

Ballystrahan,
St. Margarets,
Co. Dublin



The Director of Services
Aircraft Noise Competent Authority
Fingal County Council
County Hall, Main St
Swords, Co Dublin
K67 X8Y2

February 28th, 2022

RE: AIRCRAFT NOISE CONSULTATION SUBMISSION

Dear Sir/ Madam,

We, Pearse and Evelyn Sutton, wish to make this submission to the current application by DAA regarding the removal of operations from the planning consent for the new North Runway at Dublin Airport.

We confirm that having obtained planning permission to construct a family home at Ballystrahan, St. Margarets, Co. Dublin in 1992 (Planning Ref 92A/0220), we proceeded to construct our house and have lived at our family home ever since (30 years ago).

We note that planning permission was granted by Dublin County Council. We confirm that there were no conditions attached to the planning permission with respect to any restrictions to be imposed by the location of Dublin Airport and at that time most airports in Europe did not permit night time flights due to the health effects associated with such noise on communities close to the airport.

We did not receive any correspondence from the Airport Authority regarding possible future noise, etc.

In 2007 the DAA were granted planning permission to construct and operate a new northern runway that is located close to our family home but due to the dangers associated with health effects to local communities, restrictions were imposed on night flights so that no night flights were to take place between 23:00 and 07:00 on the proposed new runway. These restrictions were obviously very welcome in the interest of protecting our health from the serious harmful effects of aircraft noise, particularly at night, which research has indicated can be extremely harmful to health (Ref. to research by Professor Münzel and his submission on the "Health effects of aircraft noise on the cardiovascular system").

Last year we were approached by DAA who informed us that because of our house location, a condition of planning granted in 2007 meant that our house should be sound insulated to protect our health from the harmful aircraft noise that would result from the operation of the new North Runway during day time operations.

This sound insulation was proposed to protect our health from harmful noise created by aircraft flying between 07:00 and 23:00 during the daytime as the planning granted did not permit night time flights on the new North Runway.

Obviously as it was explained and from our research, we consented to our house being sound insulated by DAA to protect us from the harmful effects of daytime aircraft noise.

We made sure at the time that we notified the DAA Representatives, that while the insulation scheme would protect our health from daytime noise, it would not be a suitable mitigation measure to mitigate any proposed night time noise from aircraft as we sleep with our windows open.

We also alerted them to the fact that Variation #1 of the current Fingal County Councils development plan advises that within Noise Zone A (where our house is located) ***"All noise sensitive developments within this zone may potentially be exposed to high levels of aircraft noise, which may be harmful to health or otherwise unacceptable. The provision of new noise sensitive developments will be resisted"***. Therefore, Fingal County Council recognise that sound insulation is not a mitigation measure for housing located in Zone A.

Furthermore, in Noise Zones B and C of Variation # 1, Fingal County Council recommend that ***"Appropriate well-designed noise insulation measures must be incorporated into the development in order to meet relevant internal noise guidelines"***.

Fingal County Council advise that ***'Good Acoustic Design' means following the principles of assessment and design as described in ProPG: Planning & Noise – New Residential Development, May 2017;***

With reference to this document at section 2 and in particular Figure 2, it is recommended that in bedrooms with respect to sleeping, LA_{max,F} should be restricted to 45dB between the hours of 23:00 and 07:00.

Some members of the St Margarets The Ward Residents Group organised to carry out noise tests within bedrooms that had been sound insulated by DAA under the existing South Runway in 2020 and 2021. The results were horrific as they indicated that even with windows closed and the house insulated against noise to the correct DAA requirements, the advised levels of noise from the ProPG document and the Fingal County Council Variation #1 advice could not be met. Therefore, the sound insulation, even with windows closed, does not protect existing houses exposed to aircraft noise at night time and the health effects it poses to inhabitants of those communities. Again, this was communicated to the DAA Representative but no action was taken.

They confirmed that neither they, the Airport Noise Competent Authority or Fingal County Council have carried out any studies with respect to the health effects of night time noise now being proposed by DAA and being supported by ANCA.

Members of St Margarets The Ward Residents Group, through the Community Liaison Group, have pleaded with DAA and Fingal County Council to look at providing mitigating measures in the form of relocating community members most affected by dangerous aircraft noise to a location within the community that protects them, (such as the state owned lands at Thornton Hall). DAA/ Fingal County Council can then take control of those houses and do what they wish with them as a viable mitigation measure to permit night time flights to operate on the new North Runway.

From a preliminary review of the housing affected we are of the opinion there are some 150 houses affected in the St Margarets/ The Ward area.

Even if relocation costs were put at €1.5M per house (very conservative), this equates to a total, one off cost of €225M. The value of obtaining the existing houses and lands needs to be taken from this total figure which essentially makes this measure cost neutral for DAA.

With reference to the submission by St Margarets The Ward Residents Group, the cost to health in a single year (2019) is in excess of €600M. Therefore, the cost of mitigation as a once off cost is a fraction of the health cost due to the proposed noise to be inflicted on the local community.

We would also like to make the following observations:

Aircraft Noise (Dublin Airport) Regulations Act 2019.

Part 2 of the Aircraft Noise Regulation Act sets out the obligation and process of Aircraft Noise Regulation.

At Section 9. (1) “The Competent Authority shall ensure that the noise situation at the airport is assessed in accordance with the European Communities (Environmental Noise) regulation 2018 (SI no 549 of 2018) and the Environmental Noise Directive.

In Part 1, Section 2, the “Environmental Noise Directive” means Directive 2002/49/EC.

Directive 2002/49/EC came into force on 25th June 2002.

Article 1 of Directive 2002/49/EC state that *“the aim of the Directive shall be to define a common approach intended to AVOID, PREVENT OR REDUCE ON a prioritised basis the harmful effects, including annoyance due to Environmental Noise”*.

At Article 8, Member States were to ensure that no later than 18th July 2008 that the Competent Authority have drawn up action plans designed to manage within their territories noise issues and effects including measures required for reduction of noise.

To fulfil the legal obligations as set out in the directive, “Dublin Agglomeration of Environmental Noise” was provided by Dublin City Council, South Dublin County Council, Fingal County Council and Dun Laoghaire Rathdown County Council in 2008. Extracts from this plan are attached at TAB 1 to this submission.

We note at Section 4.3.3 that the report notes “that action is taken by each member state with a view to preventing and reducing environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and to preserving environmental acoustic quality where it is good. The relevant local authorities have been designated by the Environmental Noise Regulations SI No 140 of 2006 as the bodies charged with development and making of “Noise Action Plans”.

At Section 4.6.2, a table is presented which is used for that action plan in the decision-making process. A value of 17 or more is suggested as the point where priority action shall be considered, either to reduce excessive sound levels or to preserve low sound levels where they exist. With reference to Appendix 13 of the Noise Plan it is noted that Lden value at St. Margaret’s /The Ward is 50dB. At Appendix 14 the LNight values are less than 50dB. The number of people exposed to the various noise at LNight and Lden are indicated at Appendix 11 and 12.

At section 4.8 and 4.8.1 areas with low sound levels are defined as areas with night-time level less than 50dB and / or a daytime level less than 55dB. Therefore at St. Margaret's / The Ward the score ratings are as follows:

Noise Sound – Day 3 – Night 4 – Total = 7.

Type of location - Sensitive location – Day 3 Night 3 – Total = 6.

Type of Noise – Airport – Day 3 – Night 4 – Total = 7.

Overall Total = 20.

Therefore, in 2008 priority action was determined to be required in the St Margarets/ The Ward area due primarily to aircraft noise.

We also note from the LNight contours that no people were exposed to night -time noise greater than 55dB. For Lden, 2,800 people were exposed to noise levels 55-60dB, 200 between 60-65dB, 100 between 65-70dB and 10 people between 70-75dB.

At Section 6.2.9 of the Action Plan measures to prevent noise and reduce, avoid or relocate noise for Aircraft Sources are set out. We note that at Section 6.2.5 it states that *"The current noise mitigation measure with regard to Aircraft noise have been in place for a number of years for Dublin Airport."*

As the Planning Permission was granted for the Proposed New Runway in 2007, the Authorities in writing the Noise Action Plan would have been aware if the Restrictions imposed on night-time flights on both the new proposed parallel north runway and the existing South runway.

However, we noted that despite it being noted expressly at item 6 of Annex 1V of Directive 2002/49/EC that *"For the purposes of informing the citizen in accordance with article 9 and the development of actions plans in accordance with Article 8, additional and more detailed information MUST be given such as:*

- *Difference maps, in which the existing situation is compared with various possible situations".*

The noise mapping for the proposed new North Runway which had been granted permission was not presented in this Noise Action Plan to inform citizens as required by the Directive. A glaring omission.

At Article 8, Section 5 of Directive 2002/49/EC, an Action Plan must be reviewed and revised, if necessary, when a major development occurs affecting the existing noise situation and at least every 5 years after their date of approval.

A new “Dublin Agglomeration Environmental Noise Action Plan” dated December 2013 to November 2018 was published again by Dublin City Council, Fingal County Council, South Dublin County Council and Dun Laoghaire Rathdown County Council. Extracts are located at TAB 2 to this submission.

A summary of noise exposure levels relating to Dublin Airport are included at p.29 and p.30 and Table 5.9.

The number of people exposed to noise levels were as follows:

	Lden	Lnight
50-54dB	11,900	1,200
55-59dB	300	200
60 – 64dB	200	0

As noted above, the Figure for the 2008 Noise Action Plan were:

	Lden	Lnight
55-59dB	2,800	0
60-64dB	200	0
65-69dB	100	0
70-74dB	10	0

Whilst there appears to be a reduction in Lden numbers there is a significant increase in Lnight numbers.

At Section 9.2.4 “Airport noise reduction measures” at item d is noted that “Imposing noise relating operating restrictions (such as night-time ban on flights) is to be considered as a noise reduction measure. So, in 2013, we the people of St Margarets The ward were informed that a night time ban on flights would be considered to reduce the effects of harmful noise, in accordance with the planning conditions issued for the North Runway.

Also, as can be seen from Fig C.3 and Fig C.4 there is a dramatic increase in the noise contours for Lden and Lnight at Dublin Airport for the 5 years previous.

We note again that Appendix F includes the decision matrix process and again a value of 17 or more is suggested as the point where priority action should be considered.

We note that the value for the St. Margaret's / The Ward area is 20 and is therefore an area for priority action. We note that if a ban on night-time flights as proposed was enforced that the number of people effected by night-time flights would have been eliminated. Again, as required by Directive 2002/49/EC the proposed North Runway development was known and yet no noise contours were presented to the citizens as required by the directive.

A new Noise Action Plan for Dublin Airport was published in December 2018 titled "Noise Action Plan" for Dublin Airport 2019 – 2023 by Fingal County Council. Extracts from this Noise Action Plan are located at TAB 3 to this submission.

We would particularly refer to Table 5 and Table 7. Note that the original figures stated in the 2008 Noise Action Plan Relative to 2006 were apparently reported on in error as it is stated that the original 2006 results were based on estimated population. The revised figures are now said to be based on census figures.

The reported figures for the year 2006, 2011 and 2016 are now:

	Lden			Lnight		
Noise-band	2006	2011	2016	2006	2011	2016
50-54.9				1,800	1,200	6,200
55-59.9	13,000	11,910	18,500	200	200	400
60-64.9	1,200	300	1,500	0	0	0
65-69.9	200	200	300	0	0	0

Therefore from 2011 to 2016 there has been a 350% increase of people exposed to night-time noise between 50-54.9dB and a 100% increase of people exposed to night- time noise between 55-59.9dB.

