December 2024. This is the busiest hour of each day at the airport. It would be disastrous if these 40 departures were switched to the North Runway because they would now be taking a divergent turn and flying low (on full power while turning) over communities who should not be under or near to a flightpath. The volume and frequency would be much greater in the summer period.

Approving a change to increase the hours for daytime operation of the North runway will result in increasing capacity and will give the DAA the ability to further exceed their regulatory limit of 32M passengers. This is detrimental to the residents of North County Dublin and puts extra pressure on the services (such as Garda, bus service and road maintenance) while at the same time overloading existing infrastructure (such as Terminals, roads to the Airport and carparks).

Why would any reasonable manager or neighbour do this. This should not be approved before approving an increase to the Dublin airports capacity limit, which is another application within the planning process.

## 5. DAA's failure to record complaints adequately and presenting misleading data to the public and regulatory bodies.

- **Community Impacts and complaints:**

The DAA has implemented flight paths that deviate significantly from those approved in the Environmental Impact Statement (EIS).These unauthorised deviations expose previously unaffected areas to significant noise impacts, creating unassessed risks. The impacts of these deviating flight path have resulted in unprecedented levels of anger, public protests and complaints from residents to TD and local councillor's, which resulted in the passing of a motion by the over 40 councillor chamber of Fingal County Council on the 11th of September 2023 calling for the resignation of the Board of Directors. As far as we are aware this is the first time in the history of this state that a county council chamber (one of the largest in Ireland) has passed such a motion in relation to the board of a semi-state body.

Despite this, the data in the DAA's complaints reports does not seem to have materially changed. This is because the DAA's complaints system is designed to fail had hide the true picture quantitative and qualitative picture. It requires each individual complainant to complain about each individual flight thereby meaning that resident who wish to complain about every single flight overflying their homes every few minutes would need to spend a minimum of 12 hours per day complaining which deters the vast majority of people.

As the controller of the complaints data the DAA has refused to accept a bulk complaint from over 140 members of Ballyboughal community who wish to add a bulk complaint to the DAA's data and complain about every single flight overflying Ballyboughal Village. In Appendix 2 below we have attached correspondence to the DAA (which was also shared with the Dáil Transport Committee) which confirms this. We have also shared this information with ANCA and the Board members of Fingal County Council who are totally disinterested. The email trail shows a blatant disregard for the wishes of the Ballyboughal Community Council to have our complaints heard and registered.

The DAA have ceased to respond to our requests for further information and have offered no avenue of appeal or rational for their logic, particularly given that they have all the data necessary to make a quick monthly assessment of the level of complaints. In effect, from our small village alone, the DAA are hiding an additional 7 million complaints per annum which we are seeking to have registered.

As a result of this dishonesty the vast majority of our community feel completely disregarded by the DAA and the regulatory authorities ,including ANCA and Fingal County Council , who are fully aware of this scandalous behaviour and have done absolutely nothing to ensure our complaints data is captured and presented in the public domain.

As a result of these events "Trust" in the DAA and their agenda has been completely eroded due to a lack of transparency and accountability. It is ludicrous, from our experiences of any other regulated industries such as the Telecoms, Financial Services, Insurance sectors etc., that the body being regulated , in this case the DAA, is responsible for collecting the complaints

data and presenting it. This absurd anomaly as resulted in a complete abuse of its position by the DAA particularly in the way it has managed and spun the public complaints narrative to media and other public bodies.

The DAA is perfectly happy to negate it' responsibilities, and the outcomes and effects of its operations on its community neighbours ( a supposed key stakeholder according to the DAA's annual reports) with facile legal technical arguments stating it is not responsible for determining the flightpaths while, in its original planning application , it was perfectly content to show completely different flightpaths in order to obtain its planning permission. This kind of obfuscation and hiding of the level of complaints from the community is an intolerable abuse of the planning process.

- **Legal and Procedural Concerns**:
  - The unauthorised flight paths undermine the planning system's integrity, setting a dangerous precedent for future projects.
  - Granting permission under these conditions violates planning laws and obligations under the EIA Directive.

- **Conclusion on Permission**:

Permission should be unequivocally denied until unauthorised flight paths cease and comprehensive reassessments of noise contour models are completed, which must include the accurate and independent capturing of complaint data from genuine and reliable sources from which personal affidavits of truth have been offered to the DAA and can be provided to any independent body.

**6. Right of Appeal in the Aircraft Noise Act 2019**

- **Legal Framework**:
  - Section 10 of the Aircraft Noise Act permits appeals of Regulatory Decisions (RDs) by relevant persons who participated in the consultation process.
  - SMTW (St. Margaret's The Ward Residents Group) qualifies as a relevant person under this framework.
- **Inappropriate Refusal of Appeal**:
  - SMTW's appeal against noise-related RDs was inappropriately denied by An Bord Pleanála, despite clear legislative provisions supporting it.
  - Denial of appeal prevents critical scrutiny of noise mitigation measures and exacerbates community disenfranchisement.
- **Importance of Appeals**:
  - Appeals are vital for maintaining transparency, ensuring accountability, and balancing airport operations with community welfare.
- **Conclusion**:
  - Denying appeals undermines public trust and violates the Aircraft Noise Act's intent to provide affected parties a voice.

**7. Noise Quota System:**

The DAA in conjunction with ANCA are planning to amend operating conditions per the DAA planning application (F20A/0668) to allow night flights while introducing a new noise quota system based on average noise levels without a cap on the number of flights (movements) per night.

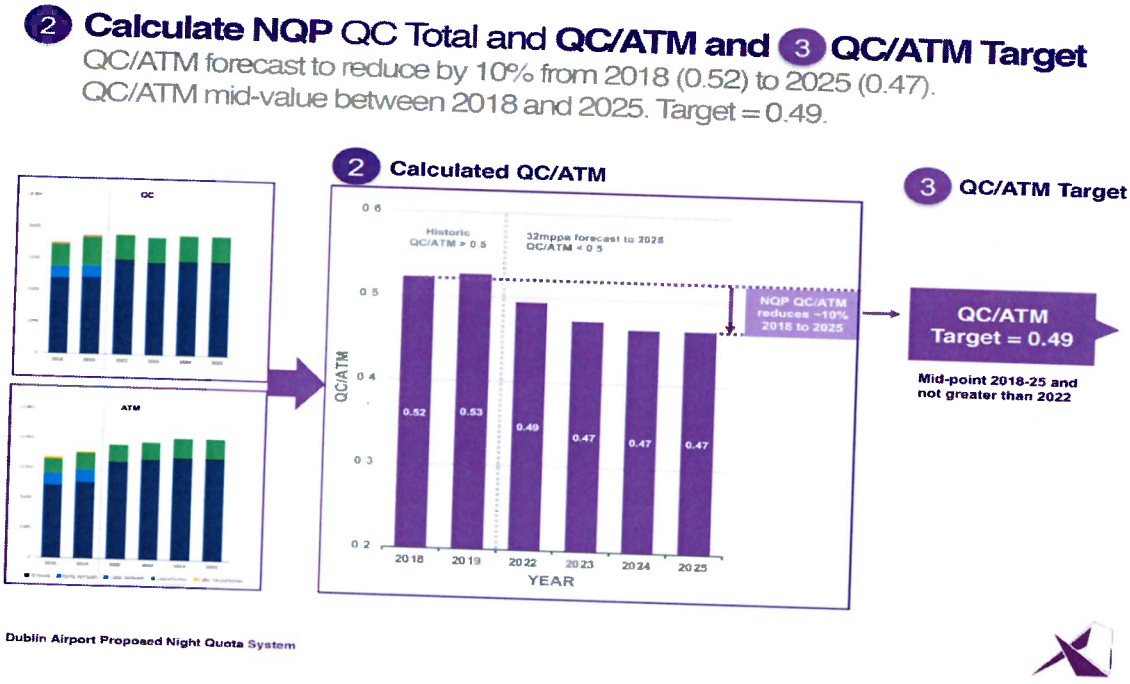
They propose a noise quota annual limit of 16,260, which can result in a very large number of flights on any given night.

The An Bord Pleanála inspectors report page 19 states:

1.10.4. The applicant's breakdown of the NQS includes an estimation of the ratio of quota count to aircraft movements (QC/ATM). The initial proposed annual night quota for the 6.5hr night quota period (i.e. 7,990) derived a mid-value QC/ATM between 2018 and 2025 of 0.49 per aircraft movement. The updated annual night quota for the 8hr night quota period (i.e. 16,260) for the same time is 0.51. The Board's noise expert has equated the QC budget of 16,260 over the annual 365-day period as c. 87 aircraft movements per night. Under this quota scenario, I have calculated, there is a potential for 31,755-night flights.

Normal practice at major European hub airports is to have a limit on flights (movements) per annum or per night.
An Bord Pleanála recognised this and correctly proposes a limit of 13,000 aircraft movements between 11pm and 6:59am, with 3,900 of those in the winter and 9,100 in the summer, along with the noise quota limit of 16260.

The noise quota limit of 16260 is problematic and needs to be reduced to be in the region of 7990 as originally suggested by the DAA to achieve a ratio of quota count to aircraft movement of .49 per the extract below from the DAA proposal for a noise quota system.




In the UK they have a similar limit of night flights and a similar noise quota process but with a noise quota limit which is lower than night flights limit. This is an important feature of the quota process to ensure that the noise level over time is driven downwards.

Proposed structure of the regime is set out in table 1 below from the UK site: Night flight restrictions: Heathrow, Gatwick and Stansted airports from October 2025 - GOV.UK (www.gov.uk)

**Table 1 – proposed structure of the night flight regime, October 2025 to 2028**

| Airport | Seasonal Period | Movement Limit | Noise Quota Limit |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Heathrow | Winter | 2,550 | 2,415 |
| | Summer | 3,250 | 2,735 |
| Gatwick | Winter | 3,250 | 1,785 |
| | Summer | 11,200 | 5,150 |
| Stansted | Winter | 5,600 | 3,310 |
| | Summer | 8,100 | 4,650 |

As you can see from the above the UK airports have similar allowed movements per night to Dublin but a noise quota limit of at least half that being proposed by ABP in its draft decision.

When ANCA and the DAA initially proposed using the noise quota system, they based it on a passenger Cap 32M passengers and a noise quota count of 7990 which is closer to the London noise quota count numbers above and much less than the 16260 being proposed now. Base on the above we request that you use the 7990 as the noise quota count limit.

**8.Night Flight Restrictions in Europe and Implications for Dublin**

Major airports like Schiphol, Heathrow, and Frankfurt enforce strict caps or curfews on nighttime flights. Dublin's proposed 31,755 annual nighttime flights far exceed these airports' limits relative to passenger numbers.

European airports prioritize reducing noise exposure to mitigate sleep disruption, cardiovascular risks, and stress.

Adopting the 13,000-flight cap aligns Dublin with international best practices, ensuring proportional and sustainable operations. Without the movement limit the Noise Abatement Objective (NAO) set by ANCA for Dublin Airport cannot be fully achieved.

**9.Health and Environmental Impacts**

Chronic exposure to nighttime aircraft noise increases the risks of cardiovascular disease, hypertension, and mental health issues. This writer has been prescribed anti-depressants since November 2022 to help cope with the impact of aircraft overflying our home and garden from since August 2022. Children's cognitive development is adversely affected, impairing memory, learning, and overall performance.

Health-related costs, including healthcare expenses and reduced productivity, are substantial and long-term. For example, Brussels Airport's health cost analysis suggests similar impacts at Dublin could reach €750m annually.

The DAA analysis has not used the correct population datasets in determining the impacts. This underestimates the impact on the communities around the airport. Furthermore in its economic arguments about the impact on jobs and industrial activity it has never included the revenues leaving the country to be spent on holidays abroad, the loss of revenue to the state from zero VAT on airline tickets or zero excise duty on aviation fuel. Their constant scaremongering about how the economy will collapse is completely flawed from any sensible economic modelling, none of which has been undertaken by the Central Bank or independent bodies like the OECD. The consultant that compiled the DAA's "independent report" on the contribution of the DAA to the

Irish Economy was written by a paid travel industry consultant and lobbying specialist call InterVISTAS, based in Vancouver, Canada. Nor at any point has the DAA highlighted the fact that only 11% of airline tickets are business related transport, implying that 89% of outward flights are supporting personal holidays with a substantial loss of revenues to businesses and the state (though VAT and tax receipts) which as least some significant proportion would offset the inbound revenues from tourism if a greater proportion of people holidayed in Ireland.

While this writer is not suggesting that Irish people, given our climate, would not be entitled to a holiday (or two abroad per year) I am suggesting that the extent and excessive number of short weekend travel and trips, which we are addicted to and are fuelled by absurdly low and heavily subsidised pricing, is not sustainable in the current global climate crisis. The potential benefits to Irish businesses and the state from more people holidaying in Ireland have also been totally ignored in all the economic modelling.

So, in addition to the totally flawed and facile economic arguments being put forward by the airline industry, evidence from health agencies tells us that noise-induced sleep disturbance (in addition to day-time disturbance) is a significant environmental health risk. Ignoring these risks and using economic arguments which ignore the revenue outflows resulting from excessive and unnecessary outbound holiday travel (e.g. weekend golf trips to Faro and stag parties in Amsterdam) from Ireland contravenes the principles of public health protection and of sustainable development in a time of global climate crisis.

This model, where inbound and outbound tourism at all costs is our nirvana, has to change, and the time is now. Airline prices will have to reflect the damage they are doing to the climate and charges put in place to help pay for offsetting the catastrophic impact on the environment and the health impacts native residents on the ground 365 days a year from what , in the cold light of day, is a dirty industry.

And why should the residents of Fingal and East Meath have to take the impact of 85% of all flights into and out of this island when this could be shared in a much more equitable way by forcing the airlines to spread their traffic across the other regional airports like Cork, Shannon, Knock, Waterford , and Belfast are available? If the load was spread more evenly it would reduce the carbon footprint the millions of people travelling long distances to Dublin Airport every day by car from these regions. It is against stated government policy towards balanced regional development and makes no sense economically or environmentally to further support such an unbalanced regional policy and attempt to turn Dublin Airport into an international hub for which, with a surrounding conurbation population of 400,000 residents, it is so patently unsuited. Dublin Airport is not a Dubai where you can fly in over the Gulf and out over the desert. It holds close to 10% of the national population.

Any changes which make the current bad situation worse for those residents should be refused until all flightpaths comply with planning conditions, the health impacts on the ground for residents are fully understood and addressed by the DAA , and a clearly designed and proper and regionally balanced strategy is in place for the noise and air pollution load to be shared pro-rata to population across the regions by all airports within the state.

## 10. Insulation Limitations:

Insulation measures cannot fully mitigate nighttime noise due to factors like open windows, low-frequency noise, and peak noise events. The WHO average insulation value of 21 dB assumes windows are open 20% of the year, making insulation less effective.

The introduction of a new insulation criteria of 80dB $L_{ASMax}$ is welcomed, however, without a detailed set of maps indicating who qualifies for this the decision is incomplete.

The proposed grant value of €20,000 is considered inadequate to fully insulate those homes that qualify. Comparisons to other EU countries are incomplete and do acknowledge the fact that construction costs in Ireland and particularly Dublin are close to the highest in the EU. The scheme should be redesigned to cover the full cost of insulation.

Residential Noise Insulation Scheme (RNIS) and Home Sound Insulation Program (HSIP) do not meet modern health protection standards. Insulation is unsuitable for nighttime impacts and cannot substitute for operational restrictions like movement caps.

Eligibility to the insulation scheme shall be **reviewed every 2 years commencing in 2027** with residential dwellings situated in the 55 dB Lnight contour being eligible under the scheme. A period of 2 years is unreasonable for residents affected by noise levels and with the amount of new housing being planned by the Government.

The DAA have not conducted an insulation programme to affected residents along the unapproved flightpath over Ballyboughal and have just recently introduce noise monitoring there. Without having reviewed the results of the current noise monitoring, the DAA cannot confirm that they have adequate noise mitigations measures in place for residents.

## 11. Other Environmental Impacts

- **Use of Outdated Surveys:**
  - The Appropriate Assessment (AA) relied on outdated ecological surveys that do not accurately reflect current environmental conditions.
  - Failure to update surveys undermines the validity of the assessment and risks overlooking critical impacts on local habitats and species.
- **No AA on Full North Runway Development:**
  - The AA did not assess the full scope of the North Runway development, focusing only on limited aspects of the proposal.
  - Significant components of the development were excluded, leaving major potential impacts unexamined.
- **No Cumulative or In-Combination Assessment:**
  - The AA failed to consider cumulative impacts arising from the interaction of the North Runway with other existing and planned projects in the vicinity.
  - The absence of an in-combination assessment violates key legal requirements and risks underestimating the overall environmental impact of the development.
- **Non-Compliance with Legal and Regulatory Standards:**
  - The failure to provide an accurate, comprehensive, and up-to-date AA breaches obligations under the EU Habitats Directive.
  - The planning process has been compromised by this omission, exposing the development to potential legal challenges.

- **Potential Environmental Risks:**
  - The lack of thorough assessment could lead to significant unmitigated impacts on protected habitats and species, including cumulative degradation of local ecosystems.