We note that under the actions proposed in table 10 item 12 states *"Review any updates in advice from bodies such as the WHO and the European Environmental Agency in relation to Aircraft Noise and its health and quality of life effects"*.

Again, the noise contours for the proposed new runway were not included as required by Directives 2002/49/EC. Over 589 submissions were made to Fingal from the general public, many of which requested that the Action Plan include the proposed effects of the new Runway as required by the Directive 2002/49/EC. Fingal County Council misinformed councillors and the general public that the

new runway was outside the scope of the plan which is clearly contrary to the requirements of Annex IV of the Directive, and as indicated above.

It is obvious from the reporting within these Noise Action Plans that the noise situation around Dublin Airport was escalating at an alarming rate since the introduction of the Directive 2002/49/EC and that Ireland, and Fingal County Council in particular, were failing in their obligation to avoid, prevent or reduce the harmful effects of environmental noise on a prioritised basis in the St Margarets The Ward area.

Of particular note is the omission of the decision matrix score table from this Noise Action Plan. It is obvious that this matrix was pointing to a serious underachievement of the priorities on noise control and prevention and for this reason it was omitted.

Figures presented by the DAA for people affected by noise exposure for the years 2018 and 2019 are presented in TAB 4 attached to this submission, which include Table 5 of the Noise Consultants Report which is part of the ANCA's Draft Regulating decision, Appendix C, Preliminary Assessment and Identification of a Noise Problem.

It is obvious from the above that 2019 is the worst year for noise created by Dublin Airport and has been allowed to escalate by the Competent Authorities without any proper mitigation measures. The Authorities have most certainly failed in their obligations under directive 2002/49/EC.

We note that at Section 2.25 of the Strategic Environmental Assessment – Draft Environmental Report, it states that *“In the case of the European Commissions Zero Pollution Action Plan (2021), this overarching EU Policy sets out clear targets with respect to reducing the number of people chronically disturbed by transport noise. As part of this Action Plan, Target 2 states “By 2030 the EU should reduce by 30% the share of people chronically disturbed by transport noise (from a 2017 baseline)”* .

The use of 2019 as a baseline is totally out of order in ANCA'S assessment.

We refer to Section 4.8 of ANCA'S SEA.

4.80 “However, based on information submitted as part of planning application F20A/0668, the advice report on the potential noise problem associated with the Application (Noise Consultants Ltd 2021) shows further increase in noise exposure beyond these in the NAP (Noise Action Plan). For example, the number of people exposed to night-time noise levels above 50 dBA Lnight had risen to 12,317 in 2018 to 13,838 in 2019, more than double the figure for 2016. Similarly, the number of people exposed to average daytime levels greater than 55dBA Lden reached 35,483 in 2018 (falling slightly to 34, 097 in 2019) again double the 2016 figure”.

Therefore, ANCA themselves have acknowledged in their own assessment reports that the escalation in noise levels from 2016 to 2019 has doubled. They also know that the EU targets are based on the “PHENOMENA” Project which clearly use 2017 as the baseline year.

The baseline noise levels must be those for 2017 and in their absence the known value for 2016 must be used as the baseline.

We note that the DAA proposed 2018 noise levels as the baseline but again these are above the values of 2017 and are not in accordance with Target 2 as set out by the ECI.

All of the above is clear evidence of a blatant disregard for the health of the St Margarets/ The Ward community. Harmful noise is being allowed to escalate at an alarming rate since the introduction of the Directive 2002/ 49/ EC. No quantification of the cost of health damage has been presented by DAA or ANCA in order to properly inform citizens of the consequences of their proposals. With reference to the submission by St Margarets The Ward Action Group, the costs to health in accordance with accepted international practice is clearly calculated and presented and needs to be taken into account.

The mitigation measure of relocating Residents affected by severe/ chronic noise as indicated above is practically cost neutral and eliminates the infliction of harmful noise on these community members. It must be adopted as a mitigation measure if the proposals to allow night time flights are to proceed.

In lieu of relocation by Fingal County Council and/ or DAA, those who wish can be bought out or if they wish to stay in their homes, should be free to do so. The choice is theirs.

The current proposal will see night time flight noise inflicted on these community members with no mitigation measures, as proven by testing of the noise insulation scheme, which is **NOT EFFECTIVE** in reducing internal sound levels below the levels advised by Fingal County Council who are the planning authority and the building control authority for the St Margarets/ The Ward area.

We confirm that we fully support:

- the detailed submissions made to the ANCA by the St Margarets The Ward Residents Group;
- the submission by Professor Münzel;
- the submission to Fingal County Council by the Health Service Executive (HSE) for planning ref. F20A/ 0668; and
- the submission by Dr Eoin A. King regards the noise quota proposed at Dublin Airport.

We also note to following as part of our submission:

- ANCA and the DAA have totally ignored the objective of Target 2 of the EU Action Plan “Towards a zero pollution for air, water and soil” adopted in May 2021 as the targets for 2030 are set at far higher noise levels in 2019 and 2018, which far exceed the baseline year of 2017 required under the EU Action Plan. The selection of 2019 as the baseline is contrary to ANCA’s own SEA document used to screen the project.
- Neither ANCA nor the DAA have evaluated the serious health effects, and costs associated with such health effects, of their proposed modification to the current restrictions in place at Dublin Airport. This has serious health implications for the inhabitants within the St Margarets The Ward area.
- ANCA and the DAA are proposing noise insulation as a mitigation measure to nighttime noise increases within the St Margarets The Ward communities. This is contrary to Fingal County Council’s advice within their own Development Plan, and testing carried out within the St Margarets The Ward area on housing that has already been insulated by the DAA recently indicates the guidance referred to by Fingal County Council and the WHO cannot be achieved and will cause serious health issues of those affected by the proposed increase in night time noise.
- No mitigation measures are proposed by the DAA or ANCA to solve the health implications being imposed by the removal of the existing restrictions.
- From the DAA’s proposal, 79,405 people will be Highly Annoyed and 37,080 will be Highly Sleep Disturbed in 2025.
- Submission from HSE Environmental Health to Fingal County Council states that all efforts should be made to minimize the number of people subjected to the adverse health effects of aircraft noise by reducing aircraft noise levels to below the WHO safe limits of 45dB Lden and 40dB Lnight.
- The selection of 2019 or 2018 as the baseline for noise comparison does not meet the requirements of Directive 2002/49/EC as required by the Aircraft Noise (Dublin Airport) Regulation Act 2019. The escalating noise reported in noise action plans dating back to 2008 have been ignored with respect to reducing and prevention of noise at Dublin Airport.
- From 2016 to 2019 the size of the daytime noise 45dB Lden contour grew from 370km² to 745km²

- From 2016 to 2019 the size of the nighttime noise 40dB Lnight contour grew from 212km² to 328km².
- The figures presented by the DAA for 2018 as a baseline are incorrect as during 2018 the crosswind runway was used extensively and therefore the figures are distorted and are not accurate with respect to reviewing the current application.
- At the Oral Hearing in 2007 for the North Runway, figures were presented comparing 2007 levels to a 2025 forecast. The increase in population exposed with the 2025 forecast scenario was deemed unacceptable by An Bord Pleanála's consultant, Mr Rupert Thornely-Taylor. The figures in the DAA's current proposal are higher again. In 2007 the forecast noise exposure figures were deemed to be unacceptable from a health point of view. How can they be acceptable now?
- The health effects proposed to be inflicted on the St Margarets The Ward community have not been evaluated by either the DAA or ANCA. The real cost due to health effects alone is calculated at more than €600 million per annum due to the proposal.
- The DAA and Fingal County Council in the Dublin Airport Noise Action Plan claim that aircraft types have changed in Dublin Airport between 2003 to 2017 resulting in quieter aircraft. However, noise exposure levels grew exponentially in line with movement increases.
- Noise levels submitted by the DAA to the St Margarets The Ward group for various noise emissions for specific aircraft types indicate that there is very little difference in the actual measured noise level between the older and newer aircraft. Therefore, the assertions claimed regarding fleet replacements is totally flawed
- Using DAA's own forecasts for arrivals and departures there appears to be no reason for proposing a change from the current flight restrictions as there is little or no difference in proposed movements
- The reports on cost effectiveness submitted by the DAA exclude quantification of costs associated with the adverse health effects inflicted on residents. This item was specifically requested by ANCA and was not provided by the DAA. We in St Margarets The Ward as citizens were expecting this information to be presented to us as requested by ANCA. We refer to our submission on Public Health where we have evaluated the costs associated with the adverse health effects inflicted on us which indicated that the total yearly cost

based on the 2019 figures is a staggering 610 million euro. How are we expected to suffer these costs to protect our health?

- The cost effectiveness analysis (CEA) submitted by Riondo does not meet the requirements of EU598/2014 as it does not take into account of the current flight restrictions in place at Dublin Airport. The report therefore is misleading and inaccurate.
- The cost effectiveness analysis as submitted by Ricondo does not take into account the costs associated with Carbon Emissions nor does it indicate the costs in meeting Ireland's requirements under the Climate Action and Low Carbon (Amendment) Act 2021 for the proposed revision to the current restrictions.
- The EIAR submitted does not meet the requirements set out in the EPA guidance as it does not take into account the foreseeable and planned increase in passenger numbers above 32 million passengers and is considered 'project splitting'.

Yours sincerely,

Pearse & Evelyn Sutton

TAB 1

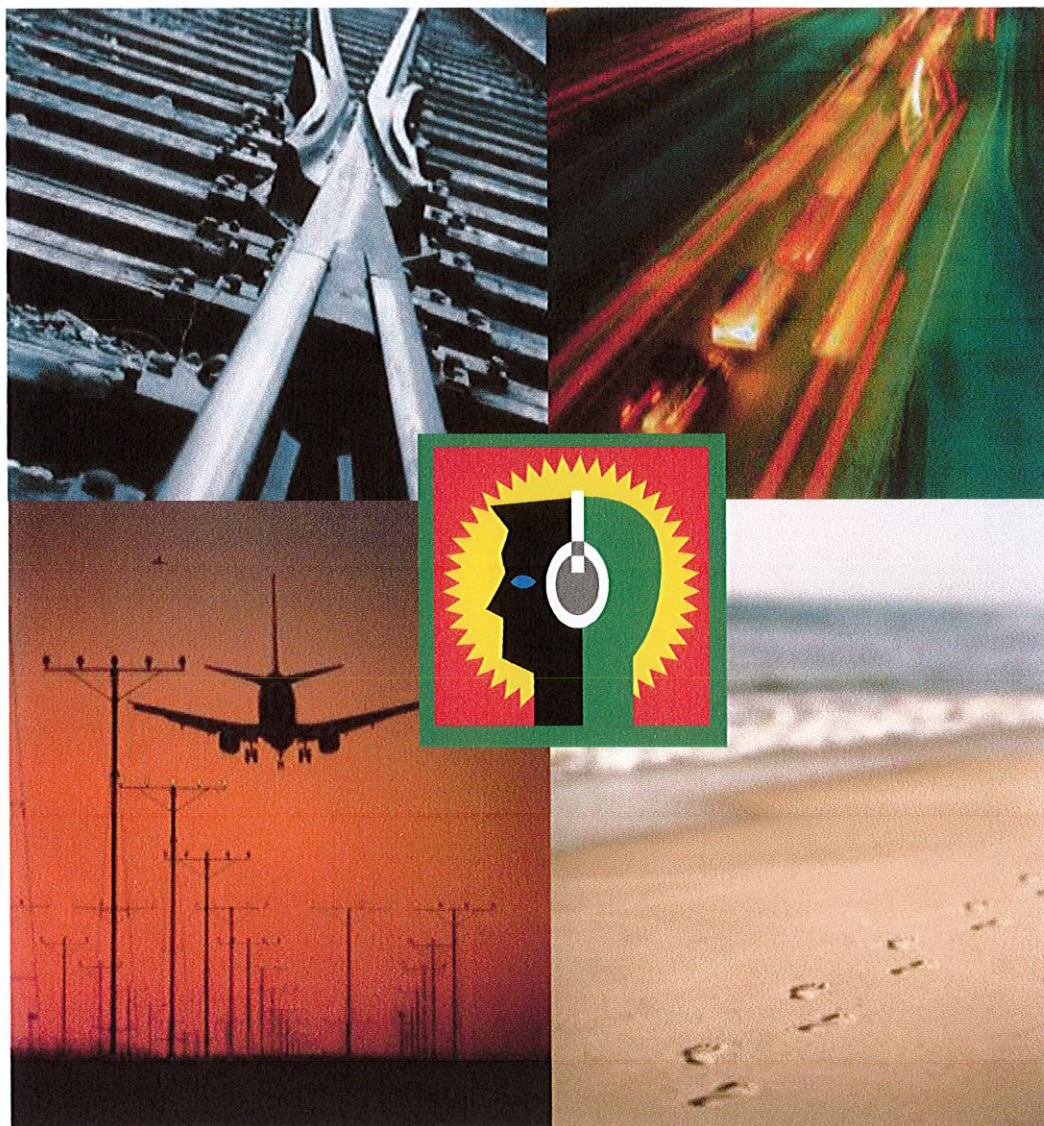
**DUBLIN AGGLOMERATION ACTION PLAN RELATING TO THE ASSESSMENT &
MANAGEMENT OF ENVIRONMENTAL NOISE**