**12. Corporate Governance at the DAA**

While the corporate governance of a planning applicant may not typically seem relevant , in the context of explaining the failures of the DAA to properly comply with planning, adequately capture and report on complaints, and to be transparent with affected communities and the regulatory bodies it answers to , we believe it is critically important. In this regard please note the following facts in the public domain:

- Last June the CEO of the DAA, Mr Kenny Jacobs, admitted to the Dáil Public Transport Committee on public record, that he not only held shares in Ryanair but that he held shares in no less than 11 other airlines. Furthermore Mr Jacobs did not consider that this was a conflict of interest. To view his statement click on https://www.linkedin.com/posts/davidwalton1_dublinairport-aviation-corporateethics-activity-7244358053368594433-
- The following day, the man responsible for Corporate Governance, as Chairman of the DAA, Mr Basil Geoghegan, briefed media and defended Mr Jacobs for the fact that he had declared these shareholdings. However surely Mr Geoghegan knows that the bar is far higher for holders of Public Office and Officers of semi-state bodies the CEO of the DAA, a state-run company which is vending landing slots to airlines. Declaring a conflict of interest is not sufficient unless that person absents or recuses himself from involvement in decisions which will impact his personal interests, and in this case, where he can benefit his wealth financially at a personal level from favourable movement in the profitability of airlines which will enhance shareholder wealth.
- This writer (and other people that we are aware of), have made a complaint to Standards in Public Office body (SIPO) based on the information put into the public domain and has asked for the matter to be investigated as well as establishing whether other members of the DAA board also have shares in airlines operating out of Dublin Airport. My complaint has been acknowledged by SIPO and they have recently advised on the 22nd of October that " your complaint will be considered by the members of the Commission at an upcoming meeting."
- There is no evidence to suggest that Mr Jacobs has recused himself in any way from commercial decisions regarding the airlines, of which he is a shareholder. In fact, on the contrary, Mr Jacobs has been publicly vocal in calling for ABP to speed up their processes and do his bidding when it comes to their planning applications and raising the passenger cap. It is also noticeable that Michael O' Leary ,the Group CEO of Ryanair (and Mr Jacobs former employer), has been equally publicly vocal in calling for the passenger cap to be removed and for the Government to bypass the planning process. It also explains why Mr Jacobs has refused to meet with SMTW Forum Group and other groups like Ballyboughal Community Council, and why the DAA continues to play down the impact of aircraft on their community neighbours, as declared stakeholders (in DAA Annual reports) in the operations of the DAA.
- Regardless of the final outcome of the complaints made to SIPO on this matter it must be quite clear to any objective observer that the CEO of the DAA is

hopelessly compromised, this explains completely his biased approach towards facilitating the demands and profits of the airlines at the expense of the local community, while enhancing his own personal shareholding wealth in the airlines, Separate to the obvious conflict of interest itself, the fact that Mr Jacob's did not dispose of his shares immediately on taking up his role as CEO of the DAA confirms that the Chairman of the DAA condones this behaviour. Such tolerance of these questionable standards by the man responsible for corporate governance at the DAA must raise serious questions about the management culture prevailing at the entire board of the DAA, particularly for their sole shareholder, the Irish State, via the Department of Transport. Does the Department of transport think it is acceptable for a state body like the DAA vending landing slots to airlines to have shares in the businesses that the state is vending to? I have asked the Department of Transport this question and so far have not received a straight answer.

- Certainly, from the stakeholder perspective of the communities neighbouring the airport , it would seem impossible that the DAA CEO could represent those interests and lead his organisation in an impartial fashion when he is an airline shareholder.

While we look forward to the outcome of SIPO's deliberations which could be quite a legal Pandora's box for the DAA, we do not believe that it is necessary for an investigation to conclude what the facts in the public domain tell us. The DAA's behaviour since the opening of the North Runway in August 2022, and our experience of their behaviour as their neighbours (albeit 10km away), continually tells us that the DAA believes itself above the planning laws and to be without any moral compass in their efforts to grow their profits, and the already substantial profits of the airlines operating out of Dublin. It is based on a culture of commercial greed, combined with a fair degree of incompetence, with total indifference and lip-service to the impact of their operations on the residential amenity and the health and well-being of its neighbours. In our opinion, it is therefore essential that ABP strongly counterbalances this DAA culture and brings them to heel in the interests of protecting the integrity of the planning process and the neighbouring residents of North Dublin and East Meath.

Ballyboughal community Council

Yours sincerely,

David Walton
Ballyboughal Community Council

Spokesperson for Aircraft Noise Pollution

ballyboughalcc@gmail.com

Mobile: 086 2608225

**Appendix 2 - Email Correspondence from Ballyboughal CC with DAA and Transport Committee**

***From:*** *Admin <ballyboughalcc@gmail.com>*
***Date:*** *18 October 2024 at 5:58:47 p.m. IST*
***To:*** *Alan Farrell <Alan.Farrell@oireachtas.ie>, gerry.horkan@oireachtas.ie, cathal.crowe@oireachtas.ie, joe.carey@oireachtas.ie, Darren ORourke <darren.orourke@oireachtas.ie>, martin.kenny@oireachtas.ie, steven.matthews@oireachtas.ie, Duncan Smith <duncan.smith@oireachtas.ie>, gerard.craughwell@oireachtas.ie, timmy.dooley@oireachtas.ie, michael.lowry@oireachtas.ie, MOSC-Transport@corr.cloud.gov.ie, Darragh O'Brien <Darragh.OBrien@oireachtas.ie>, taoiseach@taoiseach.gov, simon.harris@oireachtas.ie, michael.martin@oireachtas.ie, eamon.ryan@oir.ie, james.lawless@oireachtas.ie*
***Cc:*** *ethna.felten@fingal.ie, Angela Flynn <Angela.Flynn@daa.ie>, Kenny jacobs <kennyj.jacobs@daa.ie>, Aircraft Noise CA <AircraftNoiseCA@fingal.ie>, paul.carroll@fingal.ie, annmarie.farrelly@fingal.ie, maryt.daly@fingal.ie, Mary.Egan@fingal.ie, oliver.hunt@fingal.ie, fionnuala.may@fingal.ie, matthew.mcaleese@fingal.ie, helen.oneill@fingal.ie, john.quinlivan@fingal.ie, david.storey@fingal.ie*
***Subject: Re: Noise Complaints at Dublin Airport - Permanent Complaint from Ballyboughal Community Council and 140 residents***

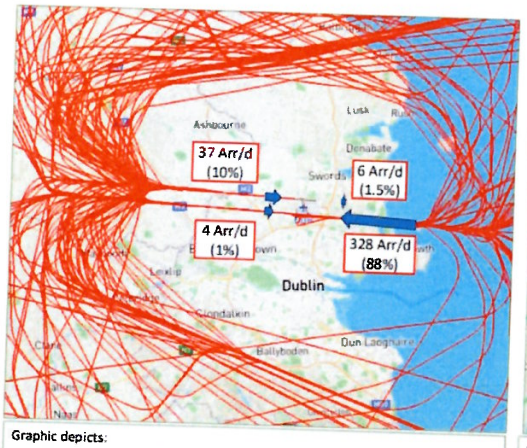
*Dear Transport Committee and Oireachtas Members,*

*It is notable that it is nearly 3 months since my last email below to the DAA from Ballyboughal Community Council to which we have received zero response. It seems the DAA has no interest in engaging further with us or in accepting our bulk complaints request despite the promise of an affidavit from each of the 140 affected residents stating their desire to complain about each individual flight overflying Ballyboughal village, which would add at least an additional 600,000 complaints to the DAA's monthly figures . To put that in context that figure is an adjustment of 1000 x times the current total level of all monthly complaints to the DAA.*

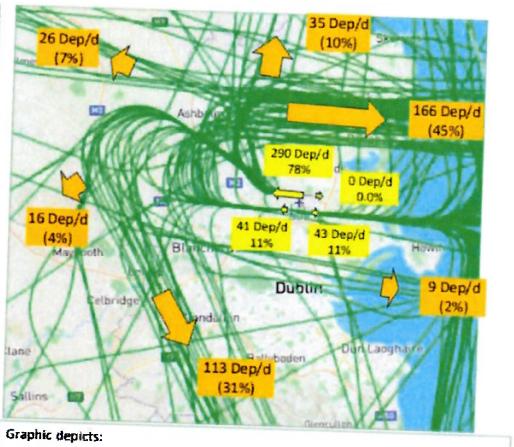
*Despite this, the DAA, in its latest noise report for the month of June 2024 (attached), showed just 200 complaints from the Ballyboughal area in the below charts, and only 6203 total complaints for June .*


*In this monthly report the DAA takes great delight in highlighting 5 individual complainants responsible for 58% of all complaints. These unfortunate individuals would, on average, had to have spent, based on a minimum of 5 minutes per complaint for each flight, over 60 hours each per month (300 hours in total), or 15 hours a week complaining about each individual flight to the DAA to reach even this meagre volume. That means the equivalent of two full working-days every week for each person to accurately complain to the DAA each month. This is precisely why we requested formally for our complaints from Ballyboughal to be taken in bulk for each flight overflying our village. Anything less than this is an acceptance of a completely flawed complaints system which is designed by the DAA to hide the true facts.*

*Based on the report itself, the DAA knows the exact number of flights over Ballyboughal - a minimum average of at least166 flights per day in June according to the DAA's own report and shown by the thick green line in the report's diagrams below.*




Graphic depicts:
- Average arrival movements per day (d) on each main runway
- % arrivals on each main runway June 2024
- Note example flight track selection used




Graphic depicts:
- Average departure movements per day on each main runway (yellow boxes)
- % departures on each main runway June 2024 (yellow boxes)
- Average departures per day on each main track swathe (orange boxes)
- Note: example flight track selection used

*It would be a simple exercise for the DAA to multiply the number of daily flights each month (over 5000) by the number of signed affidavits (140) we would provide. Yet, there is no mention of our request in their report.*

*Why does the DAA persist in ignoring our complaints and continue to publish this totally misleading and inaccurate data, not just for Ballyboughal, but for other much larger communities across North Dublin ?*

*In doing so are they not grossly misleading you as our public representatives and political leaders, the media, and the general public as to the true extent of the problem?*

*As per my unanswered question in the email below, has the Board of the DAA formally rejected our request for a bulk complaint with affidavits to be accepted from the listed residents of Ballyboughal?*

*Why would they not accept signed affidavits when the data is easily available each month by a simple calculation?*

*And if they do not accept and record our complaints, are the DAA board not in breach of their duties as Directors to engage fully with their neighbours whom, in the DAA's own annual report the states are critically important "stakeholders" in the airport's operations?*

*Indeed, do they not have a duty to report these complaints from stakeholders to its one shareholder, The Irish Government?*

*Why is the complaints data so unrepresentative of the many thousands of people who are well-known to be affected and outraged by continual and systematic breaches in planning conditions by the DAA? And why has the DAA not answered my questions as to who or what body reviewed their complaints system in 2023 and whether this was done by an independent body or not?*

*We believe that, in the public interest, these are questions your committee should ask the CEO of the DAA , Jenny Jacobs, when he next appears in front of your committee, if he is not too busy counting the personal wealth he has generated from his self-declared shares in 12 airlines, presumably most of which, are operating out of Dublin Airport.*

*You might also ask the Chairman of the DAA , Mr Basil Geoghegan, to attend your next committee meeting with the DAA and you could then ask him directly, in his capacity as the Chairman of DAA and responsible for corporate governance and managing conflicts of interest within the DAA board, if he is aware of any other DAA board members (including himself) who have shares in airlines operating out of Dublin Airport? And for those executives like Mr Jacobs, the CEO of the DAA, who have declared their shares, and therefore their conflicts of interest, what steps has he taken to ensure that those executives recuse themselves from important commercial decisions at Dublin Airport (a state asset) involving airlines in which they have a personal and material financial interest in?*

*I respectfully suggest that if you follow through on these questions you will find some of the real reasons why the DAA is completely distorting its complaints data and refuses to accept our complaints.*

*For those who may have forgotten Mr Jacob's statement to your committee last time he visited you in June I have attached a video clip of his statement regarding his ownership shares in 12 airlines which, via some strange self-serving logic, he did not at all see as a conflict of interest.*

*Of course, I accept it's possible that you will all be going to the polls before you next have the opportunity to question members of the DAA board, in which case the ramifications of political and government inaction on such matters may well be acutely felt in North Dublin and East Meath....*

*Yours sincerely,*

*David Walton*

*Spokesperson on Aircraft Noise Pollution*

*Ballyboughal Community Council*

*Mobile: 086 2608225*

*On Tue, Jul 30, 2024 at 12:02 PM Admin <ballyboughalcc@gmail.com> wrote:*

*Kenny Jacobs, CEO of DAA, in direct copy*

*Dear Ms Flynn,*

*Thank you for your incomplete, offensive and patronising response which confirms to Ballyboughal Community Council that the DAA has no interest in engaging constructively with its neighbours and adding our complaints to your data. In choosing to dismiss and ignore the content of our complaints you are making "Community Engagement" a misnomer in your job title. It is quite clear that by your refusal to enter our very reasonable complaints request into your complaints data that you are simply continuing to deliberately mislead the regulatory authorities, government, public and media that 85% of complaints are from one person. It is entirely unacceptable that a semi-state body can act entirely unilaterally and in a such a misleading manner.*

*Firstly, let me deal with some of the untruths contained in your email:*

***"Over 28 European airports and an additional 45+ airports around the world use Envirosuite systems including Heathrow and Gatwick."***

*Fortunately for those neighbouring the areas of these airports the airport authorities in these countries stick to their planning permissions. There is no UK or European precedence for an airport authority such as the DAA that repeatedly and deliberately breaches its planning permission (e.g. nighttime flights, airport passenger caps) and uses flight paths which are many miles off their planning permission, resulting in flights overflying populated village and towns and miles off track and which are at half the altitude allowed in their planning permission. In this context your system is woefully inadequate to capture the real impact and complaints data from affected residents and your comparison, in the context of your ridiculously errant flight paths which other governments would not tolerate, does not remotely stack up.*

***"We have invested heavily in this system to ensure we have a fit for purpose noise complaints system."***

*This is simply not true. You may have wasted a lot of taxpayer's money on this system but any complaints system which requires an individual to spend at least 12 hours a day to complain about each individual flight over their home to adequately have the extent of their anger and dismay recorded and quantified* ***is not fit for purpose****. That is the very reason we are demanding that you accept our complaints in bulk. Your PR people take great delight in pointing out that one individual is responsible for 85% of complaints on your current system, yet you refuse to accept the bulk complaint of 140 people and households in one small village affected who wish to lodge an even greater number of complaints.*

***"Complaints received are monitored for trends which in turn can be used to inform our noise management priorities."***

*If your complaints system is inadequate to deal with the scale of the current problem, which it is, your management can have no grasp of the issues on which to inform their management priorities. It is clear to us that by refusing to accept our complaints the DAA has no interest in understanding the noise impact of aircraft over the villages of Ballyboughal and Oldtown and is simply selectively choosing the complaints data from an inaccurate system to suit its predetermined management priorities i.e. don't accept any complaints data which might suggest there is a real problem affecting the health and well-being of thousands of people over areas in North Fingal and East Meath.*

***"Your request is for us is to log over seven million complaints based on one email from one person containing minimal information. Having made enquiries we are aware of no other airport that accepts complaints in this manner."***

*This is a complete distortion of the facts and deeply insulting. Let me remind you, in case you did read my previous email and the attachments therein, that we have previously provided you with names, addresses and contact details (email or phone or both) for each of the 140 people who requested that we complain on their behalf. This is hardly minimal information and could be easily validated by the DAA given the seriousness and volume of the complaints . Not only have you insulted me but you have disparaged the entire board of management of Ballyboughal Community Council of which I am a former Chairman and their current spokesperson on Aircraft Noise Pollution. The entire Board of Management of our community council has approved this action. Neither I, nor the Board of Management, have an agenda to make up such names or their complaints for the good of our health. We would rather not have to undertake this painful and time-consuming exercise but have little choice given the failings of your system. I suggest you read the survey data summary which I have attached in full. It makes interesting reading as it exposes the blatant untruths your organisation is propagating.*

*To further clarify, these names and this data were derived from a text survey from BallyBoughal Community Council containing a Survey Monkey link to our questionnaire during late November*

*and December 2023 in which the residents of Ballyboughal and Oldtown were asked over 20 questions about the impact of aircraft noise on our community , including Q.23 asking if they wished us to complain on their behalf . I have all the raw data and a unique IP address for each person who responded. As you will see, out of 172 respondents to that question 85% (147 people) said "yes" , they wanted us to complain on their behalf with just 7 of those not providing their name and contact details so were not included in the list of names and addresses I provided you originally.*

*Questions 16-20 provide revealing data about your not so wonderful complaints system:*

*Of those who have complained to the DAA:*

*75% said the complaints system was not easy to use.*

*64% said they got no response from the DAA*

*and of those that got a response 91% said the response was unsatisfactory.*

*In addition to the concerns expressed around our health and well-being , there are many other revealing responses in the survey which you should read before disparaging our mandate including the facts that:*

*83% of respondents believe that the DAA is not a good neighbour*

*86% believe that the DAA has not engaged meaningfully with our community around aircraft noise*

*85% do not trust the DAA .*

*I have also added an attachment from the survey showing the original comments to accompany each response. You should read them before telling us that you cannot accept an email from an "individual", which could not be further from the truth. Ballyboughal Community Council clearly has a mandate to represent and protect the interests of our community which we have diligently and scientifically researched . If you continue to ignore us you are making an even bigger mockery of your complaints system than it already is. We demand that you accept our complaints in bulk.*

***"You have also alleged that the noise complaints system has not been functioning properly for a number of weeks. It would be appreciated if you could provide details to support this view and attach any relevant screenshots so that we can adequately pinpoint the issues you are referring to and investigate them appropriately".***

*We are not alleging anything - these are facts which you are fully aware of. We are fully aware through our association with the FORUM Group that for the first 2 weeks of June that your Webtrak system was not functioning properly. It took several attempts to get a log on and most people gave up. Your phone complaints system was not working either. I have seen correspondence sent to you on this matter by Mr Bart Glover at the time as well as*

*correspondence from Mr William Dempsey complaining to ANCA about the same problems, to no avail . I gave up using your system in 2023 when I realised how self-serving and useless it was but I do not understand why you would wish to feign a lack of knowledge on these failures when I know you personally have received numerous complaints from many residents on this very subject. It would be better for all concerned if you were a little more forthright and honest in acknowledging that you had continuous issues with your complaints system over the period I referred to, unless of course you and the DAA have an ulterior motive and are deliberately seeking to mislead the public and artificially reduce the number of complaints. Rather than throw the onus back on us and seek screen shots (as if anyone could be bothered!) could you please share the number of complaints you received about your complaints system during the first 2 weeks of June?*

***Finally, the Code of Practice to which you refer, deals with complaints from customers about quality of service at our airports - daa has a Passenger Charter to comply with same.***

*You may well be right on this but it also seems that there is no precedent for the services of a semi-state body directly impacting its neighbours so badly. Perhaps the original authors of the Code of Practice for semi-state bodies could not envisage a scenario where planning permissions would be repeatedly broken impacting over 30,000 neighbours and residents further afield in such a detrimental way. Nor could they envisage a complaint system which was designed to fail. In the absence of any system or charter in this scenario which is being enforced one would have thought that the DAA would at least abide by the spirit in the principals of the Code of Practice for Semi-State bodies as applied to complaints to its customers on the quality of service in its airports in a similar fashion to complaints about the impact of its services on the residents living in the 10km vicinity of the airport. Once again it seems as if the DAA is making up the rules to suit its own agenda, without any appeal process, and continues to ignore the prominent "stakeholder" status it purportedly states to give neighbours and the residents of Fingal in its annual report.*