PG 21 – 26

PG 41 – 46

PG 71 - 74

Dublin Agglomeration Action Plan Relating To The Assessment & Management of Environmental Noise



4 Preparation of an Action Plan on the Management of Environmental Noise

4.1 Introduction

- 4.1.1 In general low environmental sound levels contribute significantly to the good health and quality of life for the population in the Dublin Agglomeration. Co-ordinated and sustained effort is required to protect those areas that have low environmental sound levels and to improve areas that are deemed to have undesirable high levels. It is more cost effective to adopt an approach of prevention through good management and planning rather than having to retrofit existing situations to try and improve the quality of life for citizens. The use and enjoyment of many natural resources, such as our green spaces and sea frontage can be further enhanced through the preservation of low sound levels or the reduction in undesirably high levels, thus providing respite from the noisy 'hustle and bustle' often experienced in the busy urban environment.

4.2 Description of Action Planning Area

- 4.2.1 The Dublin Agglomeration is made up of the county borough of Dublin, the administrative county of Dún Laoghaire - Rathdown other than those areas excluded in the First Schedule to the Air Pollution Act 1987 (Marketing, Sale and Distribution of Fuels) Regulations 1998 (S.I. No. 118 of 1998), and the administrative counties of Fingal and South Dublin; In total it covers an area of approximately 924Km², with a population of 1,186,704. There is one major airport with over 215,000 movements per year and caters for 23 million passengers per year. 130 Kilometres of Rail track including the Luas with 80Km being designated Major Rail track. Approximately 4000Km of road was inputted into the models with 9.9% being designated as Major Roads i.e. carrying more than 16,438 vehicles per 24hours.

- 4.2.2 The following is the break down of the individual statistics within the four local authorities in the Agglomeration: -

- The Dublin City Council area covers an area of approximately 127Km² and is populated by 506,211 people. Within its boundaries there are just over 31Km of Irish Rail track and just under 13Km of Luas track. The entire rail track within the Dublin City Council area is designated as major rail. Approximately 1280Km of road was inputted into the noise model, 16% of which was designated as Major Road i.e. carrying more than 16,438 vehicles per 24 hours.
- The Fingal County Council area covers an area of approximately 450Km² and results from the 2006 Census confirm that the official population of Fingal County Council has grown dramatically to just under 240,000. Almost 44,000 more people live in Fingal County Council now than in 2002, a growth rate of 22.2% in just 4 years.

Fingal is officially Ireland's fastest growing county and the area of Dublin undergoing the greatest expansion comprising 5.6% of the national population. Within its boundaries there are just over 36Km of Irish Rail track with 6Km being designated as major rail. Approximately 1198 Km of roadway was inputted into the noise model comprising of 76 Km of Motorway, 219 Km of Regional Road and 903 Km of Local Road. Approximately 6% of road was inputted as major road into the computer model. There is also one Airport with 215,000 aircraft movements per year and which caters for 23 million passengers per year.

- The South Dublin County Council area covers an area 220Km². The 2006 Census shows a population of just under 247,000 – a rise of 3.4% in four years. Within its boundaries there are just over 19Km of Rail track with 8Km being designated as major rail. Approximately 846Km of roadway was inputted into the computer model. This included approximately 55Km of National roads, 103Km of Regional roads and 689Km of Local Roads. Approximately 9% of road was inputted as major road into the computer model.
- The Dún Laoghaire-Rathdown County Council area covers an area of 127Km² and results from the 2006 Census show a population just over 194,000, a rise of just 1.2% since the last census in 2002. Within its boundaries there are just over 27Km of Irish Rail track with 19Km being designated as major rail. There is approximately 26Km of National roads, 110Km of Regional roads and 535Km of Local Roads. Approximately 7% of road was inputted as major road into the computer model.

4.3 Responsible Authorities for Implementing 'Noise' Legislation & Action Planning

4.3.1 There are a number of bodies that implement 'noise legislation'. The Health and Safety Authority under the various pieces of health and safety legislation enforces noise in the work place legislation, which can impact on employees' health.

4.3.2 Noise in the environment that has the potential to cause nuisance/annoyance comes within the remit of Environmental Protection legislation. The Environmental Protection Agency Act 1992 states in section 108 'that where a noise gives reasonable cause for annoyance to a person in any premises in the neighbourhood or to any person lawfully using any public place, the Local Authorities or the Environmental Protection Agency or any such person can complain to the District Court, which may order measures to be taken to reduce, prevent or limit the noise. Section 107 of the same Act allows the Local Authorities to prevent or limit noise from any premises process or works by service of a notice on the offending party requiring appropriate mitigation measures to be taken. So in general, neighbour noise such as noisy neighbours, noise from road works, construction sites etc, places of entertainment such as pubs and bars can all be dealt with by the local authorities under section 108. Section 107 can be used by the local authorities to prevent or limit noise in anticipation of a noise nuisance arising.

4.3.3 'Environmental Noise' which is all around us can arise from many sources, such as traffic, industrial activities, rail, and aircraft. The Environmental Noise Directive, requires that action is taken by each member state, with a view to preventing and reducing environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and to preserving environmental acoustic quality where it is good. The relevant local authorities have been designate by the Environmental Noise Regulations, SI Regulations No. 140 of 2006, as the bodies charged with development and making of 'Noise Action Plans'.

4.3.4 Under the Environmental Noise Regulations, an Action Plan for the management of environmental noise in the Dublin agglomeration is required to be made by July 18th 2008. Dublin City Council, Fingal County Council, South Dublin County Council and Dún Laoghaire-Rathdown have been designated by Article 7 of the Environmental Noise Regulations 2008 as the action planning authorities for the purpose of making and approving action plans, in consultation with the Environmental Protection Agency and the relevant noise mapping bodies.

4.3.5 The Action Plan is to be prepared for a five year period and must be reviewed at a minimum, no later than five years after the date on which it was made. At this point in time, the Environmental Protection Agency has not established any noise limit values or noise criteria.

4.3.6 The local authorities in the Agglomeration have published individual reports on the impact of noise from traffic, rail, industry and aircraft, which includes colour coded noise maps. These maps show the various sound levels from rail and road for night time and 24 hours. (See Ch 3)

4.3.7 Some of the strategic issues that lead to increases or decreases in specific levels of environmental noise may lie beyond the direct control of the local authorities. This however should not be a deterrent to taking action, or being an advocate for change. Local authorities have a unique role in influencing other organisations and being a facilitator of change. Local authorities also have the potential to be models of best practice that in turn can influence other bodies.

4.4 Public Consultation

4.4.1 Apart from the requirement in the END and the Environmental Noise Regulations to consult with all stakeholders in relation to the development of the Action Plan, it is important to receive views from all quarters in relation to how noise is perceived, (See 3.2) Therefore all stakeholders, including the public, the RPA, Luas operators, NRA,

Dublin Airport Authority and Iarnród Éireann are encouraged to respond to this initial draft Action Plan.

4.4.2 Included in Appendix 2 is a list of organisations/bodies to which copies of this Draft Action Plan and the report on Noise Maps has been sent to for observation and comments.

4.5 Region and Activities covered by Action Plan

4.5.1 It is proposed that this draft action plan will encompass the Dublin Agglomeration

4.5.2 It is proposed to include actions to manage environmental noise, primarily from road traffic as this is the dominant sound source, but also from rail, industrial and airport sources, where required.

4.6 Identification of Areas to be subject to noise management activities

4.6.1 A decision/selection matrix is a chart that enables identification, analysis and rating of the strength of relationships between various sets of information. It enables a number of different factors to be examined and facilitates assessing the relative importance of each.

4.6.2 For this Action Plan it is proposed that the higher the number achieved in the decision matrix process, the higher the priority for action. A value of 17 or more is suggested as the point where priority action should be considered **either to reduce excessive sound levels or to preserve low sound levels where they exist.**

Decision Selection Criteria		Score Range Day	Score Range Night	SubTotal
Noise Band (dB(A))	<55	3	4	
	55 - 59	2	2	
	60-64	1	3	
	65-69	2	4	
	70-74	3	5	
	>=75	4	6	
Type of Location	City Centre	1	1	
	Commercial	1	2	
	Residential	2	3	
	Noise Sensitive Location	3	3	
	Quiet Area	3	3	
	Recreational open space	2	2	
Type of Noise	Road	2	3	
	Rail	1	2	
	Airport	3	4	

4.6.3 **For example** an address, which falls within the Sound level 65-69dB in the day (2) and 60-64dB at night (3), in a quiet area for day and night (3+3) and exposed to sound from traffic day and night, (2+3) will give an overall total of 16.

4.7 Areas with undesirable high sound levels

4.7.1 It is proposed that these areas are defined as areas with a night time level greater than 55 decibels and a daytime level greater than 70 decibels. Areas with undesirable high sound levels have been identified by the noise maps and can be seen in the various noise mapping reports for each of the local authorities, in the appendices.

4.8 Areas with desirable low sound levels

4.8.1 It is proposed that these areas are defined as areas with a night time level less than 50 decibels and/or a daytime level less than 55 decibels. Areas with desirable low sound levels have been identified by the noise maps and can be seen in the various noise mapping reports for each of the local authorities, in the appendices.

4.9 Quiet Areas

4.9.1 The Environmental Noise Regulations defines a 'Quiet Area' as *"quiet area in an agglomeration" means an area, delimited by an action planning authority following consultation with the Agency and approval by the Minister, where particular requirements on exposure to environmental noise shall apply;*

4.9.2 The 'Environmental Noise Directive' defines a Quiet Area as *'quiet area in an agglomeration' shall mean an area, delimited by the competent authority, for instance which is not exposed to a value of Lden or of another appropriate noise indicator greater than a certain value set by the Member State, from any noise source;*

4.9.3 A Quiet Area could be an area with low sound levels or an area, which should not be exposed to high sound levels due to the type of area or the nature of the activities that take place within it. An area may also be perceived to be quiet although the sound levels may be relatively high. For instance sound levels on St Stephens Green East exceed daytime levels of 70 decibels, while sound levels in the centre of the Park, range from 57–60 decibels. Whilst still relatively high, people use this park at lunch and other times to recreate and escape from the hustle and bustle of city life.