*Finally, I have the following questions for you and the DAA. I have cc'd your CEO, Kenny Jacobs, so that he cannot feign a lack of knowledge on these questions at future transport committee appearances.*

*1. Given I can provide the raw data and IP addresses from our survey for each of the 140 complainants previously provided to you for which we wish to lodge a bulk complaint, and the survey responses as per Survey Monkey, in the sample format below will you now accept our complaints in bulk?*

| Respondent ID | Collector ID | Start Date | End Date | IP Address | Email Address | First Name | Last Name | Custom Data 1 | Have you noticed any significant increase in aircraft noise since our survey last year and following the opening of the North Runway? | If Yes, how much increase in aircraft noise have you noticed? | Where did you notice this increase in noise? | How would you rate this increase in terms of aircraft noise to your/family and the quality of life and environment in your home? | If you have noticed either a Significant or Major impact please rate out of 10 (10 being the highest negative impact and 0 the lowest negative impact) the levels of how the aircraft noise you have experienced is impacting you and your family members in the following areas: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Response | Response | Response | Response | Sleep disturbance | General Health and well-being | Stress and anxiety levels | Concentration levels at work or other areas |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11847903 1580 | 453989 041 | 2023-11-27 10:58:16 | 2023-11-27 11:07:09 | 51.37.155.102 | | | | | Yes | Very Large Increase | Both | Major impact | | | | |

*2. If not, what additional data and paperwork do you require from Ballyboughal Community Council to be posted to you to accept our bulk complaint? (I note that you do state in your Policy document that complaints can be accepted by Post). For example, would a signed affidavit from each complainant in Ballyboughal stating that they wish to complain about every flight over Ballyboughal with their name , address and contact details suffice?*

*(Given the current noise levels over Ballyboughal it would be relatively easy for us to do a door-to-door call with such an affidavit and get these signed , in which case I would expect the numbers involved to a least double from the current 140)*

*3. If this is not sufficient for you to accept our complaint, can you please confirm that our request and suggestion in point 2 above, has been put to the Board of Directors of the DAA and has been rejected. Given the seriousness of our request, we do not accept that such a serious complaint from so many residents can be dismissed out of hand , without appeal, by a DAA executive who is not a member of the board. Please confirm whether the DAA board has been made aware of our request and if they consider it reasonable that each complainant has to complain for at least 12 hours a day to have the extent of our complaints registered?*

*4. In my last email I asked you if you had the data for the number of flights over Ballyboughal which you conveniently ignored - are you saying that you don't have this data easily to hand? Please answer yes or no?*

*5. If you do have the data to hand (which would be concerning if you did not) is it still too difficult for you to multiply the number of flights overflying Ballyboughal by 140 people on a monthly basis and add it to your complaints data?*

*6. You state that "The noise complaint process and system underwent a full review in 2023 and will be continued to be reviewed for functionality and user experience."*

*Can you please advise what date this review took place in 2023 and who or what committee undertook this review? Was this done independently by an external body (vetted for any conflict of interest) or internally by the DAA? And will you also confirm that you will share the December 2023 findings of our survey and our request for a bulk complaint methodology with whoever undertook the previous review?*

*My questions are straightforward and reasonable, please respond directly to each.*

*Yours sincerely,*

*David Walton*

*Spokesperson for Aircraft Noise Pollution*

*Ballyboughal Community Council*

*086 2608225*

*On Fri, Jul 12, 2024 at 1:25 PM Angela Flynn <Angela.Flynn@daa.ie> wrote:*

*Dear Mr. Walton,*

*Thank you for your response.*

*For context, Dublin Airport operates a Noise and Flight Track Monitoring System, known as ANOMS (Airport Noise Operations Management System). The system is extensive in that it incorporates data from Dublin Airport's Noise Monitoring Network, radar data from aircraft movements and it also tracks noise complaints received through the formal complaints channels. This system and the airport's WebTrak systems have been developed by Envirosuite. Over 28 European airports and an additional 45+ airports around the world use Envirosuite systems including Heathrow and Gatwick. We have invested heavily in this system to ensure we have a fit for purpose noise complaints system.*

*Complaints received are monitored for trends which in turn can be used to inform our noise management priorities. For example, if there is poor adherence to a Noise Preferential Route, we can conduct further investigations by following up with AirNav Ireland and/or the relevant airlines. It is important to note that the noise complaints process is just one element of monitoring conducted by the airport. We record all flight track and aircraft movements and match them against aircraft noise events for the purpose of, amongst other things, ensuring our noise contours are accurate. This is completed regardless of whether we have received a complaint from a member of the public or not.*

*Dublin Airport has a published Procedure Policy for Handling Aircraft Noise Complaints. As stated previously, there are four ways in which a member of the public can lodge a complaint including online, phone and by post. The system is not designed to accept "bulk complaints" for example, an email requesting that all departing flight are logged as a complaint. Your request is for us is to log over seven million complaints based on one email from one person containing minimal information. Having made enquiries we are aware of no other airport that accepts complaints in this manner. Maintaining a structure on the channels used to lodge a complaint is critical to ensuring a functioning system which can adequately track trends, investigate and respond in a timely fashion to complaints lodged and therefore it is not possible to accede to your request. The noise complaint process and system underwent a full review in 2023 and will be continuing to be reviewed for functionality and user experience.*

*You have also alleged that the noise complaints system has not been functioning properly for a number of weeks. It would be appreciated if you could provide details to support this view and attach any relevant screenshots so that we can adequately pinpoint the issues you are referring to and investigate them appropriately.*

*Finally, the Code of Practice to which you refer, deals with complaints from customers about quality of service at our airports - daa has a Passenger Charter to comply with same.*

*Best Regards,*

*Angela*

***Angela Flynn | COMMUNICATIONS***

*Community Engagement Senior Manager*

*THREE The Green, Dublin Airport Central,*

*Dublin Airport, Swords, Co. Dublin, K67 X4X5*

***T:** +353 1 944 9501*

***E:** angela.flynn@daa.ie*

*Document Classification: Class 1 - General*

*From: Admin <ballyboughalcc@gmail.com>*
***Sent:** Wednesday, June 26, 2024 12:20 PM*
***To:** Angela Flynn <Angela.Flynn@daa.ie>*
***Cc:** ethna.felten@fingal.ie; aircraftnoiseca@fingal.ie; Kenny Jacobs <kennyj.jacobs@daa.ie>; Alan Farrell <alan.farrell@oireachtas.ie>; gerry.horkan@oireachtas.ie; cathal.crowe@oireachtas.ie; joe.carey@oireachtas.ie; Darren ORourke <darren.orourke@oireachtas.ie>; steven.matthews@oireachtas.ie; martin.kenny@oireachtas.ie; Duncan Smith <duncan.smith@oireachtas.ie>; michael.lowry@oireachtas.ie; gerard.craughwell@oireachtas.ie; timmy.dooley@oireachtas.ie; MOSC-Transport@corr.cloud.gov.ie; eamon.ryan@oir.ie*
***Subject:** Re: Noise Complaints at Dublin Airport - Permanent Complaint from Ballyboughal Community Council and 140 residents*

*CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.*

*Dear Ms Flynn*

*I'm not sure what part of our complaint you think is not formal?*

Your formal complaints system would require me and the other residents in Ballyboughal to each spend circa 12 hours per day for the DAA to capture our complaints. This is entirely impractical and does not recognise that we actually have lives to live. While your CEO likes to point out that one complainant accounts for 85% of all DAA aircraft noise complaints , that person, whoever he/she is, is the only person who is using your complaints system properly the way it designed to fail by the DAA. The fact that we cannot register the number of our complaints adequately, which we estimate to be in the region of an additional 7m per complaints annum, under your system is adding to the stress that residents are enduring from aircraft noise.

We have made it very easy for you to calculate our complaints data on a monthly basis and have provided you the names and addresses all of the 140 complainants who have expressed their wish and given us permission to complain about every flight which overflies Ballyboughal Village and you have all the data for the number of flights each day which fly over our village. As you now have a noise monitor in Ballyboughal you can also monitor those flights for sound and pull all the data from your system very easily. I have also provided you with a screen shot of the traffic over two weeks last September. Yesterday I would have had to make over 100 separate complaints to have my voice heard and my complaints registered. Surely it would be far easier for the DAA to accept our complaints in bulk than have to deal with and respond to circa 7m individual complaints per annum? All you have to do is multiply the number of complainants by the number of flights over Ballyboughal. I presume you do have this data to hand? Please advise?


The basis of these complaints is that the aircraft noise is disturbing us in our homes and gardens which have been destroyed by aircraft noise since August 2022. These flight paths and the heights they are flying at are nowhere near to your planning permission which expressly state that aircraft taking off from the North Runway must fly straight out for 11km or reach 3000ft before turning. The aircraft are currently turning at 650 which brings them directly over Oldtown and Ballyboughal village, among other residential areas not in your planning permission, In most cases we can hear aircraft noise in very room in the house every few minutes when the wind is westerly in direction. We have also carried out a professional sound analysis (attached), extrapolated the data and aligned it for comparison with your DAA modelling as per your planning permission. This report clearly shows that the noise modelling you have used in your

*planning application for Ballybougal is completely flawed as a result of the current flight paths and we are experiencing aircraft noise levels well above the noise levels you predicted for our area. I attach the report from Wave Dynamics which you can in turn attach to each of our complaints as the scientific basis of our complaints.*

*Given that your complaints system has not been functioning properly in recent weeks I would have thought that you would welcome such an easy solution?*

*I also wish to draw you attention your obligations under the Code of Practice for Governance of State Bodies which states:*

***"Complaints***
*Maintain a well-publicised, accessible, transparent and simple-to-use system of dealing with complaints about*
*the quality of service provided.*
*All service delivery organisations may be subject to complaints at both the level of the official and the*
*organisation. These may relate to the quality of the service itself or the manner in which the service was*
*delivered. The scope for customer dissatisfaction can be reduced by provision of appropriate information to the*
*customer regarding the available service and training to staff in how to deliver the service.*

*In setting up systems to deal with customer dissatisfaction, organisations should ensure that all complaints are*
*dealt* ***with objectively in a consistent, open and fair manner. (my highlights)***
*Some elements to be included in Comments/Complaints systems include:*
*· information regarding complaints procedures should be freely available to the public at all points of*
*service delivery and should be publicised by organisations;*
*· complaints* ***procedures should be straightforward and access should be conveniently available to***
***customers and clients at no cost wherever possible;***
*· all complaints should be directed to, and acknowledged, by a named officer of appropriate grade;*
*· appropriate training should be provided to all staff dealing with complaints;*

*· complaints should be addressed as quickly as possible and the customer should be kept informed of progress;*

*· complaints procedures* ***should be subjected to regular review****; and*

*· provisions should be made for speedy correction of errors and, where required, the making of appropriate redress to the complainant.*

***Appeals*** *Similarly, maintain a formalised, well-publicised, accessible, transparent and simple-to-use system of appeal/review for customers who are dissatisfied with decisions in relation to services.*

*At its most basic level it's clear that the DAA are not remotely complying with the above. For a start there does not appear to be any basis of Appeal stated with your system or your own policy documents. And any system which requires a complainant to spend 12 hours per day to register and quantify the extent of the complaint is a joke and misleading both the public and policy makers. Please can you correct this obvious flaw in your complaints system immediately and advise us if anything else is necessary to have the full extent of our complaints registered?*

*If you will not register our complaints please advise us when your complaints system was last independently reviewed by your "Risk and Audit team" to ensure that it is fit for purpose ?*

*And can you also outline the process for appealing any such decision to refuse to accept our complaints and to whom any such appeal should it be made?*

*Hopefully the people reviewing such decisions will not be shareholders in Ryanair or other airline customers of the DAA, and you can respond to your community stakeholders a little quicker than the 6 weeks it has taken you to respond to our original email.*

*PS for the purposes of Data Protection I have removed the names, addresses, and contact details of the 140 complainants from this email trail.*

*Kind regards*

*Your sincerely,*

*David Walton*

*Ballyboughal Community Council*

*Spokesperson on Aircraft Noise Pollution*

*On 25 Jun 2024, at 10:58 a.m., Angela Flynn <Angela.Flynn@daa.ie> wrote:*

*Dear Mr. Walton,*

*Thank you for your email and apologies for the delayed response.*

*All noise complaints must be made through the formal complaints channels available as per our Noise Complaints Policy published on our website. Unfortunately, any complaints received outside of these channels cannot be accepted, logged or investigated.*

*You or any member of the public can make a complaint via four different channels as outlined below:*

*Via our WebTrak system – click here.*

- *Via our website complaint form – click here.*
- *By Phone - 1800 200 034*
- *By Post – download this form – here – and post too: Noise & Flight Track Monitoring Service, Energy, Environmental & Utilities Department, Asset Care Base (Landside), Dublin Airport.*

*Best Regards,*

*Angela*

*Document Classification: Class 1 - General*

***From:*** *Admin <ballyboughalcc@gmail.com>*
***Sent:*** *Tuesday, May 7, 2024 5:36 PM*
***To:*** *Angela Flynn <Angela.Flynn@daa.ie>*
***Cc:*** *ethna.felten@fingal.ie; aircraftnoiseca@fingal.ie*
***Subject:*** *Noise Complaints at Dublin Airport - Permanent Complaint from Ballyboughal Community Council and 140 residents*

*CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.*

*To: Ms Angela Flynn*

*Community Engagement Manager*

*DAA*

*Three The Green*

*Dublin Airport Central*

*Dublin*

*From: Admin <ballyboughalcc@gmail.com>*

*Sent: Tuesday, May 7, 2024 5:36 PM*

*To: Angela Flynn <Angela.Flynn@daa.ie>*

*Cc: ethna.felten@fingal.ie; aircraftnoiseca@fingal.ie*

*Subject: Noise Complaints at Dublin Airport - Permanent Complaint from Ballyboughal Community Council and 140 residents*

*To: Ms Angela Flynn*

*Community Engagement Manager*

*DAA*

*Three The Green*

*Dublin Airport Central*

*Dublin Airport*

*Swords,*

*Co Dublin*

*CC: Ethna Felten, CEO Anca*

*7/5/2024*

*Dear Ms Flynn,*

*I am writing to you on behalf of Ballyboughal Community Council and the below listed residents who wish to inform you that the Noise Complaint system at Dublin Airport is not fit for purpose.,*

*Since the opening of the North Runway in August 2022, aircraft have been flying in the vicinity of our homes in Ballyboughal which they were never planned to do and the environmental impacts of this unplanned flight path were never assessed or presented in the planning application which received permission in 2007. Therefore every flight departing the North Runway is a noise problem for our community and families. For each individual listed below to use the complaints system it would mean we would have to spend all of our time between 7am and 11pm submitting these complaints. This is neither practical nor feasible as we all have busy lives and commitments to our jobs and families. It is bad enough that we have to live under this aircraft noise without having the additional stress of using your inadequate system which does not allow for a quantitative or qualitative description of the number of flights which are impacting our health and well-being negatively each day. It would be far easier and accurate for the DAA to extrapolate the flight data and apply the numbers accordingly on a monthly basis.*

*Ballyboughal Community Council, and the 140 people listed below, who have given us permission to complain on their behalf, are therefore formally requesting that you log every flight from the North Runway as a complaint from each individual below and we expect that these complaints will be counted and acknowledged in the DAA complaints system. We believe that this will mean approximately an additional 7 million complaints per annum will need to be added to your complaints data.*

*Thank you in advance for your understanding. Please acknowledge receipt of this email and confirm your response keeping Ethna Felten and ANCA in copy.*

*Your sincerely,*

*David Walton*

*Spokesperson on Aircraft Noise Pollution*

*Ballyboughal Community Council*

WAVE DYNAMICS
ACOUSTIC CONSULTANTS

# Technical Note

| | | | |
|---|---|---|---|
| **Project:** | Ballyboughal, Co. Dublin | **Title:** | Noise Assessment |
| **Job Number:** | WDA230901 | **Prepared By:** | Sean Rocks |
| **Date:** | 30/04/2024 | **Reviewed By:** | James Cousins |
| **Reference:** | WDA230901TN_A_01 | **Client:** | Ballyboughal Community Council |

# 1 Introduction

Following the commencement of operations of the new Dublin Airport North Runway, Wave Dynamics were engaged by David Walton of Ballyboughal Community Council to assess the noise levels from aircraft flyovers using sound exposure level measurements at Cnoc Dubh residential housing estate, Ballyboughal, Co. Dublin.

The objective of the assessment was to quantify the existing noise environment and the current noise levels from aircraft noise from the operation of the new North Runway at Dublin Airport. The measured noise levels have been compared with the predicted noise levels from the DAA noise contours and industry criteria.

## 1.1 Statement of Competence

This assessment and report were completed by Sean Rocks, Director | Senior Consultant; Sean has experience with aircraft noise, particularly for planning and complaints investigation. Sean's qualifications include a BEng (Hons) in Mechanical and Manufacturing Engineering, a Diploma in Acoustics and Noise Control (Institute of Acoustics), an IOA Certificate of Competence in Environmental Noise Measurement and SITRI certified sound insulation tester. Sean is a member of both Engineers Ireland and the Institute of Acoustics.

This report was peer reviewed by James Cousins, Managing Director | Principal Consultant with Wave Dynamics who has extensive experience in assessing noise and vibration from road and rail infrastructure on commercial and residential developments. James is an experienced consultant. His qualifications include; BSc (Hons) in Construction Management and Engineering, Pg Cert in Construction Law and Diploma in Acoustics and Noise Control (Institute of Acoustics) and an IOA Competence Cert in Building Acoustic Measurements. James is a member of both Engineers Ireland (MIEI) and the Institute of Acoustics (MIOA) and is the current SITRI Chairman.

# 2 Baseline Noise Survey

An attended noise survey was undertaken to quantify the noise levels from aircraft flyovers at the Cnoc Dubh estate, Ballyboughal. The attended noise measurements were conducted from 08:00hrs to 11:00hrs on 18th of April 2024 with aircraft taking off on the new North Runway in the westerly direction (normal operating procedure). Sound exposure level measurements were taken for aircraft flyovers during the attended noise survey.