4.9.4 In this Action Plan it is proposed to use an absolute value of below 55 decibels daytime and below 45 decibels at night time as one criterion for defining a Quiet Area. A second criterion to cover what are perceived as Relatively Quiet Areas, is proposed. These types of locations will be defined by their proximity to areas of high sound levels,

and which provide a perceived area of tranquillity. Both quantitative and qualitative assessments will be used to identify these types of locations.

4.10 Noise Sensitive Locations

4.10.1 The Dublin Agglomeration is geographically located near the Wicklow Mountains and plains of Kildare and Meath. It borders the Irish Sea and a number of large rivers and canals such as the River Liffey, River Dodder, Royal and Grand canals flow through it.

4.10.2 The character of use of land\property within the four local authorities varies substantially throughout the Agglomeration - from a busy urban capital city to rural landscapes, to busy local towns, to fast developing suburban residential developments. Set out below is a break down of what are considered noise sensitive locations for each of the 4 local authorities in the agglomeration.

- For Dublin City Council area the recreational open spaces available to the City's population can be broken down into approximately 120 large open space\recreational areas, approximately 260 playing fields, 230 play grounds, 180 public parks and gardens, 4 beaches, two nature reserves, one main river with associated boat clubs and river walks and two canals with associated green spaces and walks. There are 128 places of worship, 54 hospitals including nursing and convalescence homes, 346 educational institutions, and 396 childcare\crèche facilities.

Using the decision\ selection matrix it has been found that 96 of the 1,279 areas identified as Noise sensitive, Quiet or Recreational Open Spaces have a score of at least 17. These include 32 Child Care facilities, 32 Educational establishments, 2 Nature Reserves, 7 Hospitals, 4 Nursing Homes, 12 Parks & Gardens and 7 places of Worship.

- For the Fingal Council area the recreational open spaces available to its citizens population can be broken down into approximately 4,500 acres of large open space\recreational areas, 11 play grounds, 11 public parks and gardens, 30 miles of coastline with 20 popular bathing spots, 10 major heritage sites, two nature reserves, one major river and one canals with associated green spaces and walks. There are 74 places of worship, 23 hospitals including nursing and convalescence homes, 108 educational institutions, and 170 childcare\crèche facilities.

Using the decision\ selection matrix it has been found that 98 of the 427 areas identified as Noise sensitive, Quiet or Recreational Open Spaces have a score of at least 17. These include 51 Child Care facilities, 40 Educational establishments, 1Nature Reserve, 4 Nursing Homes, 2 Parks & Gardens and 3 Places of Worship.

6.2.4 The local authorities within the Dublin Agglomeration will consider introducing where appropriate, speed reduction / traffic calming measures by: -

- a) Reducing excessive driving speeds through the provision of appropriate traffic calming measures (Noise levels to be taken account of in the prioritisation / assessment of future Traffic Calming Schemes).
- b) Design in accordance with best consultation practice design guidelines (i.e. Draft Guidelines for Planning Authorities, "Sustainable Residential Development in Urban Areas, February 2008) and other DoEHLG guidance documents.

6.2.5 The local authorities within the Dublin Agglomeration will consider where appropriate, improvement or changes in road surfaces during the routine maintenance cycle, where necessary by: -

- a) Improving road surfaces.
- b) Using low-noise road surfaces. For new roads schemes, low noise surfaces will be considered as part of the overall design and in keeping with current design guidelines

6.2.6 The local authorities within the Dublin Agglomeration will consider noise screening where necessary by: -

- a) Use of building structures for screening
- b) Roadside Noise Barriers will only be considered in the context of new construction projects and schemes and as far as Roads Design and Construction Schemes are concerned will be considered only in the context of the NRA Guidelines for the Treatment of Noise and Vibration in National Road Schemes.

6.2.7 The local authorities within the Dublin Agglomeration will consider requiring sound proofing of: -

- a) All windows on the most exposed façade, in all new residential developments, where noise maps have indicated undesirable high sound levels. This may also lead to a requirement to install ducted ventilation.

6.2.8 The local authorities within the Dublin Agglomeration will consider using the Planning Process, where necessary:

- a) To integrate Noise Action Plans into the City and County Development Plans
- b) To require developers to produce a sound impact assessment, and mitigation plan where necessary, for any new development that the local authorities considers will

impact negatively on pre-existing environmental sound levels within their Council area.

- c) To ensure that future developments are designed and constructed in such a way as to minimise noise disturbances. e.g. the position, direction and height of new buildings, along with their function, their distance from roads, and the position of noise barriers and buffer zones with low sensitivity to noise
- d) To ensure that new housing areas and in particular brown field developments will be planned from the outset in a way that ensures that at least the central area is quiet. This could mean designating the centre of new areas as pedestrian and cycling zones with future developments to provide road design layouts to achieve low speed areas where appropriate.
- e) To incorporate 'Home zones' or 'Streets for People' in new developments, which recognise that residential streets have multi function uses (e.g. movement, recreation) for pedestrians, cyclists and vehicles, in that priority order. The noise maps will be used to identify and classify the priority areas and streets.
- f) To reduce / avoid traffic by decentralising amenities into local areas.
- g) To interposing less sensitive uses between noise source and sensitive uses.

6.2.9 Measures to prevent noise and reduce, avoid or relocate noise from aircraft sources

The current noise mitigation measures with regard to aircraft noise have been in place for a number of years for Dublin Airport. These include the "Residential Sound Insulation Programme." This is a programme run by the DAA (previously Aer Rianta) since the opening of the new runway at Dublin Airport in 1989. The programme originally identified those dwellings that lie within a certain contour boundary and carried out insulation measures on these dwellings, which include 1) Double or secondary glazing for all windows and external doors. 2) Attic insulation comprising layers of quilting and gypsum slab. 3) Acoustic treatment for vents and active chimneys and capping of redundant chimneys. As a result of further proposed development at the Airport, most notably the development of the Northern Parallel Runway, the DAA propose to extend this scheme as is necessary. The boundary of the scheme (i.e. the 66 Leq -16 Hour noise contour) is to be reviewed every two years from 2010.

- a) It is considered, in relation to engine testing, that improvements may be achieved by relocating the site for engine ground running events away from the northern boundary of the airport, i.e. away from populated neighbouring areas and as such, this will be pursued by Fingal County Council, the D.A.A during the period of the Noise Action Plan.

- b) Fingal County Council will promote appropriate land use patterns in the vicinity of the flight paths and strive to restrict housing development in order to minimise the exposure of residents of such developments to undesirable noise levels. This will further reduce the potential for future conflict between airport operations and residents.
- c) The continued restriction of inappropriate development in the Outer Noise Zone and the restriction of noise sensitive uses in the Inner Noise Zone will continue to be pursued,
- d) It is proposed that information be made readily available to local communities and to the public in general, from the Noise and Flight Track Monitoring system. The Noise and Flight Track Monitoring System measures noise levels generated by aircraft and identifies the flight path taken to and from the airport, for each individual aircraft movement. This system is an important tool in determining the impact of aircraft noise on local communities. It is desirable that information from this system be made available to the public in a non technical manner and a timely fashion.
- e) It is suggested that 'best practice' guidelines/ procedures in relation to noise minimisation should be formulated jointly by the DAA and the IAA, in relation to take off and landing policies, which should have positive impacts on noise control measures. These procedures should be documented and formally conveyed to pilots and air traffic control personnel on a regular basis.
- f) During the lifetime of the present Noise Action Plan, the introduction of a new Aircraft Navigation system, to assist suitably equipped aircraft arriving and departing Dublin Airport, will be pursued by the IAA. Such system, based on Precision Area Navigation (P-RNAV) will provide for more accurate navigation, to assist in ensuring that aircraft will not drift from the runway environmental corridors, established by the Dublin Airport Authority.

6.2.10 Fingal County Council in conjunction with the Dublin Airport Authority and local stakeholder groups will continue to engage with each other through the **Environmental Monitoring Working Group set up under the Dublin Airport Stakeholders Forum**, in order to resolve any issues that may emerge. To this end potential action could include: -

Noise Monitoring

(a) Airborne Aircraft Noise

- Noise from aircraft taking off and landing.
- Runway utilisation
- Landing and take-off procedures.
- Flight Track Monitoring.

- Frequency of aircraft operations.
- Night flights.
- Preferential Environmental Noise Corridors

(b) Aircraft on the Ground

- Engine testing during maintenance.
- Aircraft taxiing.

(c) Monitoring

- Consideration of Noise Zones
- Consideration of measures of dealing with Aircraft Noise and deviation from designated flight paths.
- Consultation on the introduction of Noise Mitigation Scheme/s.
- Monitoring of flights over communities.
- Monitoring of flights in environmental corridors.

6.2.11 The local authorities within the Dublin Agglomeration proposes to require other stakeholders i.e. Iarnród Éireann and the Railway Procurement Agency: -

- a) To produce a sound impact assessment and apply mitigation measures when\where appropriate, for any new rail infrastructure or ancillary developments or any major intensification on any existing rail infrastructure or ancillary developments within the Dublin Agglomeration. This assessment should not alone include railway sound emissions but also a sound impact assessment, for example, of traffic, where the new infrastructure or intensification is likely to increase, disrupt or displace traffic flows within the Dublin Agglomeration.

6.2.12 The local authorities within the Dublin Agglomeration will carry out a review of the Action Plan. To support this review it will: -

- a) Develop a permanent, long-term sound monitoring network to support the decision making process.
- b) Put systems in place that will capture, maintain and update the data required to carry out a review of the noise maps and action plans every 5 years, as required by legislation.

7 Implementation Plan

Each local authority within the Dublin Agglomeration will follow the minimum time frame set out below in relation to the implementation of the Action Plan.

1. First year of Plan:

- a) Identify from noise maps where priority action is required at a local level
- b) Set up sound monitoring network.

2. Second Year of Plan

- c) Carry out local assessment
- d) Identify Quiet Areas and prepare submissions for approval by the Minister

3. Third to Fifth Year of Plan

- e) Commence implementation of the relevant actions as outlined in Chapter 6 and where the current business plan and expenditure as agreed by the relevant local authority allows

4. Year Four of Plan.

- f) Produce new noise maps.

5. Year Five of Action Plan

- g) Review impact of Action Plan and amend where appropriate.

APPENDIX 1

Definitions & Explanations.

Agglomeration: 'Agglomeration' shall mean part of a territory, delimited by the Member State, having a population in excess of 100,000 persons and a population density such that the Member State considers it to be an urbanised area.

Agglomeration of Dublin: 'Agglomeration of Dublin' means the county borough of Dublin, the administrative county of Dun Laoghaire/Rathdown other than those areas excluded in the First Schedule to the Air Pollution Act 1987 (Marketing, Sale and Distribution of Fuels) Regulations 1998 (S.I. No. 118 of 1998), and the administrative counties of Fingal and South Dublin;

'Ancillary Developments': Supplementary developments or works associated with an existing or new development.

Decibel: A unit of measurement of sound.

Daytime: Between the hours of 7am and 7pm

Evening time: Between the hours of 7pm and 11pm

Environmental Noise: Shall mean unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity such as integrated pollution prevention and control licensed industries.

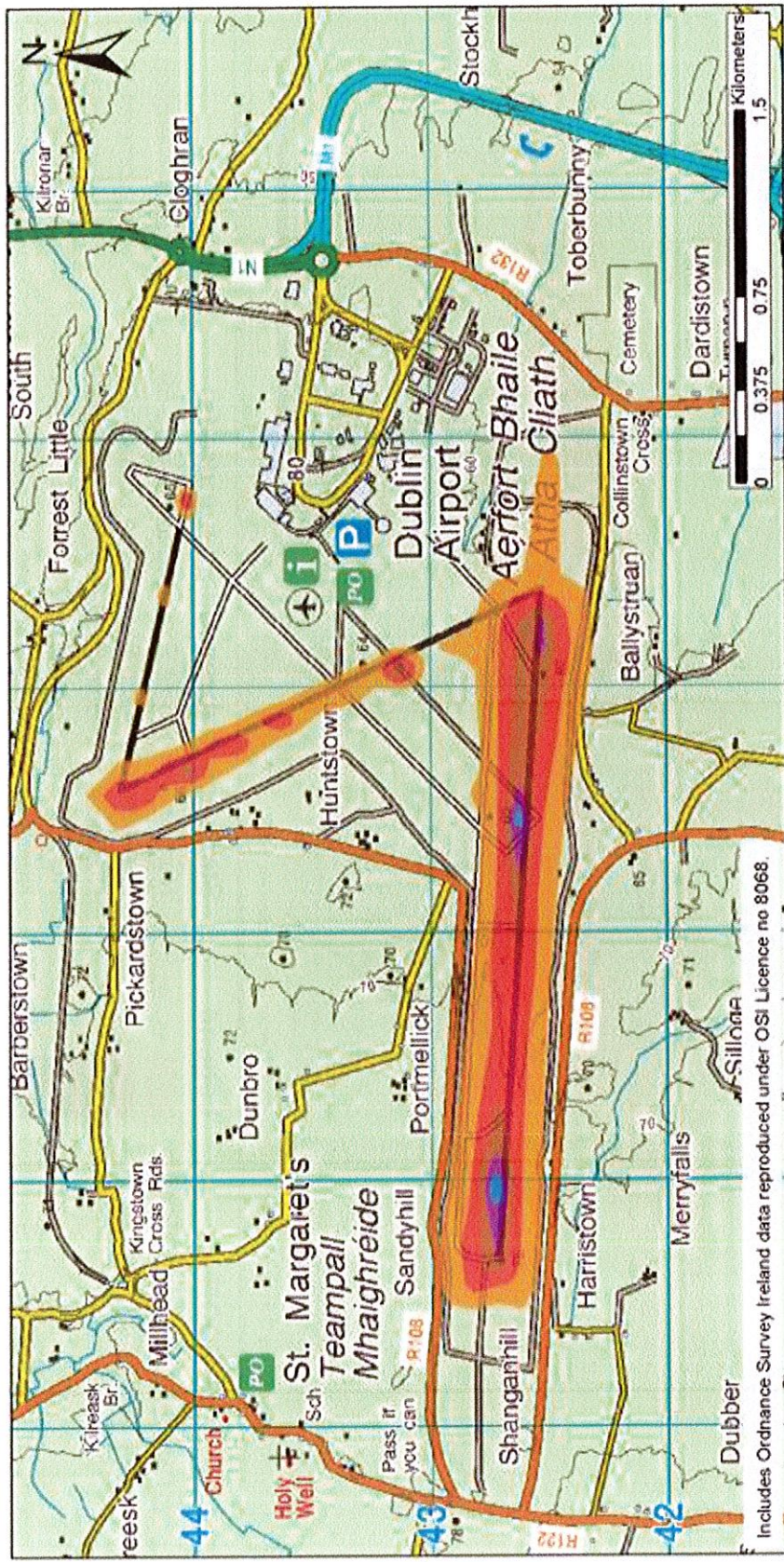
HGV: Heavy Goods Vehicle

IPPC: License Integrated Prevention and Pollution Control license

Lden: (day-evening-night noise indicator) shall mean the noise indicator for overall annoyance. This comprises of adding the average value for the 12 hour day time period with the average value of the 4 hour evening period plus a 5 decibel weighting or penalty, and the average value for the 8 hour night time period with a 10 decibel weighting or penalty.

Lday: (day-noise indicator) shall mean the noise indicator for annoyance during the day period. This is the average value in decibels for the daytime period

Levening: (evening-noise indicator) shall mean the noise indicator for annoyance during the evening period. This is the average value in decibels for the evening time period.



Dublin Airport
Environmental Noise
Regulations 2006
L-Night Contours

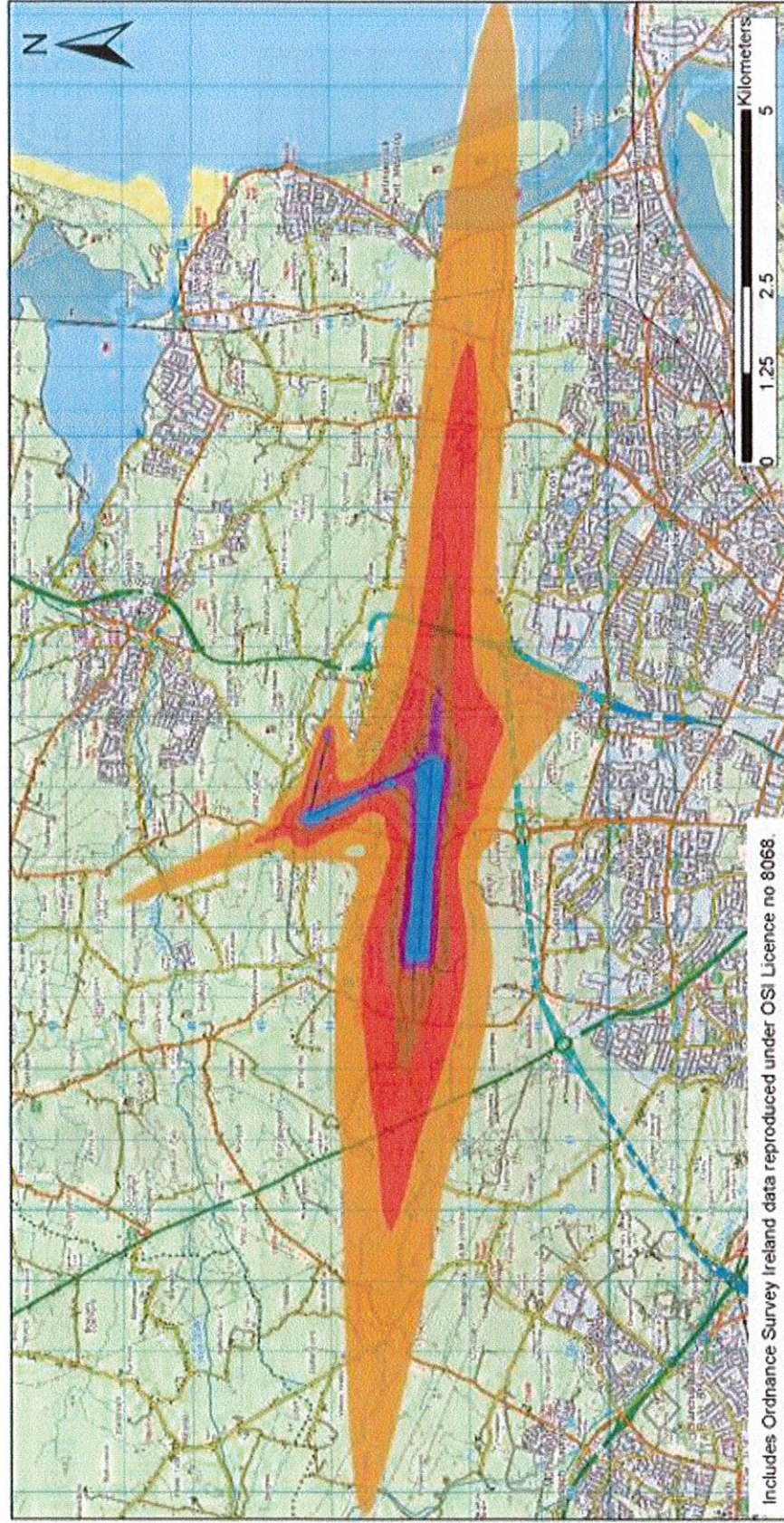
Legend

55 - 60
60 - 65
65 - 70
70 - 75
> 75

Statistics (expressed as hundreds)

Numbers of people Exposed to Lnight 50-54	agglomeration	0
Numbers of people Exposed to Lnight 55-59	agglomeration	0
Numbers of people Exposed to Lnight 60-64	agglomeration	0
Numbers of people Exposed to Lnight 65-69	agglomeration	0
Numbers of people Exposed to Lnight > 70	agglomeration	0

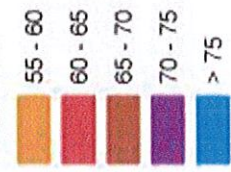
APPENDIX 12



Dublin Airport Environmental Noise Regulations 2006

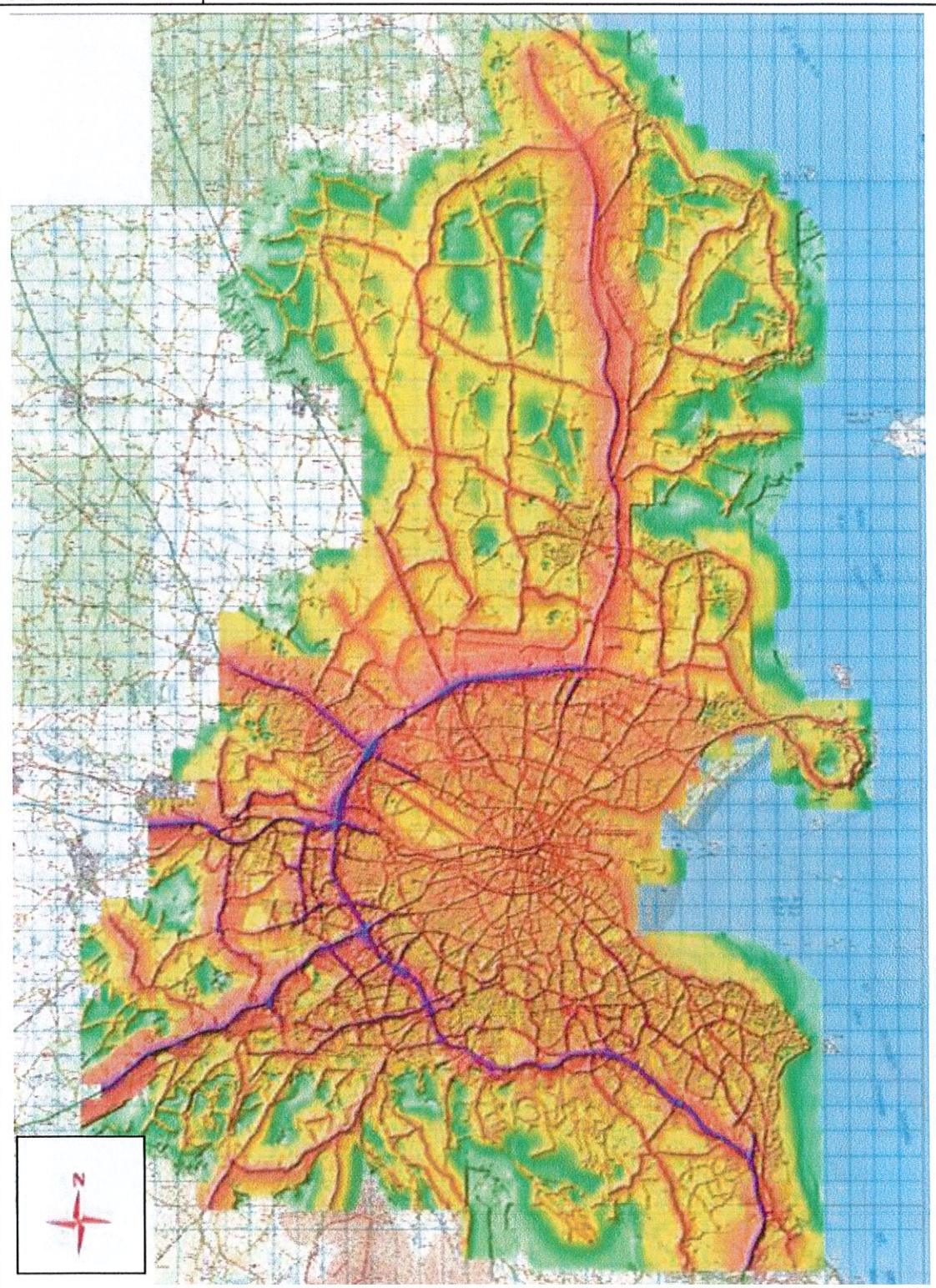
L-DEN Contours

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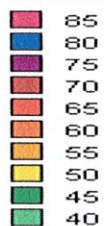