## 2.1 Site Description and Measurement Locations

Ballyboughal is located in County Dublin, approximately 9-9.5km directly north of the new North Runway. The area is mainly a small village surrounded by agricultural land.

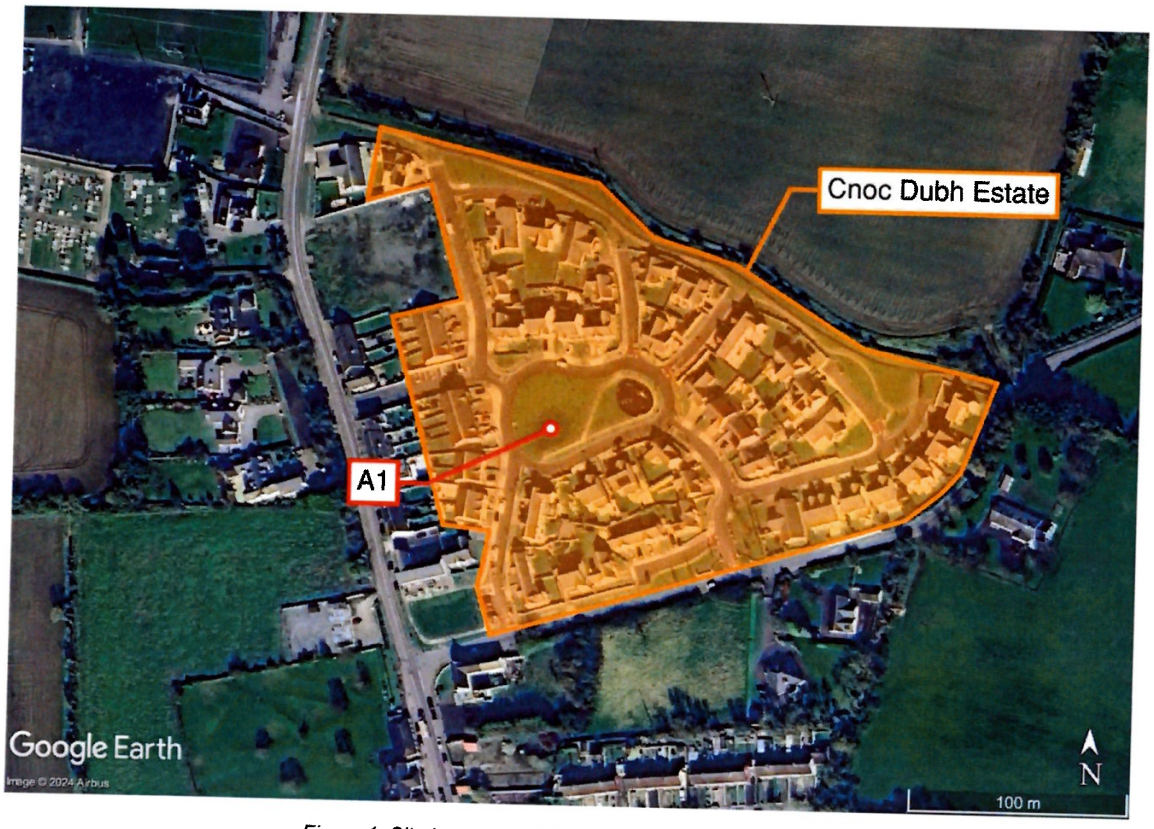



*Figure 1: Site location and SEL measurement location A1.*

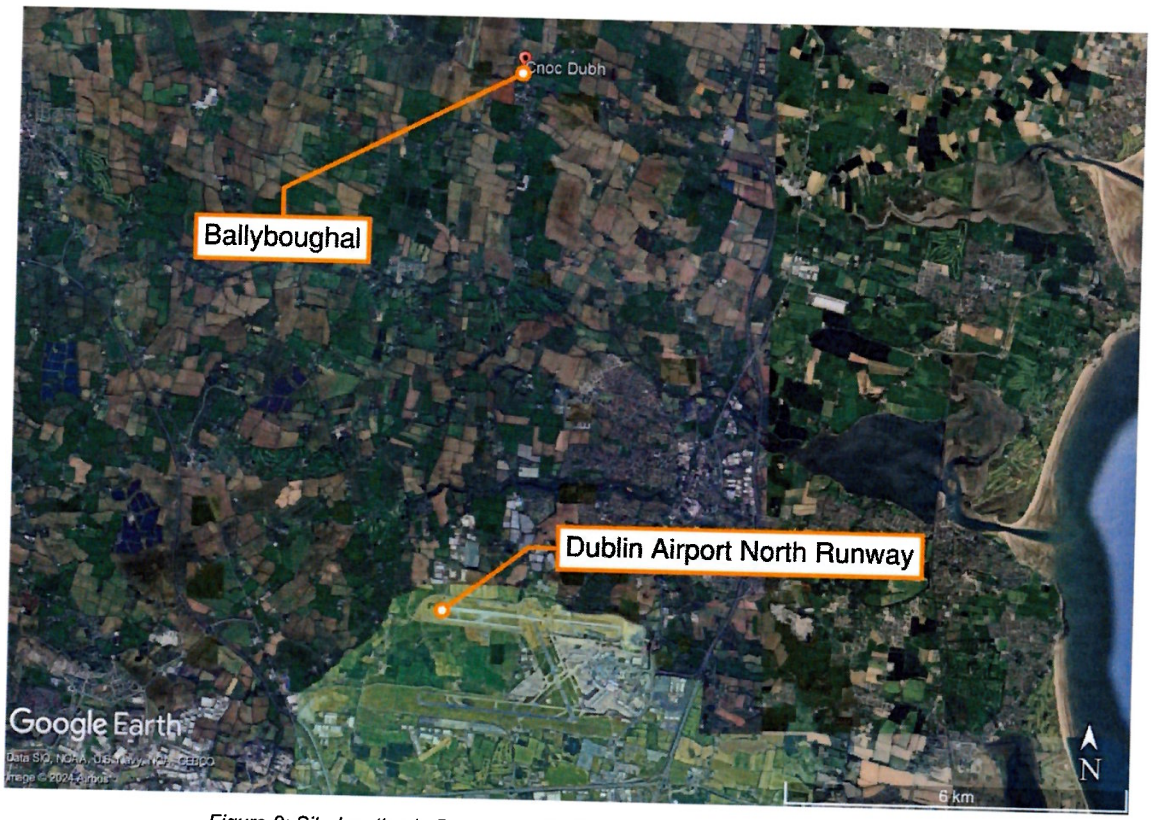



*Figure 2: Site location in Relation to Dublin Airport and the new North Runway.*

### 2.1.1 Survey Period

The noise measurements were undertaken on the 18th of April 2024 to establish the existing noise levels from aircraft flyovers in the Cnoc Dubh estate, Ballyboughal . It is understood that Dublin Airport was operating as normal during the survey, with aircraft taking off from the North Runway towards the west.

### 2.1.2 Noise Measurement Equipment

A Class 1 sound level meter/noise logger, in general accordance with IEC 61672-1:2013, was used for the attended measurements. Table 1 below summarises the measurement equipment used.

*Table 1: Noise Measurement Equipment*

| Description | WD Asset Number | Model | Serial No. | Calibration Certificate No. | Calibration Due Date |
|---|---|---|---|---|---|
| Sound Level Meter | SLM4 | NTI XL2-TA | A2A-23316-E1 | UK-23-100 | 01/09/2025 |
| Calibrator | CAL1 | Nor 1251 | 31056 | AC230226 | 16/10/2024 |

### 2.1.3 Subjective Noise Environment

Based on the information provided during the attended noise survey and logger deployment, the following noise sources were identified:

- Aircraft Noise from Aircraft Fly Overs.
- Road noise from the R108
- Birdsong
- Occasional activity from residents (cars arriving/departing, voices, etc.)

## 2.2 Noise Measurement Results

This section outlines the results of the attended noise survey.

#### Attended Monitoring Results

Table 2 outlines the results of the attended measurements for aircraft flyover noise levels at location A1. The flyover sound exposure levels have been calculated from the measured $L_{Aeq}$ levels.

The sound exposure level (SEL) from aircraft flyovers has been calculated using the following equation to allow direct comparison of the measured levels with the DAA predicted SEL contour maps:

$$L_{AX} = L_{Aeq} + 10*\log_{10}(d1/d2) - 10*\log_{10}(N) + 10*\log_{10}(T)$$

Where:

$L_{Ax}$ measured SEL
N number of vehicle movements
T time (seconds)
d1 distance from the source to the receiver
d2 distance from the source to the measurement

*Table 2: Aircraft Flyover Noise Levels*

| Measurement | | | | Aircraft Type | Measured Noise Levels | | Sound Exposure Level |
|---|---|---|---|---|---|---|---|
| Location | Date | Time (hrs) | Duration (sec) | | $L_{Aeq}$ dB | $L_{AFmax}$ dB | $L_{AX}$ dB |
| A1 | 18/04/2024 | 08:21 | 83 | Boeing 737-8AS | 56 | 63 | 75 |
| A1 | 18/04/2024 | 08:26 | 48 | Boeing 737-8AS | 61 | 66 | 78 |
| A1 | 18/04/2024 | 08:29 | 33 | ATR 72-600 | 52 | 57 | 67 |
| A1 | 18/04/2024 | 08:34 | 46 | Airbus A320 | 59 | 65 | 76 |
| A1 | 18/04/2024 | 08:35 | 38 | Boeing 737 Max 8-200 | 55 | 61 | 71 |
| A1 | 18/04/2024 | 08:46 | 41 | Airbus A320 | 61 | 69 | 77 |
| A1 | 18/04/2024 | 08:53 | 45 | Embraer E19 | 58 | 65 | 75 |
| A1 | 18/04/2024 | 08:58 | 44 | Boeing 737-8AS | 61 | 70 | 77 |
| A1 | 18/04/2024 | 09:09 | 41 | Boeing 737-8AS | 61 | 66 | 77 |
| A1 | 18/04/2024 | 09:14 | 44 | Airbus A320 | 59 | 66 | 75 |
| A1 | 18/04/2024 | 09:19 | 50 | Boeing 737-8AS | 61 | 67 | 78 |
| A1 | 18/04/2024 | 09:21 | 40 | Boeing 737-8AS | 59 | 66 | 75 |
| A1 | 18/04/2024 | 09:22 | 56 | Boeing 737-8AS | 58 | 65 | 75 |
| A1 | 18/04/2024 | 09:25 | 42 | Embraer E19 | 60 | 68 | 76 |
| A1 | 18/04/2024 | 09:33 | 25 | Boeing 787-8 Dreamliner | 51 | 58 | 65 |
| A1 | 18/04/2024 | 09:47 | 40 | Boeing 737-8AS | 62 | 67 | 78 |
| A1 | 18/04/2024 | 09:54 | 34 | Boeing 787-10 Dreamliner | 63 | 71 | 78 |
| A1 | 18/04/2024 | 10:02 | 37 | Boeing 737-8AS | 58 | 65 | 74 |
| A1 | 18/04/2024 | 10:24 | 37 | Boeing 777 | 58 | 65 | 74 |
| A1 | 18/04/2024 | 10:39 | 33 | ATR 72-600 | 57 | 62 | 72 |
| A1 | 18/04/2024 | 10:51 | 38 | Airbus A320 | 59 | 67 | 75 |
| A1 | 18/04/2024 | 10:53 | 33 | Boeing 737-8AS | 60 | 66 | 75 |
| A1 | 18/04/2024 | 10:56 | 30 | ATR 72-600 | 51 | 57 | 66 |
| A1 | 18/04/2024 | 10:58 | 25 | Airbus A320 | 53 | 62 | 67 |

1. SELs calculated on the rounded $L_{Aeq}$ values measured.

## 2.3 Weather Conditions

Good weather conditions were noted in general during the attended surveys, with winds of less than 5 m/s, no rain and full cloud cover.

# 3 Analysis of Results

## 3.1 $L_{Aeq,16hr}$ Noise Levels

The most recently predicted noise contours for the North Runway operation as per the 2007 planning permission are the compliance contours submitted to Fingal County Council in 2016. Here, the predicted $L_{Aeq,16hour}$ (07:00hrs to 23:00 hrs) noise contours for Dublin Airport with the North Runway operational can be seen in Figure 3. The noise contours are developed by DAA based on the busiest 92 day period of the year for the airport, 16th June to 15th September.

Based on the DAA contour maps, Ballyboughal is outside the lowest predicted contour therefore noise from aircraft flyovers would be expected to be significantly below 60 dB $L_{Aeq,16hour}$.

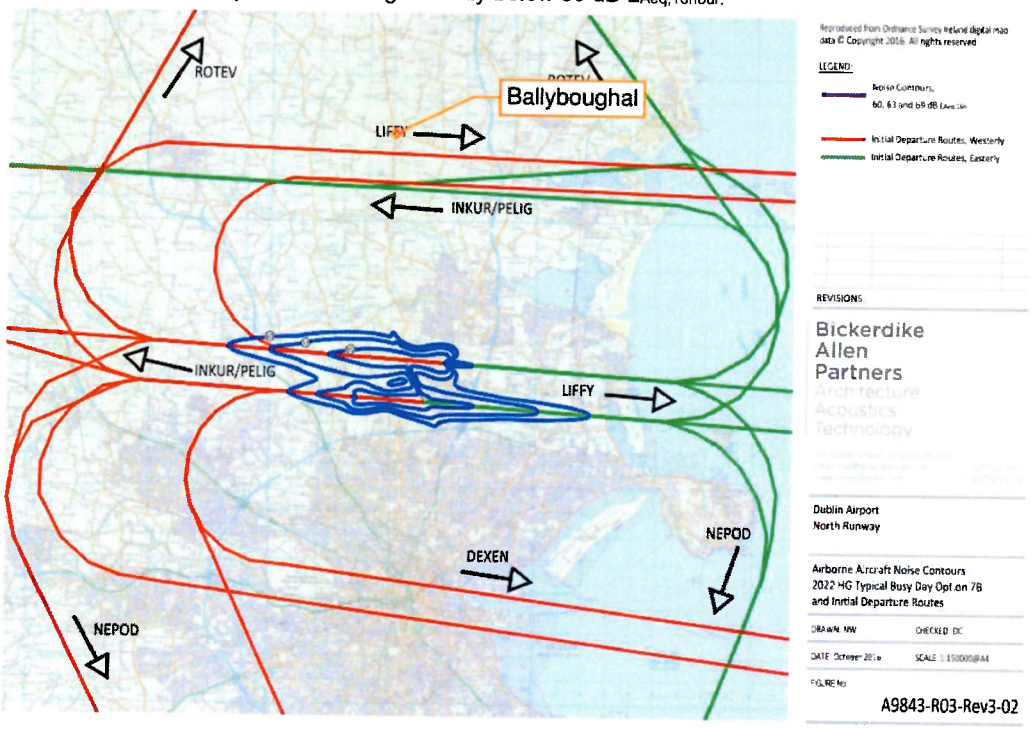



*Figure 3: Predicted $L_{Aeq,16hour}$ (07:00 – 23:00) airport noise contours with North Runway in operation.*

Noise contour maps presented in the most recently submitted EIAR supplement by DAA provided to ABP place Ballyboughal outside the lowest predicted noise contour of 51-53 dB $L_{Aeq,16hr}$ for the 2025 year scenario i.e. aircraft noise below 51 dBA for the year 2025.

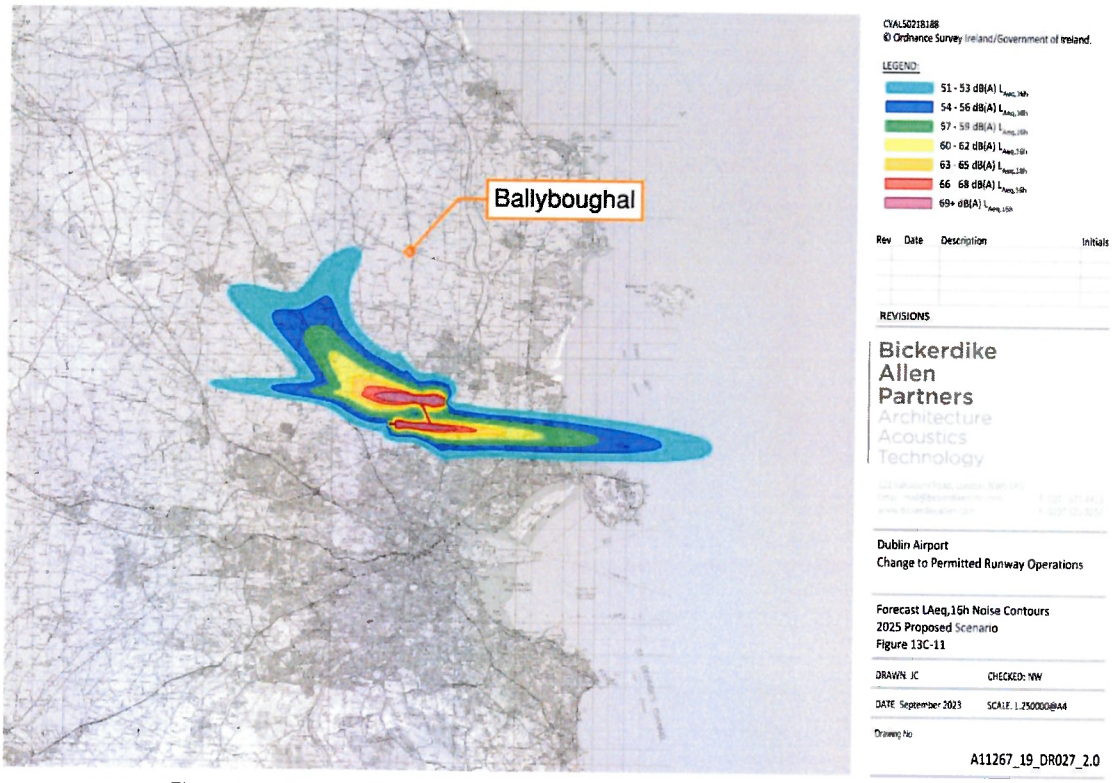



*Figure 4: DAA predicted LAeq,16hour (07:00 - 23:00) airport noise contours for 2025.*

### 3.1.1 Calculation of $L_{Aeq,16hr}$ Noise Levels from SEL Measurements

Based on the SEL measurements undertaken at the monitoring location in combination with the information submitted by DAA to ANCA as part of the response to ANCA's review of the 2022 airport noise emission outlining the number of flights per aircraft type (included in Appendix B) the $L_{Aeq,16hr}$ noise levels at the residence can be calculated to be compared with the unattended measurement results to confirm validity. The noise level for each aircraft type can be calculated using the following formula and then logarithmically added to predict the daily $L_{Aeq,16hour}$ level as follows:

$$L_{Aeq} = L_{AX} - 10*\log_{10}(d1/d2) + 10*\log_{10}(N) - 10*\log_{10}(T)$$

Where:

$L_{Ax}$ measured SEL
N number of vehicle movements
T time (seconds)
d1 distance from the source to the receiver
d2 distance from the source to the measurement

A correction was then applied to the results to account for days of Easterly winds which is assumed to be 12 days over the 92 day duration based on WDA's experience and previous monitoring of the North Runway undertaken in 2023. A correction has also been allowed for in that not all aircraft have flight paths over Ballyboughal, and many will continue westerly after taking off, and many will turn south rather than north. Based on the flight path tracking (determined via https://sbeaney.com/track/v2/dublin_flights.html) an allowance of 50% of aircraft takeoffs flying over Ballyboughal area has been allocated.