Statistics (expressed as hundreds)

Numbers of people Exposed to Lden 55-59	agglomeration	28
Numbers of people Exposed to Lden 60-64	agglomeration	2
Numbers of people Exposed to Lden 65-69	agglomeration	1
Numbers of people Exposed to Lden 70-74	agglomeration	0.1
Numbers of people Exposed to Lden >75	agglomeration	0

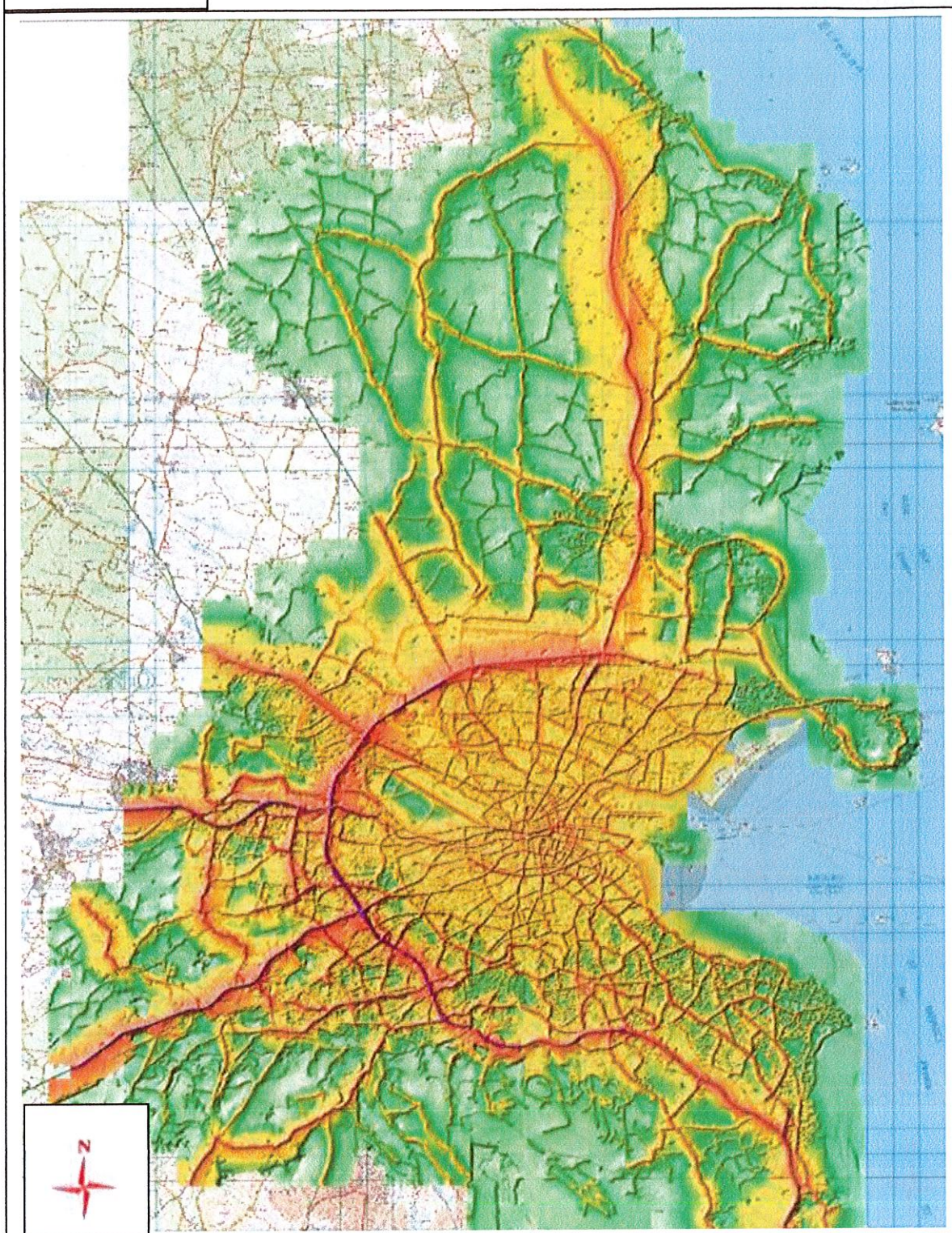


Dublin Agglomeration
LDEN 24 Hour Values



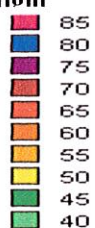
24 Hour (LDEN) Traffic Sound Levels Dublin Agglomeration

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Dublin Agglomeration

L_{night}



**Night Time(L_{night}) Traffic Sound Levels
Dublin Agglomeration**

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TAB 2

**DUBLIN AGGLOMERATION ENVIRONMENTAL NOISE ACTION PLAN
DECEMBER 2013 – NOVEMBER 2018**

PG 29 – 30

PG 43 – 44

PG 53

PG 59

Dublin Agglomeration

Environmental Noise Action Plan

December 2013 – November 2018



July 2013

Table 5.8 Noise exposure levels from Irish Rail – Dublin Agglomeration 2012

Decibels dB(A)	Lden number people Exposed	Lden % people Exposed	Lday number people Exposed	Lday % people Exposed	Lnight number people Exposed	Lnight % people Exposed
<50	1243700	98%	1250800	98%	1266500	99%
50-54	14800	1%	11600	1%	4600	0%
55-59	8200	1%	6800	1%	1900	0%
60-64	4700	0%	3200	0%	200	0%
65-69	1600	0%	700	0%	0	0%
70-74	100	0%	0	0%	0	0%
>75	0	0%	0	0%	0	0%

In general, noise exposure levels from rail in the Dublin area are low. In Table 5.7, we can see that the number of people exposed to the undesirable night time levels above 55 dB(A) from the Luas is 2200, i.e. 0.2% of the total population. Similarly in Table 5.8, we can see that the number of people exposed to the undesirable night time levels above 55 dB(A) from the other rail is 2100, i.e. 0.16% of the total population.

5.7.7 Noise exposure levels – Airport

Within the Dublin Agglomeration, there are two airports, Dublin International Airport and Weston Airport.

5.7.7.1 Weston Airport

Weston Executive Airport falls within the Dublin Agglomeration. The first round of noise mapping in 2007 examined the need to produce noise maps for the airport. A study was conducted and the following is an extract from the TEC Ltd Environmental and Management Review Report:

“The noise impact assessment undertaken as part of the EIS produced by Bord na Móna Environmental Consultancy Service indicated that the predicted noise levels associated with ground, taxiing and on-site vehicle movement operations at the three closest noise sensitive locations to the site would not be greater than the proposed criterion of 46 dBL aeq.16hours. The study concluded that mitigation measures are therefore not necessary to comply with the proposed criterion and that the noise impact is not significant.”

This report, along with estimated sound levels at the boundary of the airfield, provided evidence that noise modelling was not required for Weston Executive Airport for the second round of noise monitoring.

5.7.7.2 Dublin Airport

Environmental corridors in Dublin Airport define the airspace in the runway approaches or departure where most aircraft are required to operate. These were agreed in 2003 and designed to minimise noise disturbance in neighbouring communities and extend in a straight line from the end of each runway out to distances ranging from five or six nautical miles depending on the runway. The environmental corridors are depicted on the Noise & Flight Track Monitoring system so that deviations are easily identifiable.

Table 5.9 provides details of the population exposures to sound arising from aircraft in Dublin airport the Dublin Agglomeration, based on a population of 1,273,000 in the Dublin Area. In this, we can see that the number of people exposed to the undesirable night time levels above 55 dB(A) from the Airport is 200 people, i.e. 0.02% of the total population.

Table 5.9 Noise exposure levels from aircraft – Dublin Agglomeration 2012

Decibels dB(A)	Lden number people Exposed	Lden % people Exposed	Lnight number people Exposed	Lnight % people Exposed
<50	1260700	99%	1271700	100%
50-54	11900	1%	1200	0%
55-59	300	0%	200	0%
60-64	200	0%	0	0%
65-69	0	0%	0	0%
70-74	0	0%	0	0%
>75	0	0%	0	0%

Full details including a map can be found on the Dublin Airport Authority web site.

5.7.8 Noise exposure levels – Conclusions

Based on comparison of the 'Noise Maps' and population exposure between the noise mapping in 2007 and the current 2012 maps, it can be seen that there has been reduction in the number of people being exposed to undesirable sound levels, especially at night time in the Dublin Agglomeration.

- The number of people being exposed to levels below the night time desirable level of 50 dB Lnight from roads has risen from 3% to 64% of the population.
- The number of people being exposed to undesirable night time level of 55 dB Lnight from roads has reduced considerably from 94% to 22% of the population.
- Less than 1% of people are currently exposed to night time sound levels from roads above 70 dB(A).
- Noise exposure from railways and airports are considerably lower than that from roads.

There are a number of factors that may have contributed towards these reductions, including a decrease in traffic volumes, housing development occurring in quieter areas, movement of population to these areas, and the use of amended calculation methods in the noise model. The number of people being exposed to undesirable night time levels due to Dublin Airport, the Luas and Irish Rail is also low.

Since the last Noise Action Plan, a number of Luas lines were extended. As part of the previous Dublin Noise Action Plan 2008 to 2013, Iarnród Éireann and the Railway Procurement Agency were required to do the following in relation to noise:

- To produce a sound impact assessment and apply mitigation measures when\where appropriate, for any new rail infrastructure or ancillary developments or any major intensification on any existing rail infrastructure or ancillary developments within the Dublin Agglomeration. This assessment should not alone include railway sound emissions but also a sound impact assessment, for example, of traffic, where the new infrastructure or intensification is likely to increase, disrupt or displace traffic flows within the Dublin Agglomeration.

This objective will be maintained for the new plan for all new rail projects in the Dublin Agglomeration.

9.2.3 Noise in the Planning Process

The planning system has the potential to exercise a significant influence on the control of future exposure to environmental noise and can play a key role in the improvement of amenity. The appropriate use of the planning system can help avoid, or minimise, the adverse impacts of noise without placing unreasonable restrictions on development.

Scope exists within planning and development management process to manage increased levels of noise arising from new development where exposure levels can be harmful to health. As part of the new plan, the Local Authorities within the Dublin Agglomeration will aim to implement the following actions relating to planning and development:

- a) To integrate Noise Action Plans into the City and County Development Plans.
- b) To review existing guidelines and policy relating to Noise in the planning process.
- c) To require developers to produce a sound impact assessment and mitigation plans, where necessary, for any new development where the Planning Authority considers that any new development will impact negatively on pre-existing environmental sound levels within their Council area.
- d) To ensure that future developments are designed and constructed in accordance with best Irish practice to minimise noise disturbances and take into account the multi-function uses of street (e.g. movement, recreation), e.g. Urban Design Manual and the Design Manual for Urban Roads and Streets 2013.

9.2.4 Airport noise reduction measures

Fingal County Council will continue to promote appropriate land use patterns in the vicinity of the flight paths and will strive to restrict housing development in order to minimise the exposure of residents of such developments to undesirable noise levels. This will further reduce the potential for future conflict between airport operations and residents. The continued restriction of inappropriate development in the Outer Noise Zone and the restriction of noise sensitive uses in the Inner Noise Zone will continue to be pursued by the planning authority. The Development Plan 2011-2017 takes a precautionary view of the implications for development that could lead environmental impact and conflict. It defines an "Inner" and an "Outer" Noise Zone, shown on the Development Plan Maps, with the following explicit requirements:

- Outer Noise Zone: to strictly control inappropriate development and to require noise insulation where appropriate
- Inner Noise Zone: to resist new provision for residential development and other noise-sensitive uses.

All aircraft arriving and departing Dublin Airport come under the direction of the Irish Aviation Authority which provides air traffic control services in Ireland and it is they who are responsible for the routing of aircraft. The day to day tracking and monitoring of aircraft activity at Dublin Airport will continue to be undertaken directly by the Dublin Airport Authority (DAA). Information and reports on all aircraft track and noise issues will continue to be presented at the Dublin Airport Stakeholders Forum (DASF) and its sub Environmental Group (DASF EWG). Members of these groups include the Local Authority, local community representatives and management from both the IAA and DAA. With the creation of the DASF, and its' associated environmental working group all noise issues can be raised and discussed with the IAA and DAA. This approach to noise and track management is working and potential conflict between existing residence and the airport is being managed.

European Commission Proposal Documents were circulated by the Aviation Services and Security Division, Department of Transport Tourism and Sport by way of a consultation process in March 2012. The Proposal has been endorsed by the International Civil Aviation Organisation and relates to the establishment of Rules and Procedures governing noise-related operating restrictions at EU airports. The so-called 'Balanced Approach' as defined by the 'Airports Package' proposes to mitigate aviation noise through a combination of four measures under the headings of:

- a. Reducing noise at source (e.g. quieter aircraft)
- b. Making best use of land (ie planning and managing the lands surrounding the airport)
- c. Introducing operational noise abatement procedures (ie use of specific runways, taxiways, etc.)
- d. Imposing noise related operating restrictions (such as night-time ban on flights).

It is hoped that this proposal while representing a major development in aviation policy will improve the environmental performance of air transport operations into the future.

The recent installation of a Noise and Flight Track Monitoring system at Dublin Airport gathers information on aircraft approach and departure routes and resultant noise levels. The system consists of seven off-site noise monitoring terminals and the data assists in producing regular Noise & Flight track monitoring reports.

9.2.5 Protecting 'Quiet Areas'

Quiet areas offer many opportunities for public recreation. They are thus not only of value to their residents, but can also improve the quality of life of people living in adjacent but noisy roads, by affording opportunities for peaceful recreation from time to time. Hence, it is very important that existing quiet areas be preserved, and that new ones be created where possible. While one aim of the action plan is to reduce human exposure to high sound levels, another important goal is to preserve areas, which are still 'tranquil' or quiet. As part of the plan, there will be an ongoing process of identifying Quiet Areas and forwarding them to the Minister for the Environment, Community and Local Government for delimiting as Quiet Areas.

9.2.6 Noise Complaint Investigation and Control procedures

Although the noise maps and the Environmental Noise Regulations are aimed at developing strategic policy, it is acknowledged that when most people complain about noise, it relates more to local issues such as neighbour, entertainment and construction noises. However, it is envisaged that the noise action plan should solely concentrate on strategic issues identified by the noise mapping as systems are already in place to deal with noise nuisances, including neighbour, entertainment and construction noises. Local noise issues will be dealt with by each Local Authority as required by the Environmental Protection Agency Act 1992 (EPA Act 1992) with details of each Local Authority approach being outlined on the web links in Appendix E.

9.3 Programme of works/Implementation Plan

It should be noted that the implementation of the actions in the plan is dependent on resources (e.g. funding, people etc) being made available in each of the Local Authorities.

First year of the Noise Action Plan (2014):

- To continue the implementation of the actions in the Environmental Noise Action Plan 2008-2013.
- To make available to the public the data from the ambient sound monitoring networks.
- To identify from noise maps where priority action is required at a local level.

Second and Third Year of Noise Action Plan (2015)

- To identify Quiet Areas and preparation of submissions for approval by the Minister.
- To commence implementation of the actions outlined in Chapter 8 on a prioritised basis, where the resources in each Local Authority permit.

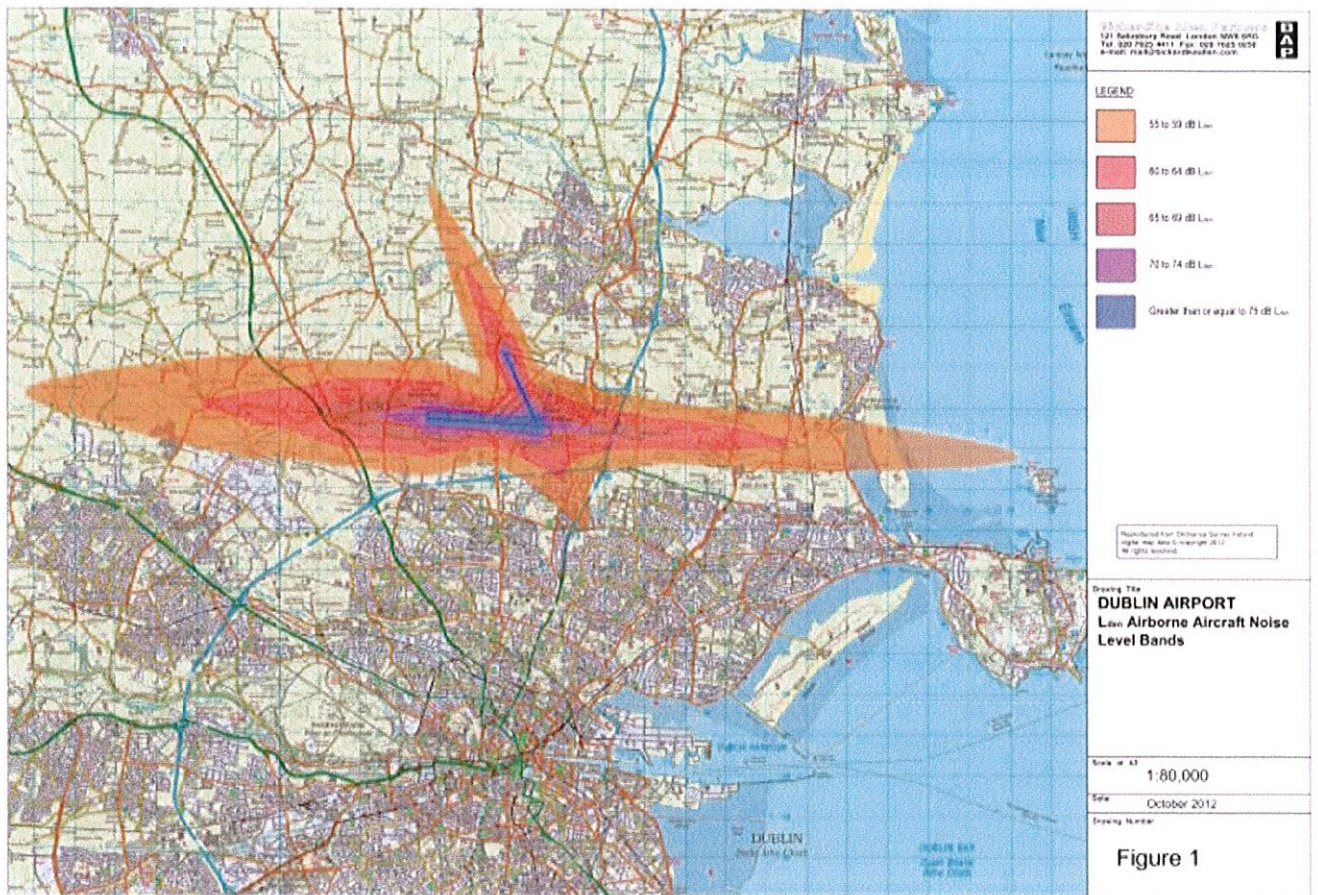


Figure C.3 24-hour Lden Aircraft Airborne Noise - Dublin Airport

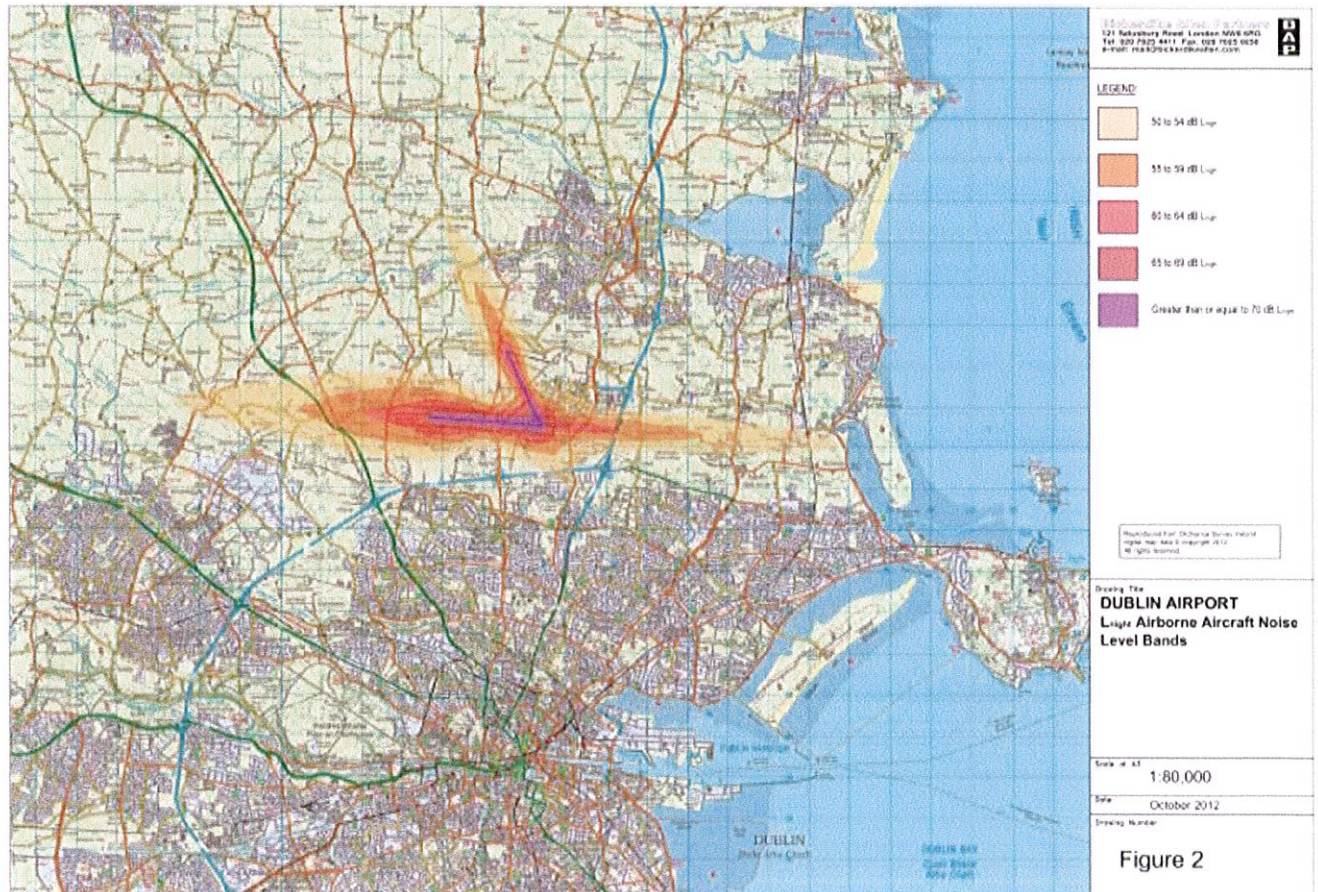


Figure C.4 24-hour Lnigt Aircraft Airborne Noise - Dublin Airport

Appendix F Decision Matrix

For this Noise Action Plan it is proposed that the higher the number achieved in the decision matrix process, the higher the priority for action. A value of 17 or more is suggested as the point where priority action should be considered either to reduce excessive sound levels or to preserve low sound levels where they exist. For example an address, which falls within the Sound level 65-69dB in the day (2) and 60-64dB at night (3), in a noise sensitive area for day and night (3+3) and exposed to sound from traffic day and night, (2+3) will give an overall total of 16 as can be seen in Table F.1.