Based on the above calculation and the recorded SEL for each aircraft type outlined in Table 2 the predicted $L_{Aeq,16hour}$ during the 92 day summer period in 2024 will be 52dB(A). Similarly, the 2025 $L_{Aeq,16hour}$ noise level during the 92 day summer period is predicted to also be 52dB(A).

This shows that the noise levels from aircraft flying over Ballyboughal are expected to exceed the predicted $L_{Aeq,16hour}$ DAA predicted 92 day contour map level at the area which situates Ballyboughal outside the 51dBA contour.

## 3.2 $L_{night}$ Noise Levels

There are currently no nighttime takeoffs from the North Runway affecting noise levels at Ballyboughal, however the proposed Relevant Action application will see an increase in night noise at the area. In the year 2025, the $L_{night}$ noise levels with the proposed night time take offs on the North Runway predict that Ballyboughal will experience noise levels of 40 to 44dB $L_{night}$. This is highlighted on the $L_{night}$ contour map shown in Figure 5.

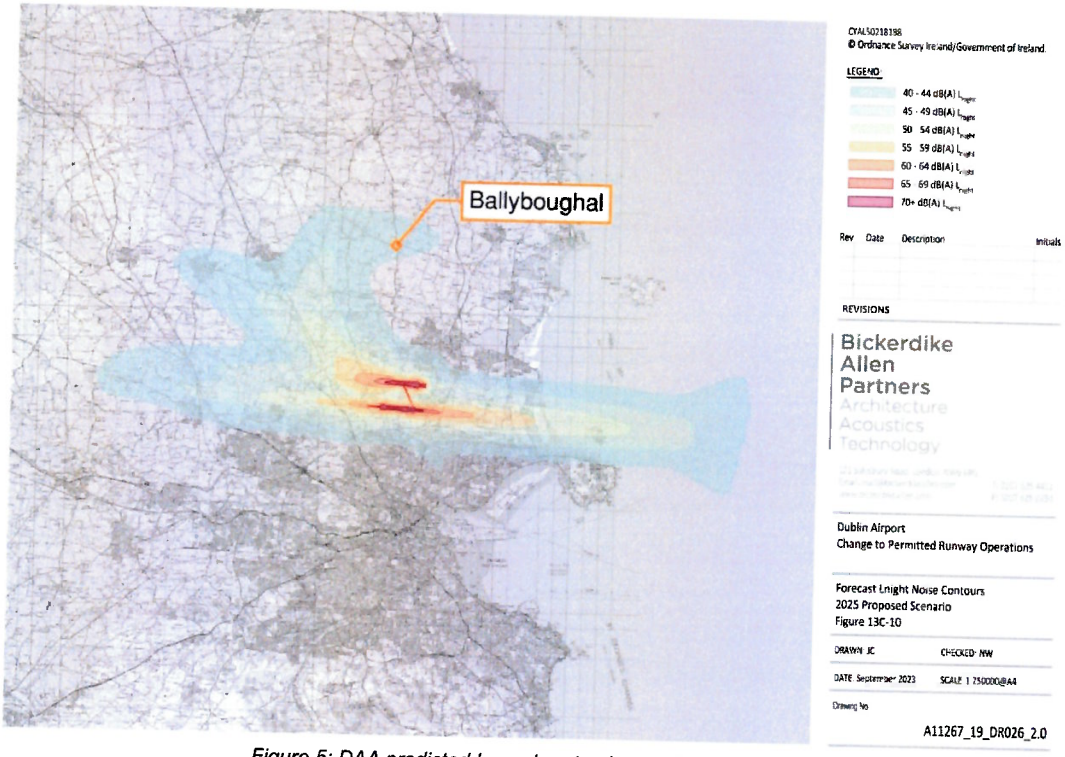



*Figure 5: DAA predicted $L_{night}$ airport noise contours for 2025.*

### 3.2.1 Calculation of $L_{night}$ Noise Levels from SEL Measurements

The $L_{night}$ noise levels can be predicted based on the measured SEL noise measurements at the monitoring location in combination with the information submitted by DAA to ANCA as part of the response to ANCA's review of the 2022 airport noise emission outlining the number of flights per aircraft type (included in Appendix B). Similarly to the daytime noise level predictions, a correction was applied to the results to account for days of Easterly winds which is assumed to be 12 days over the 92 day duration and a correction has also been allowed for in that not all aircraft have flight paths over Ballyboughal, an allocation of 50% of aircraft takeoffs flying over Ballyboughal area has been allowed.

Based on the above calculation and the recorded SEL for each aircraft type outlined in Table 2 the predicted $L_{night}$ during the 92 day summer period in 2024 will be 44dB(A). The 2025 $L_{night}$ noise level during the 92 day summer period is predicted to also be 44dB(A).

This is at the upper limit of the range predicted by DAA at Ballyboughal.

## 3.3 Comparison of SEL Noise Levels

Sound exposure level (SEL) contours have been predicted by the DAA and their acoustic consultants Bickerdike Allen in relation to the noise abatement departure procedures (NADP) for the North Runway for the most common aircraft types:

- Boeing 737-800
- Airbus A320
- Airbus A330

The predicted SEL contours are shown for the Boeing 737-800 and Airbus A320 in Figure 6 and Figure 7, respectively.

For the DAA predicted SEL contours for the Boeing 737-800 as shown in Figure 6 below, Ballyboughal currently lies significantly outside the lowest predicted contour of 80dB(A). Based on the recorded noise levels at the monitoring location and calculated SELs as outlined in Table 2, the sound exposure level ranged 74 – 78 dB(A) for the Boeing 737-8AS with a logarithmical average SEL of 77dB(A). Given the extent at which Ballyboughal is predicted outside the 80dB(A) contour, it is suggested that by the recorded noise levels that the noise impact of plane flyovers is higher than the DAA predictions.

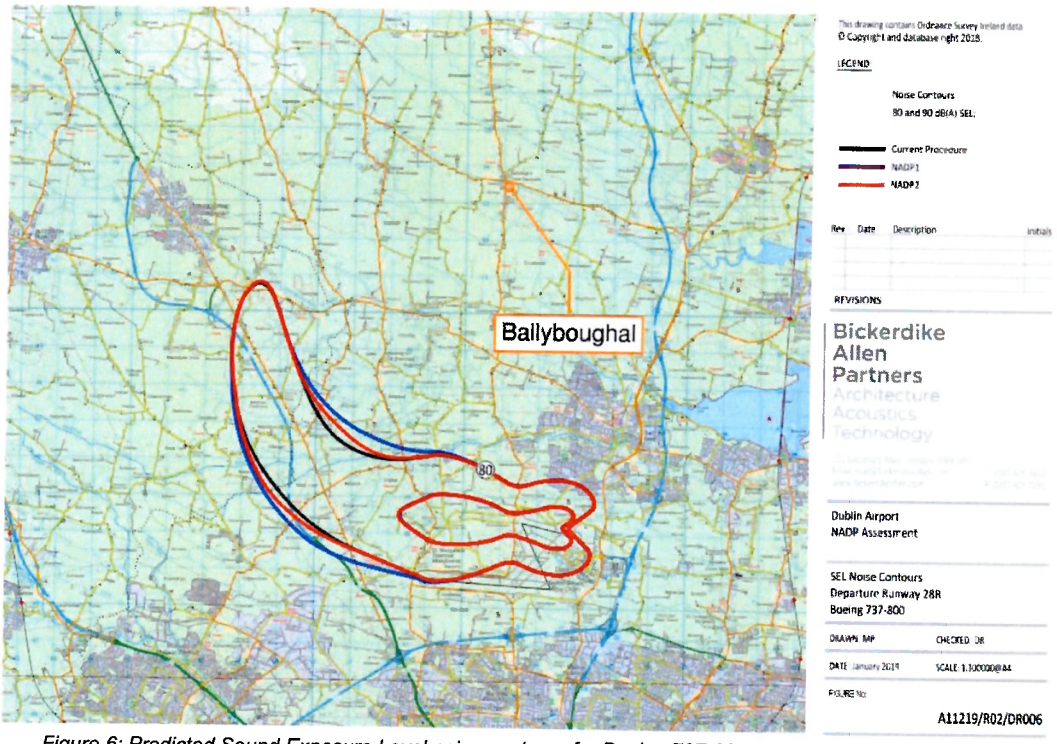



*Figure 6: Predicted Sound Exposure Level noise contours for Boeing 737-800 for North Runway operation.*

For the DAA predicted SEL contours for the Airbus A320 as shown in Figure 7 below, Ballyboughal again lies significantly outside the 80dB(A) contour for all departure procedures. Based on the recorded noise levels at the area and calculated SELs as outlined in Table 2, the sound exposure level ranged 67 – 77 dB(A) for the Airbus A320 with a logarithmical average SEL of 75dB(A). Given the extent at which Ballyboughal is predicted outside the 80dB(A) contour, it is suggested that by the recorded noise levels that the noise impact of plane flyovers is higher than the DAA predictions.

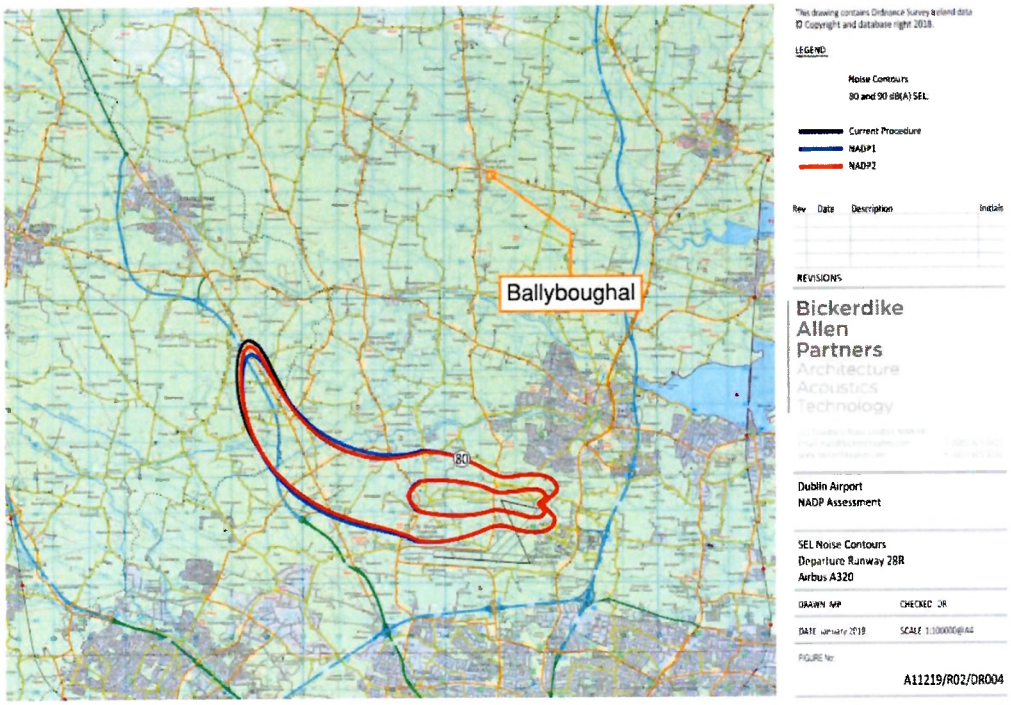



*Figure 7: Predicted Sound Exposure Level noise contours for Airbus A320 for North Runway operation .*

## 3.4 $L_{AFmax}$ Noise Levels

Figure 8 and Figure 9 outline the DAA predicted $L_{Amax}$ noise levels for the Boeing 737-800 and Airbus A320 aircrafts with the operation of the North Runway respectively.

The contours for the Boeing 737-800 aircraft shows Ballyboughal just over 7.5km outside the 70dB $L_{Amax}$ contour, which is indicative that the noise levels at this location would be significantly lower. Based on the recorded measurements as outlined in Table 2 there was one instance of Boeing 737 aircraft which achieved 70dB(A) $L_{AFmax}$, and the average $L_{AFmax}$ recorded was 66dB(A).

This shows that the maximum noise levels experienced at the Cnoc Dubh estate are negatively affected by the operation of the North Runway.

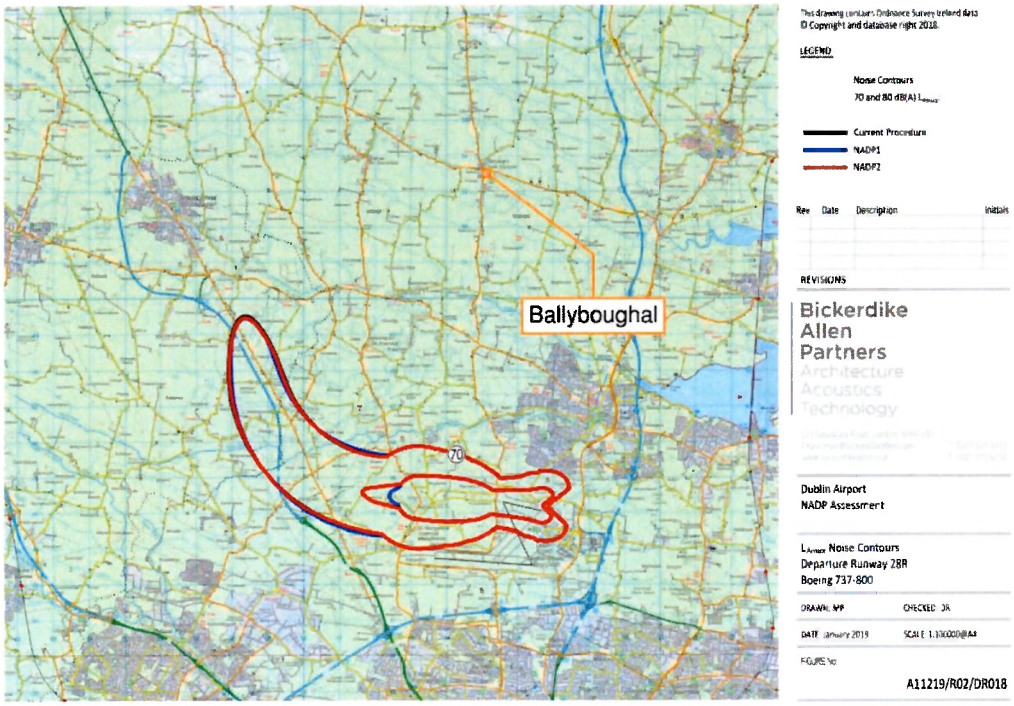



*Figure 8: Predicted $L_{Amax}$ noise contours for Boeing 737-800 for North Runway operation.*

The contours for the Airbus A320 aircraft shows Ballyboughal over 8km outside the 70dB $L_{Amax}$ contour, which is indicative that the noise levels at this location would be significantly lower. Based on the recorded measurements as outlined in Table 2 the $L_{AFmax}$ recorded noise levels ranged from 62-69dB(A), with an average $L_{AFmax}$ recorded was 66dB(A).

Similarly, this also shows that the maximum noise levels experienced at the Cnoc Dubh estate are negatively impacted by the operation of the North Runway.

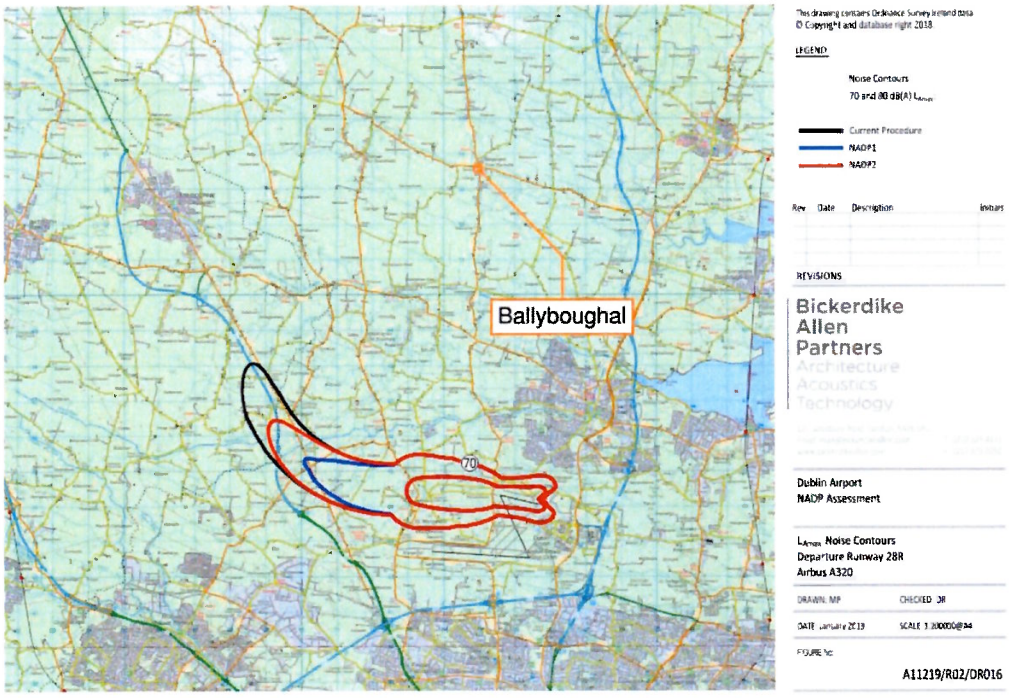



*Figure 9: Predicted $L_{Amax}$ noise contours for Airbus A320 for North Runway operation.*

# 4 Conclusion

Following the commencement of operations of the new Dublin Airport North Runway, Wave Dynamics were engaged by Ballyboughal Community Council to undertake sound exposure level measurements at Cnoc Dubh estate, Ballyboughal, Co. Dublin.

The objective of the assessment was to quantify the noise levels from aircraft flyovers in the area following the commencement of the operation of the North Runway. The measured noise levels have been compared with the predicted noise levels from the DAA noise contours. Sound exposure level measurements were taken in the area and thus used to calculate the 92 day average $L_{Aeq,16hour}$ based on the number of aircraft types over the 92 day period which predicted an $L_{Aeq,16hour}$ of 52dB(A). The DAA 2025 predicted noise contour situates Ballyboughal approx. 3km outside the 51-53dB(A) contour, therefore daytime aircraft noise levels lower than 51dB(A) would be expected at the site from aircraft noise. The measured noise levels and predicted $L_{Aeq,16hour}$ value show that the Cnoc Dubh Estate is negatively impacted by aircraft noise and an exceedance of the DAA contours is very likely. Based on the $L_{Aeq,16hour}$ noise levels at the Cnoc Dubh, it would be expected that the internal noise levels within dwellings would exceed the recommended levels of 35dB(A) $L_{Aeq,T}$ with the windows open. This is likely to have a significant negative effect on residents being able to enjoy the amenity of their own home in the Summer months where purge ventilation and cooling are likely required.

Based on studies on the reduction in noise levels from outdoor noise to indoor with an open window[1], an open window will provide approx. 10dB attenuation in noise levels. Based on the measured noise levels, a dwelling with the window open for ventilation is likely to have internal noise levels in the range 45-50dB $L_{Aeq}$ while aircraft pass. This would be clearly audible within the dwelling.

From the site visit it is evident that there is a significant subjective noise impact, and that aircraft are clearly audible at the Cnoc Dubh estate and are the dominant noise source in the area while flying overhead. The assessment of $L_{Amax}$ noise levels at the estate indicate that there is likely a significant negative noise impact on the residents of Cnoc Dubh, Ballyboughal. The maximum noise levels measured averaged 66dB(A) for both Boeing 737 and Airbus A320 however the predicted noise contour shows 70dB $L_{Amax}$ over 7.5km and 8km from the estate respectively.

Sound exposure level measurements for the two most common aircraft types were also compared to the DAA predicted noise contours for the same aircraft types. Despite Ballyboughal being located significantly outside the lowest predicted SEL contour for both aircraft types, there is no specific noise contour for Ballyboughal, which would assume no negative noise impact was predicted here from aircraft flyovers. Considering this, the SEL measurements indicate that the noise from aircraft flyovers is providing a negative noise impact.

It is recommended that the noise levels in the area are verified during the 92-day summer period to confirm the predicted noise levels outlined in this report.

[1] Differences between Outdoor and Indoor Sound Levels for Open, Tilted, and Closed Windows

# Appendix A- Glossary of Terms

| | |
|---|---|
| Ambient Noise | The totally encompassing sound in a given situation at a given time, usually composed of sound from all the noise sources in the area. |
| Background Noise | The steady existing noise level present without contribution from any intermittent sources. The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90 per cent of a given time interval, T ($L_{AF90,T}$). |
| dB | Decibel - The scale in which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the RMS pressure of the sound field and the reference pressure of 20 micro-pascals (20 μPa). |
| dB(A) | An 'A-weighted decibel' - a measure of the overall noise level of sound across the audible frequency range (20 Hz – 20 kHz) with A-frequency weighting (i.e. 'A'–weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies. |
| Hertz | The unit of sound frequency in cycles per second. |
| $L_{A90}$ | A-weighted, sound level just exceeded for 90% of the measurement period and calculated by statistical analysis. See also the background noise level. |
| $L_{Aeq}$ | A-weighted, equivalent continuous sound level. |
| $L_{AFmax}$ | A-weighted, maximum, sound level measured with a fast time-constant - maximum is not peak |
| $L_{den}$ | day-evening-night noise level, the A-weighted, Leq (equivalent noise level) over a whole day, but with a penalty of 10 dB(A) for night-time noise (23:00-07:00) and 5 dB(A) for evening noise (19:00-23:00), also known as the day evening night noise indicator |
| $R_W$ | Weighted sound reduction index - a single number quantity which characterises the airborne sound insulation of a material or building element over a range of frequencies, based on laboratory measurements |
| SEL | The constant sound level that, if it persisted for 1 second, would provide the same sound energy as the original noise event. |

# Appendix B – Volume of Flights per Aircraft Type

The volume of flights per aircraft type have been submitted to DAA by ANCA as part of the response to ANCA's review of the 2022 airport noise emission and are outlined below in Table 3.

*Table 3: Volume of each aircraft type over the entire year and over summer period*

| Aircraft Type | 2024 | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Average | | | | Summers Period | | |
| | Annual Day | Annual Eve | Annual Night | Annual 24hr | Summer Day 16hr | Summer Night | Summer 24hr |
| Airbus A300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Airbus A306 | 597 | 299 | 299 | 1195 | 262 | 87 | 350 |
| Airbus A319 | 1792 | 0 | 0 | 1792 | 524 | 0 | 524 |
| Airbus A320 | 39428 | 11649 | 4182 | 55258 | 14945 | 1224 | 16169 |
| Airbus A320neo | 4182 | 1493 | 299 | 5974 | 1661 | 87 | 1748 |
| Airbus A321 | 1792 | 896 | 597 | 3286 | 787 | 175 | 961 |
| Airbus A321neo | 6571 | 0 | 597 | 7169 | 1923 | 175 | 2098 |
| Airbus A330 | 8961 | 0 | 896 | 9857 | 2622 | 262 | 2884 |
| Airbus A330neo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Airbus A350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ATR 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ATR 72 | 9558 | 2390 | 0 | 11948 | 3496 | 0 | 3496 |
| BAe 146/Avro RJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boeing 737-400 | 597 | 1195 | 597 | 2390 | 524 | 175 | 699 |
| Boeing 737-500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boeing 737-700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boeing 737-800 | 39726 | 11350 | 4480 | 55557 | 14945 | 1311 | 16256 |
| Boeing 737 MAX | 17623 | 8363 | 3286 | 29272 | 7604 | 961 | 8565 |
| Boeing 757 | 2390 | 299 | 299 | 2987 | 787 | 87 | 874 |
| Boeing 767 | 1792 | 1195 | 597 | 3584 | 874 | 175 | 1049 |
| Boeing 777 | 597 | 0 | 597 | 1195 | 175 | 175 | 350 |
| Boeing 777X | 597 | 597 | 0 | 1195 | 350 | 0 | 350 |
| Boeing 787 | 3584 | 597 | 597 | 4779 | 1224 | 175 | 1398 |
| Bombardier CS300 | 1792 | 597 | 0 | 2390 | 699 | 0 | 699 |
| Bombardier Dash 8 | 597 | 0 | 0 | 597 | 175 | 0 | 175 |
| Convair 580 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Embraer E190/195 | 5078 | 2390 | 299 | 7766 | 2185 | 87 | 2272 |
| Embraer E190-E2 | 597 | 0 | 0 | 597 | 175 | 0 | 175 |
| HS748A | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lockheed C130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| McDonnell Douglas | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MD83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Piper PA34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Aircraft Type | 2024 | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Average | | | | Summers Period | | |
| | Annual Day | Annual Eve | Annual Night | Annual 24hr | Summer Day 16hr | Summer Night | Summer 24hr |
| Shorts SD330/360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 2390 | 1195 | 0 | 3584 | 1049 | 0 | 1049 |
| **Total** | 150243 | 44505 | 17623 | 212372 | 56985 | 5157 | 62141 |

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ACOUSTIC CONSULTANTS

# Technical Note

| | | | |
|---|---|---|---|
| **Project:** | Ballyboughal, Co. Dublin | **Title:** | Noise Assessment |
| **Job Number:** | WDA230901 | **Prepared By:** | Sean Rocks |
| **Date:** | 30/04/2024 | **Reviewed By:** | James Cousins |
| **Reference:** | WDA230901TN_A_01 | **Client:** | Ballyboughal Community Council |

# 1 Introduction

Following the commencement of operations of the new Dublin Airport North Runway, Wave Dynamics were engaged by David Walton of Ballyboughal Community Council to assess the noise levels from aircraft flyovers using sound exposure level measurements at Cnoc Dubh residential housing estate, Ballyboughal, Co. Dublin.

The objective of the assessment was to quantify the existing noise environment and the current noise levels from aircraft noise from the operation of the new North Runway at Dublin Airport. The measured noise levels have been compared with the predicted noise levels from the DAA noise contours and industry criteria.

## 1.1 Statement of Competence

This assessment and report were completed by Sean Rocks, Director | Senior Consultant; Sean has experience with aircraft noise, particularly for planning and complaints investigation. Sean's qualifications include a BEng (Hons) in Mechanical and Manufacturing Engineering, a Diploma in Acoustics and Noise Control (Institute of Acoustics), an IOA Certificate of Competence in Environmental Noise Measurement and SITRI certified sound insulation tester. Sean is a member of both Engineers Ireland and the Institute of Acoustics.

This report was peer reviewed by James Cousins, Managing Director | Principal Consultant with Wave Dynamics who has extensive experience in assessing noise and vibration from road and rail infrastructure on commercial and residential developments. James is an experienced consultant. His qualifications include; BSc (Hons) in Construction Management and Engineering, Pg Cert in Construction Law and Diploma in Acoustics and Noise Control (Institute of Acoustics) and an IOA Competence Cert in Building Acoustic Measurements. James is a member of both Engineers Ireland (MIEI) and the Institute of Acoustics (MIOA) and is the current SITRI Chairman.

# 2 Baseline Noise Survey

An attended noise survey was undertaken to quantify the noise levels from aircraft flyovers at the Cnoc Dubh estate, Ballyboughal. The attended noise measurements were conducted from 08:00hrs to 11:00hrs on 18th of April 2024 with aircraft taking off on the new North Runway in the westerly direction (normal operating procedure). Sound exposure level measurements were taken for aircraft flyovers during the attended noise survey.

## 2.1 Site Description and Measurement Locations

Ballyboughal is located in County Dublin, approximately 9-9.5km directly north of the new North Runway. The area is mainly a small village surrounded by agricultural land.

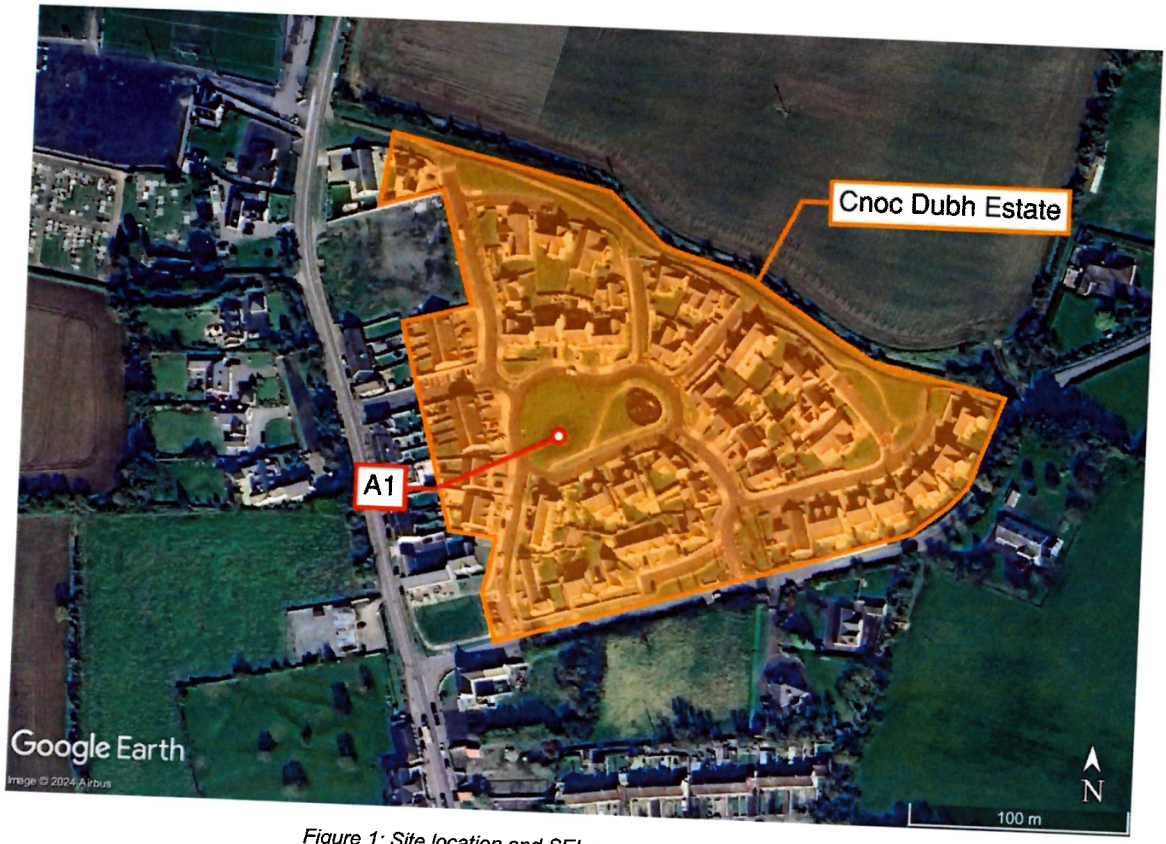


*Figure 1: Site location and SEL measurement location A1.*

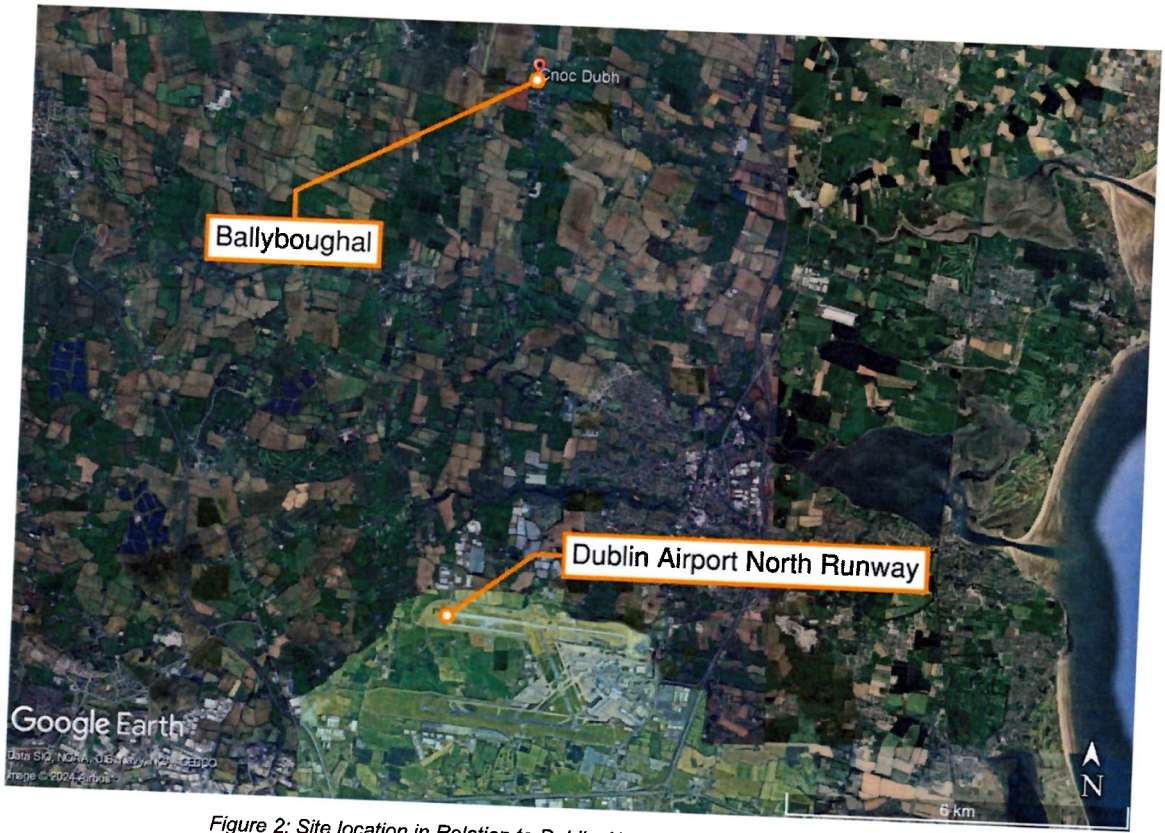


*Figure 2: Site location in Relation to Dublin Airport and the new North Runway.*

### 2.1.1 Survey Period

The noise measurements were undertaken on the 18th of April 2024 to establish the existing noise levels from aircraft flyovers in the Cnoc Dubh estate, Ballyboughal . It is understood that Dublin Airport was operating as normal during the survey, with aircraft taking off from the North Runway towards the west.

### 2.1.2 Noise Measurement Equipment

A Class 1 sound level meter/noise logger, in general accordance with IEC 61672-1:2013, was used for the attended measurements. Table 1 below summarises the measurement equipment used.

*Table 1: Noise Measurement Equipment*

| Description | WD Asset Number | Model | Serial No. | Calibration Certificate No. | Calibration Due Date |
|---|---|---|---|---|---|
| Sound Level Meter | SLM4 | NTI XL2-TA | A2A-23316-E1 | UK-23-100 | 01/09/2025 |
| Calibrator | CAL1 | Nor 1251 | 31056 | AC230226 | 16/10/2024 |

### 2.1.3 Subjective Noise Environment

Based on the information provided during the attended noise survey and logger deployment, the following noise sources were identified:

- Aircraft Noise from Aircraft Fly Overs.
- Road noise from the R108
- Birdsong
- Occasional activity from residents (cars arriving/departing, voices, etc.)

## 2.2 Noise Measurement Results

This section outlines the results of the attended noise survey.