Table F.1 Noise Decision Support Matrix

Decision Selection Criteria		Score Range day	Score Range Night	Subtotal
Noise Band dB(A)	<55	3	4	
	55-59	2	2	
	60-64	1	3	3
	65-69	2	4	2
	70-74	3	5	
	>=75	4	6	
Type of location	City Centre	1	1	
	Commercial	1	2	
	Residential	2	3	
	Noise Sensitive Location	3	3	6
	Quiet Area	3	3	
	Recreational open space	2	2	
Type of Noise	Road	2	3	5
	Rail	1	2	
	Airport	3	4	
			Total	16

TAB 3

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Noise Action Plan for Dublin Airport 2019 - 2023

results submitted in 2007 are presented. For consistency, the population data used for the 2006 (revised), 2011 and 2016 is based on the 2016 census. The original 2006 results were based on estimated population data.

Table 5 Population within Noise level Band Data for Total Area L_{den}

Noise Band L_{den} dB(A)	2006 (original)	2006 (revised)	2011	2016
55 – 59.9	2,800	13,000	11,900	18,500
60 – 64.9	200	1,200	300	1,500
65 – 69.9	100	200	200	300
70 – 74.9	0	0	0	0
≥ 75	0	0	0	0

Table 6 Dwellings within Noise level Band Data for Total Area L_{den}

Noise Band L_{den} dB(A)	2006 (original)	2006 (revised)	2011	2016
55 – 59.9	-	4,500	4,100	6,400
60 – 64.9	-	300	100	500
65 – 69.9	-	100	100	100
70 – 74.9	-	0	0	0
≥ 75	-	0	0	0

the following can be observed:

- The number of people exposed to noise levels greater than 55 dB(A) L_{den} decreased between 2006 and 2011, but increased between 2011 and 2016 resulting in around 5,900 people being exposed to more than 55 dB(A) L_{den} in 2016 than in 2006
- Of the 292,700 people living in the FCC administrative area, 6.9% of the population are exposed to aircraft noise above 55 dB(A) L_{den} ;
- 0% of the population are exposed to aircraft noise levels above 70 dB(A) L_{den} ; and
- The number of dwellings exposed to noise levels greater than 55 dB(A) L_{den} increased by 2,700 in 2016 from 2011 figures.

A comparison is provided in Table 7 and 8 below for population and dwellings respectively for the L_{night} noise metric.



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Table 7 Population within Noise Level Band Data for Total Area L_{night}

Noise dB(A)	Band	L_{night}	2006 (original)	2006 (revised)	2011	2016
50 – 54.9			0	1,800	1,200	6,200
55 – 59.9			0	200	200	400
60 – 64.9			0	0	0	0
65 – 69.9			0	0	0	0
>= 70			0	0	0	0

Table 8 Dwellings within Noise Level Band Data for Total Area L_{night}

Noise dB(A)	Band	L_{night}	2006 (original)	2006 (revised)	2011	2016
50 – 54.9			0	600	400	2,200
55 – 59.9			0	100	100	100
60 – 64.9			0	0	0	0
65 – 69.9			0	0	0	0
>= 70			0	0	0	0

From the above the following can be observed:

- The number of people exposed to noise levels greater than 50 dB(A) L_{night} increased by 5,200 in 2016 from 2011 figures;
- Of the 292,700 people living in the FCC administrative area, 2.3% of the population are exposed to aircraft noise above the desirable level of 50 dB(A) L_{night} ;
- 0% of the population are exposed to aircraft noise levels above 70 dB(A) L_{night} ; and
- The number of dwellings exposed to noise levels greater than 50 dB(A) L_{night} increased by 1,800 in 2016 from 2011 figures;
- The number of people exposed to noise above 55 dB L_{night} has increased from 200 in 2006 and 2011, to 400 in 2016. This is an increase in the number of people exposed to noise above the WHO 'Interim target' for night noise as set out in the Night Noise Guidelines for Europe¹⁰.

The results indicate that noise from Dublin Airport has increased over the last 10 years. Whilst it is the case that there has been an increase in activity between 2011 and 2016, and a corresponding increase in the number of people within the L_{den} and L_{night} contours, it is also important to note that a number of developments will have been constructed and occupied around the airport over this timeframe and this will also contribute towards the increase in the population.

¹⁰ World Health Organisation, Night Noise Guidelines for Europe, 2009. Available here: http://www.euro.who.int/_data/assets/pdf_file/0017/43316/E92845.pdf



Noise Action Plan for Dublin Airport 2019 - 2023

Table 10 Actions

Actions		Description	KPI	How action fulfils ICAO requirement	When
Reduction of noise at source					
1		Encourage daa to work with airline partners to introduce quieter aircraft, particularly at night – including consideration of incentives	Report issued	Reduction of noise at source through use of quieter aircraft	Annually
2		Encourage daa to promote quieter aircraft through incentives such as FlyQuiet programmes.	Report issued	Reduction of noise at source by encouraging quieter operations, such as pilots and air traffic controllers using preferential runways and flighttracks	Ongoing
Land use planning and management					
3		Keep under review land-use policies in relation to aircraft noise through the review of existing land use planning frameworks in so far as they relate to Dublin Airport.		Enable proactive management of noise through appropriate sensitive development	
4		Monitor noise encroachment associated with Dublin Airport to ensure that airport noise policy is appropriately informed through land use planning frameworks in so far as they relate to Dublin Airport.	Encroachment Analysis Report	Land use planning and management to avoid encroachment of sensitive development in relation to Dublin Airport	2019 Onwards
Noise abatement operating procedures					
5		Request daa to undertake a review of Departure Noise Abatement Procedures and to publish the findings	Progress report issued	Endeavour to achieve lower noise operating procedures through review of current Departure Noise Abatement	Q3 2019

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Actions	Description	KPI	How action fulfils ICAO requirement		When
				Procedures	
6	Request daa to monitor and publicly report key performance with respect to the Airport's existing Noise Abatement Procedures	Report issued	Sustain noise operating procedures through monitoring and managing the current Departure Noise Abatement Procedures		Annually
Monitoring and community engagement					
7	Request daa to produce annual noise contours and metrics and to share this information with interested parties	Annual noise contour report	Monitoring and community engagement through production of annual report		2019 Onwards
8	Encourage daa to continue to operate noise complaint management systems and respond to all aviation-related noise complaints in a timely manner	Submission of progress report using target of 95% of aircraft noise complaints responded to within 28 days	Monitoring and community engagement through adequate response times to all aviation related noise complaints		Ongoing
9	Promote the introduction of live (or near live) flight reporting software (such as Webtrak)	Submission of progress report on status of publicly accessible flight tracking	Monitoring and community engagement through community facing platform for reviewing airport flights and noise.		2020

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Actions		Description	KPI	How action fulfils ICAO requirement	When
			platform		
10		Engage proactively with communities through the Dublin Airport Environment Working Group (DAEWG) and the St. Margaret's Community Liaison Group	Quarterly meeting and agreed minutes	Monitoring and community engagement through quarterly meetings.	Ongoing
11		Promote the enhancement of the Noise Flight Track System to include where appropriate additional fixed and/or mobile noise monitoring terminals	Submission of progress report outlining number of new locations	Noise abatement operating procedures & Monitoring and community engagement	2019 onwards
All					
12		Review any updates in advice from bodies such as the WHO and the European Environment Agency in relation to aircraft noise and its health and quality of life effects	Internal Policy Development Report	All	
13		Request the submission of an annual report by daa outlining measures undertaken to achieve actions listed in this table	Report		Annually

TAB 4

AIRCRAFT NOISE COMPETENT AUTHORITY

DRAFT REGULATORY DECISION

APPENDIX C

PRELIMINARY ASSESSMENT AND IDENTIFICATION OF A NOISE PROBLEM

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**An tÚdarás Inniúil um
Thorann Aerárthaí**

**Aircraft Noise
Competent Authority**

Draft Regulatory Decision

Appendix C

Preliminary Assessment and Identification of a Noise Problem

Table 5 Reported Night-time Noise Exposure (L_{night}) for Dublin Airport

Noise Band L_{night} dB(A)	Population Exposed				
	2006	2011	2016	2018	2019
50 - 54.9	1,800	1,200	6,200	11,600	12,300
55 - 59.9	200	200	400	700	1,400
60 - 64.9	0	0	0	0	100
65 - 69.9	0	0	0	0	0
≥ 70	0	0	0	0	0

6.8 The NAP recognises the increase in night-time noise over the period 2006 to 2016, highlighting that the population exposed to level of 50 dB L_{night} or above had increased from 2,000 to 6,600 over this period.

6.9 The NAP identifies that this may be a result of increasing noise from the Airport or the result of the encroachment of residential developments in areas around the Airport. The NAP does not state that there is a noise problem at Dublin Airport however it highlights this as a situation that may need to be improved.

"... indicates that night noise and land-use planning are areas which may be a problem and may need to be improved. However, further work needs to be undertaken. To this end, actions have been proposed which will prompt further work"

6.10 Clearly from the data provided with the Application, the trend of increasing night-time noise exposure has continued into 2018 and 2019, over the period 2016 to 2019 following the point at which the NAP indicated that night-time noise was a situation which may need to be improved, the Application now reveals that the population exposed to night-time noise above 50 dB L_{night} had in fact almost doubled.

6.11 Whilst this trend of increasing night-time noise exposure is clear, the impact of the Covid-19 global pandemic on operations and noise around Dublin Airport cannot be ignored. The impact of the pandemic is likely to result in noise exposure in 2020 being significantly lower than the levels reported for 2018 and 2019, and potentially below those reported for 2016. In reviewing the aircraft and passenger forecasts provided with the Application, that reduced operation and noise compared to recent year is likely to prevail through the period to 2025.

6.12 The consequence of this is that whilst historic trends are indicative of what may be considered a noise problem at Dublin Airport, the impact of the pandemic is somewhat of a watershed. Furthermore, in the absence of the Proposed Development and in line with Condition 5 of the North Runway Planning Permission, the Airport would be required to operate night-time