#### Attended Monitoring Results

Table 2 outlines the results of the attended measurements for aircraft flyover noise levels at location A1. The flyover sound exposure levels have been calculated from the measured $L_{Aeq}$ levels.

The sound exposure level (SEL) from aircraft flyovers has been calculated using the following equation to allow direct comparison of the measured levels with the DAA predicted SEL contour maps:

$$L_{AX} = L_{Aeq} + 10*\log_{10}(d1/d2) - 10*\log_{10}(N) + 10*\log_{10}(T)$$

Where:

$L_{Ax}$ measured SEL
N number of vehicle movements
T time (seconds)
d1 distance from the source to the receiver
d2 distance from the source to the measurement

*Table 2: Aircraft Flyover Noise Levels*

| Measurement | | | | Aircraft Type | Measured Noise Levels | | Sound Exposure Level |
|---|---|---|---|---|---|---|---|
| Location | Date | Time (hrs) | Duration (sec) | | $L_{Aeq}$ dB | $L_{AFmax}$ dB | $L_{AX}$ dB |
| A1 | 18/04/2024 | 08:21 | 83 | Boeing 737-8AS | 56 | 63 | 75 |
| A1 | 18/04/2024 | 08:26 | 48 | Boeing 737-8AS | 61 | 66 | 78 |
| A1 | 18/04/2024 | 08:29 | 33 | ATR 72-600 | 52 | 57 | 67 |
| A1 | 18/04/2024 | 08:34 | 46 | Airbus A320 | 59 | 65 | 76 |
| A1 | 18/04/2024 | 08:35 | 38 | Boeing 737 Max 8-200 | 55 | 61 | 71 |
| A1 | 18/04/2024 | 08:46 | 41 | Airbus A320 | 61 | 69 | 77 |
| A1 | 18/04/2024 | 08:53 | 45 | Embraer E19 | 58 | 65 | 75 |
| A1 | 18/04/2024 | 08:58 | 44 | Boeing 737-8AS | 61 | 70 | 77 |
| A1 | 18/04/2024 | 09:09 | 41 | Boeing 737-8AS | 61 | 66 | 77 |
| A1 | 18/04/2024 | 09:14 | 44 | Airbus A320 | 59 | 66 | 75 |
| A1 | 18/04/2024 | 09:19 | 50 | Boeing 737-8AS | 61 | 67 | 78 |
| A1 | 18/04/2024 | 09:21 | 40 | Boeing 737-8AS | 59 | 66 | 75 |
| A1 | 18/04/2024 | 09:22 | 56 | Boeing 737-8AS | 58 | 65 | 75 |
| A1 | 18/04/2024 | 09:25 | 42 | Embraer E19 | 60 | 68 | 76 |
| A1 | 18/04/2024 | 09:33 | 25 | Boeing 787-8 Dreamliner | 51 | 58 | 65 |
| A1 | 18/04/2024 | 09:47 | 40 | Boeing 737-8AS | 62 | 67 | 78 |
| A1 | 18/04/2024 | 09:54 | 34 | Boeing 787-10 Dreamliner | 63 | 71 | 78 |
| A1 | 18/04/2024 | 10:02 | 37 | Boeing 737-8AS | 58 | 65 | 74 |
| A1 | 18/04/2024 | 10:24 | 37 | Boeing 777 | 58 | 65 | 74 |
| A1 | 18/04/2024 | 10:39 | 33 | ATR 72-600 | 57 | 62 | 72 |
| A1 | 18/04/2024 | 10:51 | 38 | Airbus A320 | 59 | 67 | 75 |
| A1 | 18/04/2024 | 10:53 | 33 | Boeing 737-8AS | 60 | 66 | 75 |
| A1 | 18/04/2024 | 10:56 | 30 | ATR 72-600 | 51 | 57 | 66 |
| A1 | 18/04/2024 | 10:58 | 25 | Airbus A320 | 53 | 62 | 67 |

1. SELs calculated on the rounded $L_{Aeq}$ values measured.

## 2.3 Weather Conditions

Good weather conditions were noted in general during the attended surveys, with winds of less than 5 m/s, no rain and full cloud cover.

# 3 Analysis of Results

## 3.1 $L_{Aeq,16hr}$ Noise Levels

The most recently predicted noise contours for the North Runway operation as per the 2007 planning permission are the compliance contours submitted to Fingal County Council in 2016. Here, the predicted $L_{Aeq,16hour}$ (07:00hrs to 23:00 hrs) noise contours for Dublin Airport with the North Runway operational can be seen in Figure 3. The noise contours are developed by DAA based on the busiest 92 day period of the year for the airport, 16th June to 15th September.

Based on the DAA contour maps, Ballyboughal is outside the lowest predicted contour therefore noise from aircraft flyovers would be expected to be significantly below 60 dB $L_{Aeq,16hour}$.

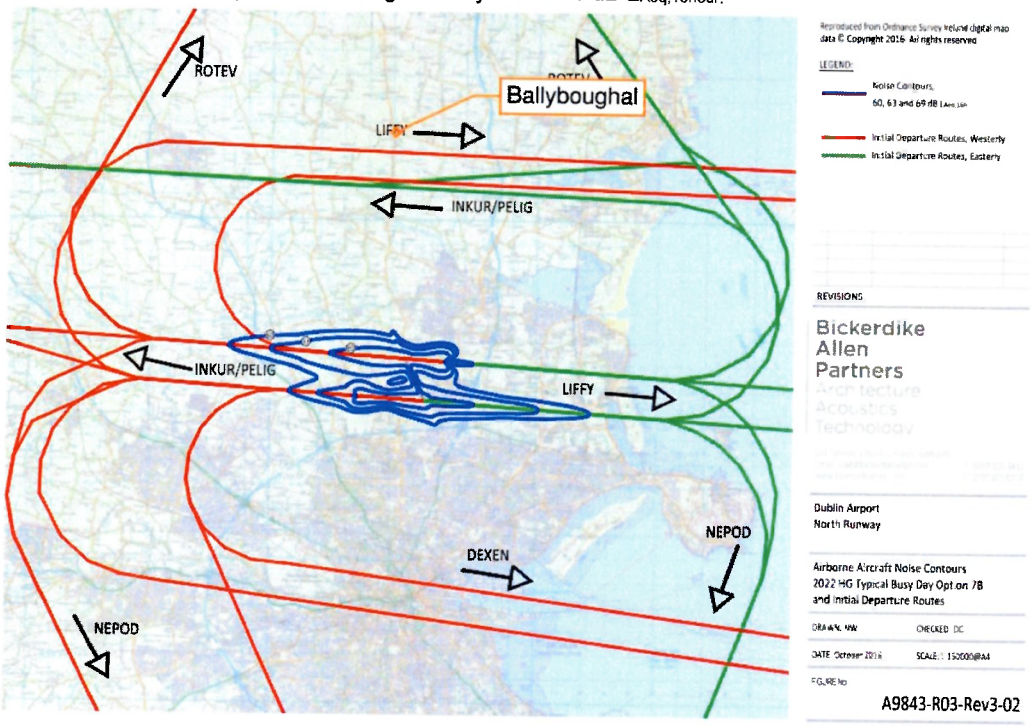


*Figure 3: Predicted $L_{Aeq,16hour}$ (07:00 – 23:00) airport noise contours with North Runway in operation.*

Noise contour maps presented in the most recently submitted EIAR supplement by DAA provided to ABP place Ballyboughal outside the lowest predicted noise contour of 51-53 dB $L_{Aeq,16hr}$ for the 2025 year scenario i.e. aircraft noise below 51 dBA for the year 2025.

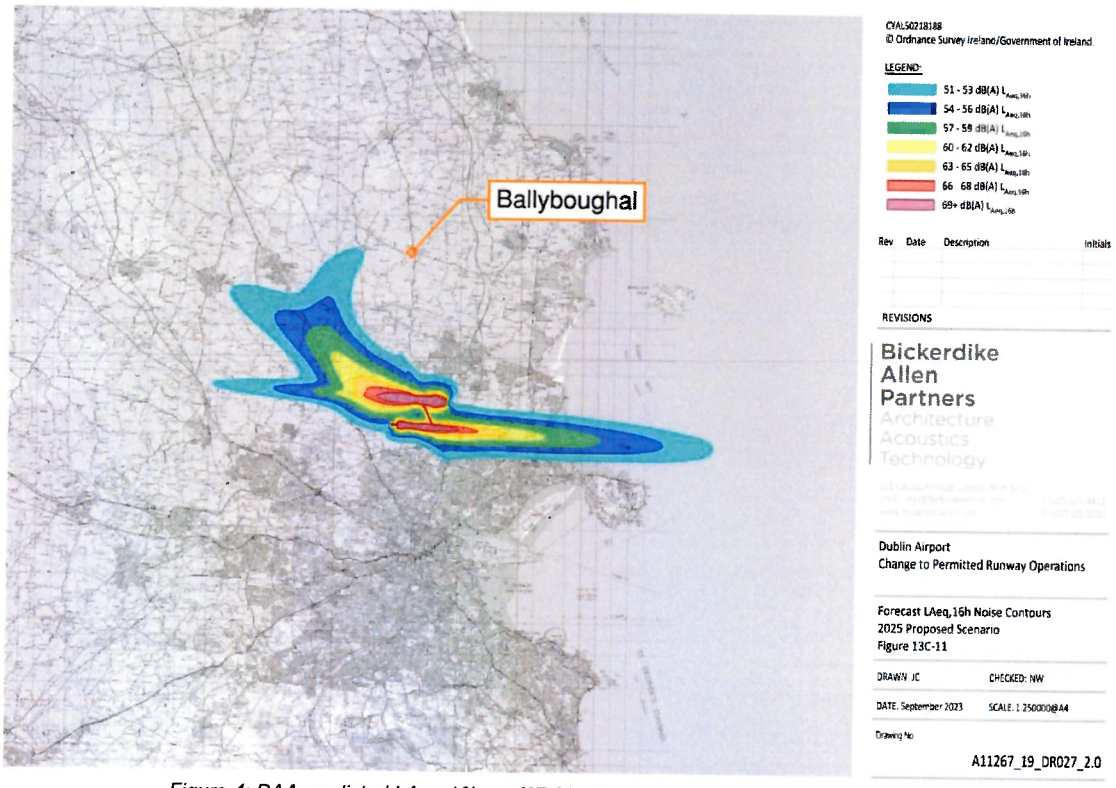


*Figure 4: DAA predicted LAeq,16hour (07:00 - 23:00) airport noise contours for 2025.*

### 3.1.1 Calculation of $L_{Aeq,16hr}$ Noise Levels from SEL Measurements

Based on the SEL measurements undertaken at the monitoring location in combination with the information submitted by DAA to ANCA as part of the response to ANCA's review of the 2022 airport noise emission outlining the number of flights per aircraft type (included in Appendix B) the $L_{Aeq,16hr}$ noise levels at the residence can be calculated to be compared with the unattended measurement results to confirm validity. The noise level for each aircraft type can be calculated using the following formula and then logarithmically added to predict the daily $L_{Aeq,16hour}$ level as follows:

$$L_{Aeq} = L_{AX} - 10*\log_{10}(d1/d2) + 10*\log_{10}(N) - 10*\log_{10}(T)$$

Where:

$L_{Ax}$ measured SEL
N number of vehicle movements
T time (seconds)
d1 distance from the source to the receiver
d2 distance from the source to the measurement

A correction was then applied to the results to account for days of Easterly winds which is assumed to be 12 days over the 92 day duration based on WDA's experience and previous monitoring of the North Runway undertaken in 2023. A correction has also been allowed for in that not all aircraft have flight paths over Ballyboughal, and many will continue westerly after taking off, and many will turn south rather than north. Based on the flight path tracking (determined via https://sbeaney.com/track/v2/dublin_flights.html) an allowance of 50% of aircraft takeoffs flying over Ballyboughal area has been allocated.

Based on the above calculation and the recorded SEL for each aircraft type outlined in Table 2 the predicted $L_{Aeq,16hour}$ during the 92 day summer period in 2024 will be 52dB(A). Similarly, the 2025 $L_{Aeq,16hour}$ noise level during the 92 day summer period is predicted to also be 52dB(A).

This shows that the noise levels from aircraft flying over Ballyboughal are expected to exceed the predicted $L_{Aeq,16hour}$ DAA predicted 92 day contour map level at the area which situates Ballyboughal outside the 51dBA contour.

## 3.2 $L_{night}$ Noise Levels

There are currently no nighttime takeoffs from the North Runway affecting noise levels at Ballyboughal, however the proposed Relevant Action application will see an increase in night noise at the area. In the year 2025, the $L_{night}$ noise levels with the proposed night time take offs on the North Runway predict that Ballyboughal will experience noise levels of 40 to 44dB $L_{night}$. This is highlighted on the $L_{night}$ contour map shown in Figure 5.

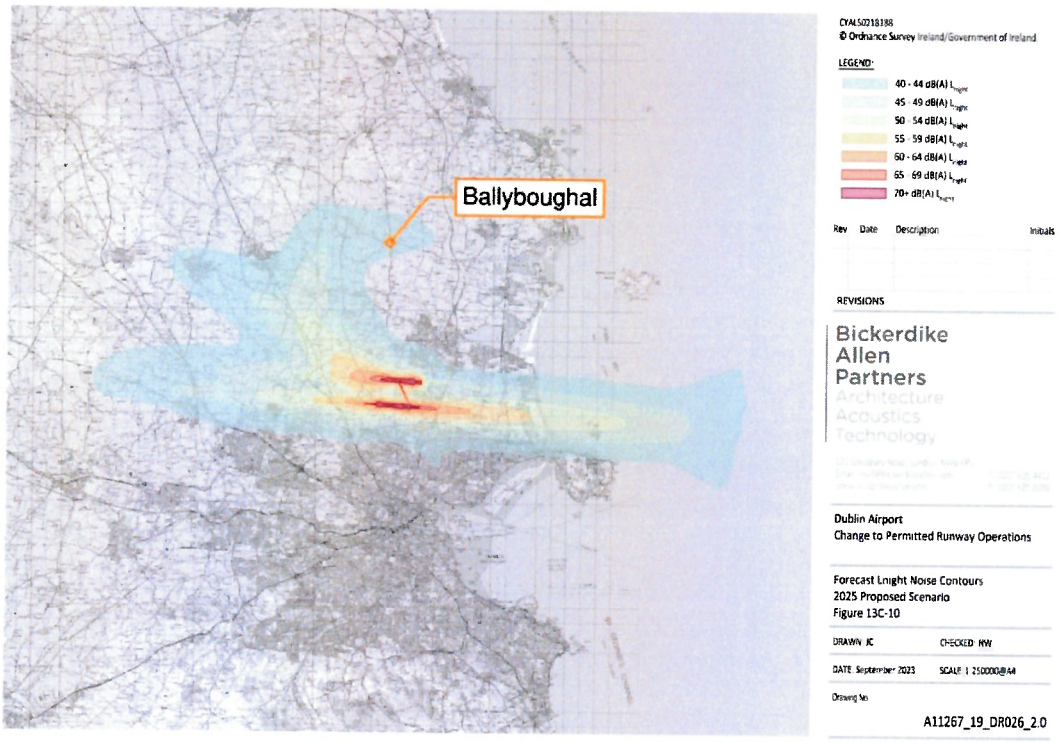


*Figure 5: DAA predicted $L_{night}$ airport noise contours for 2025.*

### 3.2.1 Calculation of $L_{night}$ Noise Levels from SEL Measurements

The $L_{night}$ noise levels can be predicted based on the measured SEL noise measurements at the monitoring location in combination with the information submitted by DAA to ANCA as part of the response to ANCA's review of the 2022 airport noise emission outlining the number of flights per aircraft type (included in Appendix B). Similarly to the daytime noise level predictions, a correction was applied to the results to account for days of Easterly winds which is assumed to be 12 days over the 92 day duration and a correction has also been allowed for in that not all aircraft have flight paths over Ballyboughal, an allocation of 50% of aircraft takeoffs flying over Ballyboughal area has been allowed.

Based on the above calculation and the recorded SEL for each aircraft type outlined in Table 2 the predicted $L_{night}$ during the 92 day summer period in 2024 will be 44dB(A). The 2025 $L_{night}$ noise level during the 92 day summer period is predicted to also be 44dB(A).

This is at the upper limit of the range predicted by DAA at Ballyboughal.

## 3.3 Comparison of SEL Noise Levels

Sound exposure level (SEL) contours have been predicted by the DAA and their acoustic consultants Bickerdike Allen in relation to the noise abatement departure procedures (NADP) for the North Runway for the most common aircraft types:

- Boeing 737-800
- Airbus A320
- Airbus A330

The predicted SEL contours are shown for the Boeing 737-800 and Airbus A320 in Figure 6 and Figure 7, respectively.

For the DAA predicted SEL contours for the Boeing 737-800 as shown in Figure 6 below, Ballyboughal currently lies significantly outside the lowest predicted contour of 80dB(A). Based on the recorded noise levels at the monitoring location and calculated SELs as outlined in Table 2, the sound exposure level ranged 74 – 78 dB(A) for the Boeing 737-8AS with a logarithmical average SEL of 77dB(A). Given the extent at which Ballyboughal is predicted outside the 80dB(A) contour, it is suggested that by the recorded noise levels that the noise impact of plane flyovers is higher than the DAA predictions.

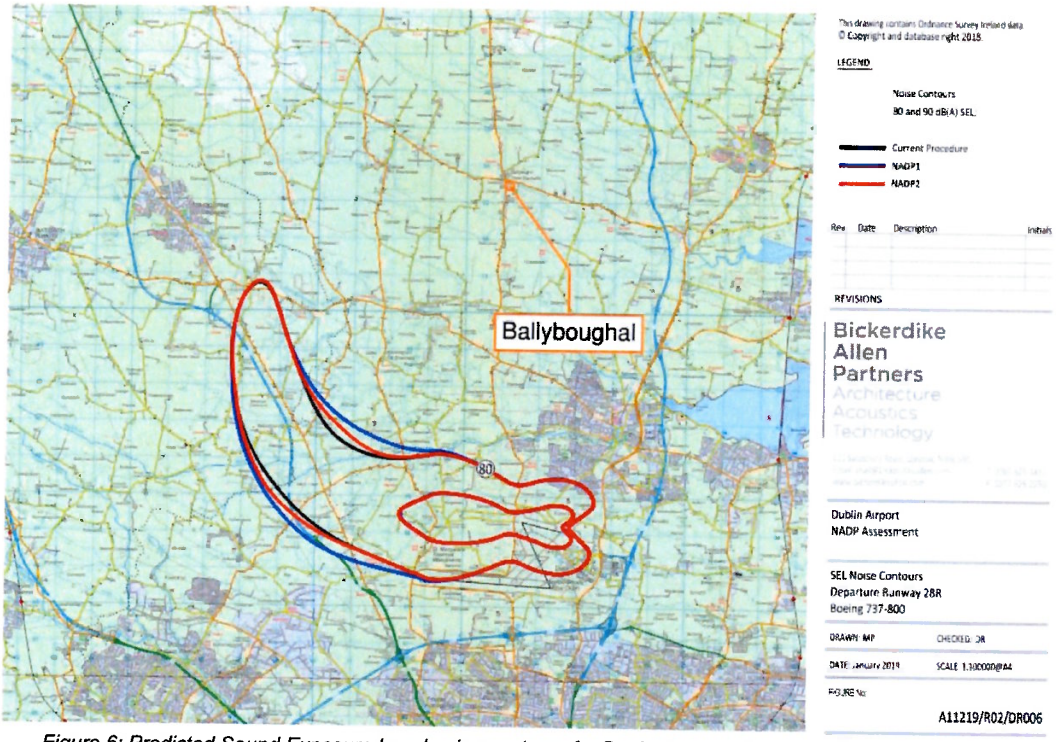


*Figure 6: Predicted Sound Exposure Level noise contours for Boeing 737-800 for North Runway operation.*

For the DAA predicted SEL contours for the Airbus A320 as shown in Figure 7 below, Ballyboughal again lies significantly outside the 80dB(A) contour for all departure procedures. Based on the recorded noise levels at the area and calculated SELs as outlined in Table 2, the sound exposure level ranged 67 – 77 dB(A) for the Airbus A320 with a logarithmical average SEL of 75dB(A). Given the extent at which Ballyboughal is predicted outside the 80dB(A) contour, it is suggested that by the recorded noise levels that the noise impact of plane flyovers is higher than the DAA predictions.

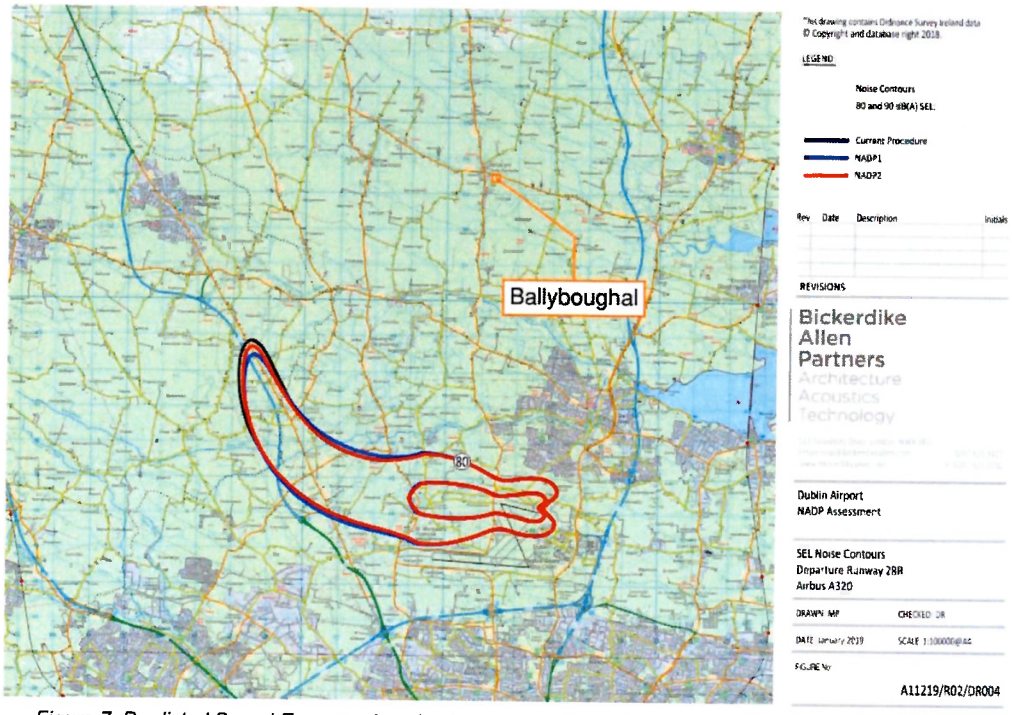


*Figure 7: Predicted Sound Exposure Level noise contours for Airbus A320 for North Runway operation .*

## 3.4 $L_{AFmax}$ Noise Levels

Figure 8 and Figure 9 outline the DAA predicted $L_{Amax}$ noise levels for the Boeing 737-800 and Airbus A320 aircrafts with the operation of the North Runway respectively.

The contours for the Boeing 737-800 aircraft shows Ballyboughal just over 7.5km outside the 70dB $L_{Amax}$ contour, which is indicative that the noise levels at this location would be significantly lower. Based on the recorded measurements as outlined in Table 2 there was one instance of Boeing 737 aircraft which achieved 70dB(A) $L_{AFmax}$, and the average $L_{AFmax}$ recorded was 66dB(A).

This shows that the maximum noise levels experienced at the Cnoc Dubh estate are negatively affected by the operation of the North Runway.

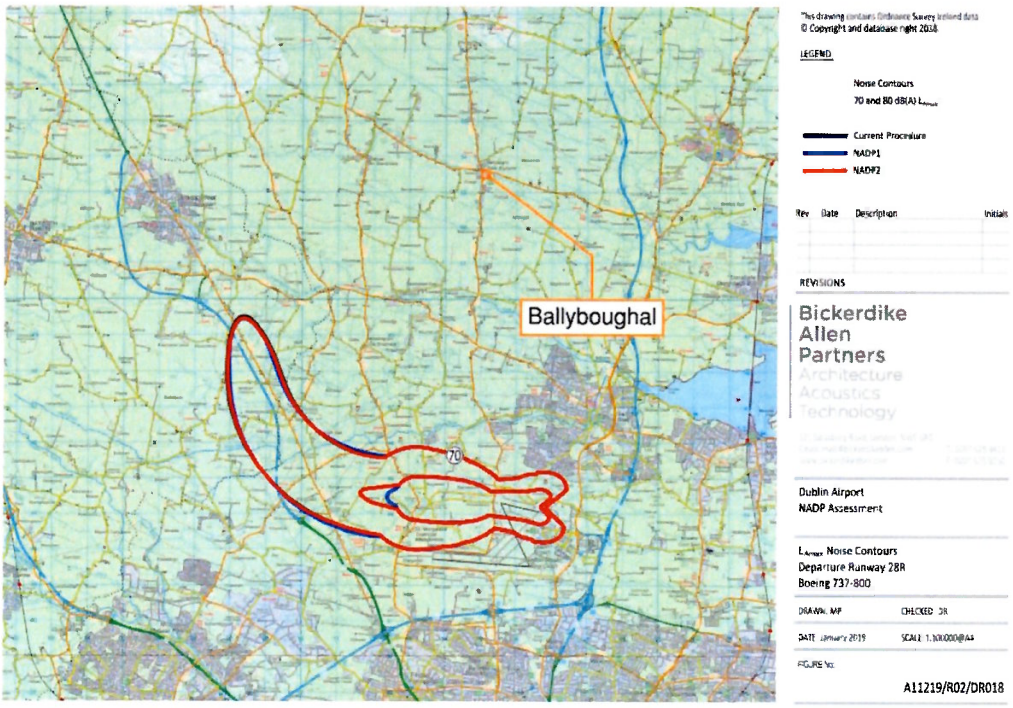


*Figure 8: Predicted $L_{Amax}$ noise contours for Boeing 737-800 for North Runway operation.*

The contours for the Airbus A320 aircraft shows Ballyboughal over 8km outside the 70dB $L_{Amax}$ contour, which is indicative that the noise levels at this location would be significantly lower. Based on the recorded measurements as outlined in Table 2 the $L_{AFmax}$ recorded noise levels ranged from 62-69dB(A), with an average $L_{AFmax}$ recorded was 66dB(A).

Similarly, this also shows that the maximum noise levels experienced at the Cnoc Dubh estate are negatively impacted by the operation of the North Runway.

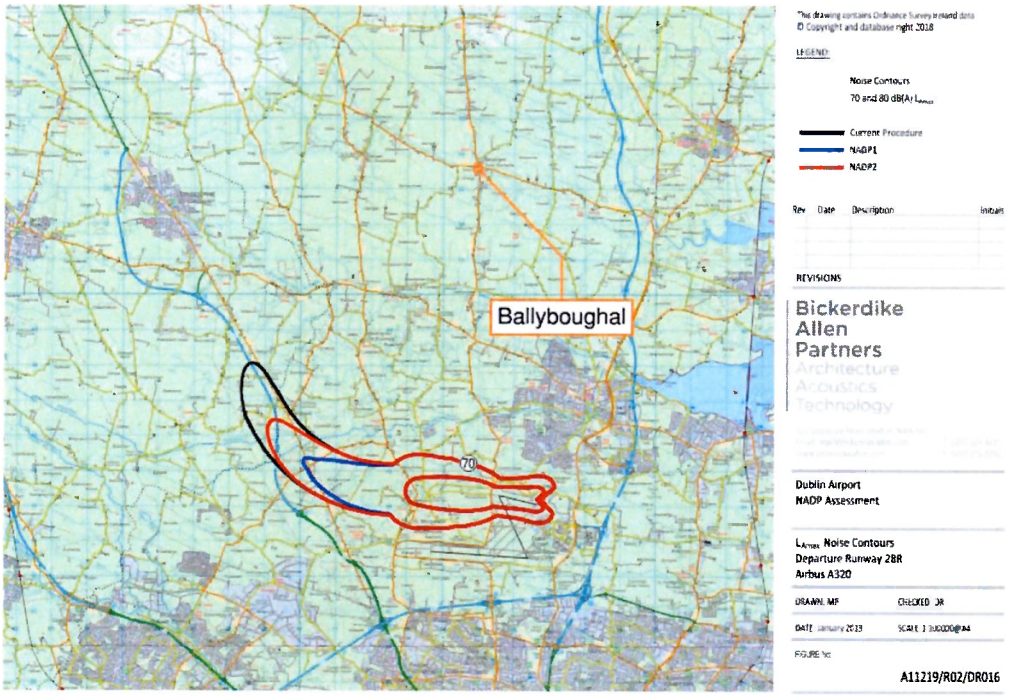


*Figure 9: Predicted $L_{Amax}$ noise contours for Airbus A320 for North Runway operation.*

# 4 Conclusion

Following the commencement of operations of the new Dublin Airport North Runway, Wave Dynamics were engaged by Ballyboughal Community Council to undertake sound exposure level measurements at Cnoc Dubh estate, Ballyboughal, Co. Dublin.

The objective of the assessment was to quantify the noise levels from aircraft flyovers in the area following the commencement of the operation of the North Runway. The measured noise levels have been compared with the predicted noise levels from the DAA noise contours. Sound exposure level measurements were taken in the area and thus used to calculate the 92 day average $L_{Aeq,16hour}$ based on the number of aircraft types over the 92 day period which predicted an $L_{Aeq,16hour}$ of 52dB(A). The DAA 2025 predicted noise contour situates Ballyboughal approx. 3km outside the 51-53dB(A) contour, therefore daytime aircraft noise levels lower than 51dB(A) would be expected at the site from aircraft noise. The measured noise levels and predicted $L_{Aeq,16hour}$ value show that the Cnoc Dubh Estate is negatively impacted by aircraft noise and an exceedance of the DAA contours is very likely. Based on the $L_{Aeq,16hour}$ noise levels at the Cnoc Dubh, it would be expected that the internal noise levels within dwellings would exceed the recommended levels of 35dB(A) $L_{Aeq,T}$ with the windows open. This is likely to have a significant negative effect on residents being able to enjoy the amenity of their own home in the Summer months where purge ventilation and cooling are likely required.

Based on studies on the reduction in noise levels from outdoor noise to indoor with an open window[1], an open window will provide approx. 10dB attenuation in noise levels. Based on the measured noise levels, a dwelling with the window open for ventilation is likely to have internal noise levels in the range 45-50dB $L_{Aeq}$ while aircraft pass. This would be clearly audible within the dwelling.

From the site visit it is evident that there is a significant subjective noise impact, and that aircraft are clearly audible at the Cnoc Dubh estate and are the dominant noise source in the area while flying overhead. The assessment of $L_{Amax}$ noise levels at the estate indicate that there is likely a significant negative noise impact on the residents of Cnoc Dubh, Ballyboughal. The maximum noise levels measured averaged 66dB(A) for both Boeing 737 and Airbus A320 however the predicted noise contour shows 70dB $L_{Amax}$ over 7.5km and 8km from the estate respectively.

Sound exposure level measurements for the two most common aircraft types were also compared to the DAA predicted noise contours for the same aircraft types. Despite Ballyboughal being located significantly outside the lowest predicted SEL contour for both aircraft types, there is no specific noise contour for Ballyboughal, which would assume no negative noise impact was predicted here from aircraft flyovers. Considering this, the SEL measurements indicate that the noise from aircraft flyovers is providing a negative noise impact.

It is recommended that the noise levels in the area are verified during the 92-day summer period to confirm the predicted noise levels outlined in this report.

[1] Differences between Outdoor and Indoor Sound Levels for Open, Tilted, and Closed Windows

# Appendix A- Glossary of Terms

| | |
|---|---|
| Ambient Noise | The totally encompassing sound in a given situation at a given time, usually composed of sound from all the noise sources in the area. |
| Background Noise | The steady existing noise level present without contribution from any intermittent sources. The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90 per cent of a given time interval, T ($L_{AF90,T}$). |
| dB | Decibel - The scale in which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the RMS pressure of the sound field and the reference pressure of 20 micro-pascals (20 μPa). |
| dB(A) | An 'A-weighted decibel' - a measure of the overall noise level of sound across the audible frequency range (20 Hz – 20 kHz) with A-frequency weighting (i.e. 'A'–weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies. |
| Hertz | The unit of sound frequency in cycles per second. |
| $L_{A90}$ | A-weighted, sound level just exceeded for 90% of the measurement period and calculated by statistical analysis. See also the background noise level. |
| $L_{Aeq}$ | A-weighted, equivalent continuous sound level. |
| $L_{AFmax}$ | A-weighted, maximum, sound level measured with a fast time-constant - maximum is not peak |
| $L_{den}$ | day-evening-night noise level, the A-weighted, Leq (equivalent noise level) over a whole day, but with a penalty of 10 dB(A) for night-time noise (23:00-07:00) and 5 dB(A) for evening noise (19:00-23:00), also known as the day evening night noise indicator |
| $R_W$ | Weighted sound reduction index - a single number quantity which characterises the airborne sound insulation of a material or building element over a range of frequencies, based on laboratory measurements |
| SEL | The constant sound level that, if it persisted for 1 second, would provide the same sound energy as the original noise event. |

# Appendix B – Volume of Flights per Aircraft Type

The volume of flights per aircraft type have been submitted to DAA by ANCA as part of the response to ANCA's review of the 2022 airport noise emission and are outlined below in Table 3.

*Table 3: Volume of each aircraft type over the entire year and over summer period*

| Aircraft Type | 2024 | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Average | | | | Summers Period | | |
| | Annual Day | Annual Eve | Annual Night | Annual 24hr | Summer Day 16hr | Summer Night | Summer 24hr |
| Airbus A300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Airbus A306 | 597 | 299 | 299 | 1195 | 262 | 87 | 350 |
| Airbus A319 | 1792 | 0 | 0 | 1792 | 524 | 0 | 524 |
| Airbus A320 | 39428 | 11649 | 4182 | 55258 | 14945 | 1224 | 16169 |
| Airbus A320neo | 4182 | 1493 | 299 | 5974 | 1661 | 87 | 1748 |
| Airbus A321 | 1792 | 896 | 597 | 3286 | 787 | 175 | 961 |
| Airbus A321neo | 6571 | 0 | 597 | 7169 | 1923 | 175 | 2098 |
| Airbus A330 | 8961 | 0 | 896 | 9857 | 2622 | 262 | 2884 |
| Airbus A330neo | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Airbus A350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ATR 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ATR 72 | 9558 | 2390 | 0 | 11948 | 3496 | 0 | 3496 |
| BAe 146/Avro RJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boeing 737-400 | 597 | 1195 | 597 | 2390 | 524 | 175 | 699 |
| Boeing 737-500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boeing 737-700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boeing 737-800 | 39726 | 11350 | 4480 | 55557 | 14945 | 1311 | 16256 |
| Boeing 737 MAX | 17623 | 8363 | 3286 | 29272 | 7604 | 961 | 8565 |
| Boeing 757 | 2390 | 299 | 299 | 2987 | 787 | 87 | 874 |
| Boeing 767 | 1792 | 1195 | 597 | 3584 | 874 | 175 | 1049 |
| Boeing 777 | 597 | 0 | 597 | 1195 | 175 | 175 | 350 |
| Boeing 777X | 597 | 597 | 0 | 1195 | 350 | 0 | 350 |
| Boeing 787 | 3584 | 597 | 597 | 4779 | 1224 | 175 | 1398 |
| Bombardier CS300 | 1792 | 597 | 0 | 2390 | 699 | 0 | 699 |
| Bombardier Dash 8 | 597 | 0 | 0 | 597 | 175 | 0 | 175 |
| Convair 580 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Embraer E190/195 | 5078 | 2390 | 299 | 7766 | 2185 | 87 | 2272 |
| Embraer E190-E2 | 597 | 0 | 0 | 597 | 175 | 0 | 175 |
| HS748A | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lockheed C130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| McDonnell Douglas | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MD83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Piper PA34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Aircraft Type | 2024 | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Average | | | | Summers Period | | |
| | Annual Day | Annual Eve | Annual Night | Annual 24hr | Summer Day 16hr | Summer Night | Summer 24hr |
| Shorts SD330/360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 2390 | 1195 | 0 | 3584 | 1049 | 0 | 1049 |
| **Total** | 150243 | 44505 | 17623 | 212372 | 56985 | 5157 | 62141 |