

Noise Monitoring Report

July - September

2022

Table of Contents

Executive Summary	3
Introduction.....	5
General Statistics	6
Noise Monitoring Statistics	9
NMT 1: Bay Lane	15
NMT 2: St. Doolaghs	20
NMT 3: Bishopswood	25
NMT 4: Feltrim.....	30
NMT 5: Balcultry	35
NMT 6: Artane	40
NMT 20: Coast Road.....	45
Glossary	50
Report inquiries	51

Executive Summary

This noise monitoring report is drafted for the period July - September 2022. This report consists of three parts: introduction to this report, general statistics related to the operations at Dublin Airport, and noise monitoring statistics per noise terminal. This executive summary briefly lists numbers related to the noise performance of Dublin Airport, these can be found in Table 1 and Table 2. In Table 1 the number of events from noise monitoring terminals (NMTs) which are directly overflowed are listed. These events are correlated aircraft noise events, they are coupled with a specific arriving or departing aircraft overflying the NMT. Table 2 shows in summary the average measured noise levels for the third quarter period of 2022 for all operational NMTs. As one may expect, NMTs frequently overflowed (NMTs 1, 2, and 20) measure higher noise levels which are attributed to aircraft, in comparison to the other NMTs.

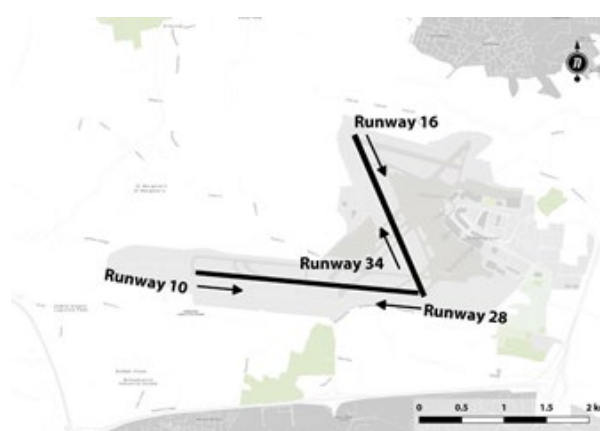


Figure 1: Runway Layout Dublin Airport

NMT	Number of correlated aircraft noise events			
	Description	Arrivals	Departures	Total
1	Arrivals Runway 10R, Departures Runway 28L	2,679	13,579	16,258
2	Arrivals Runway 28L, Departures Runway 10R	14,914	2,707	17,621
5	Arrivals Runway 16, Departures Runway 34	108	3	111
6	Arrivals Runway 34, Departures Runway 16	23	20	43
20	Arrivals Runway 28L, Departures Runway 10R	14,284	2,302	16,586

Table 1: Correlated aircraft noise events

NMT	Daytime noise level, LAeq, 16 h[dB]		Nighttime noise level, LAeq, 8 h[dB]	
	Total	Aircraft	Total	Aircraft
1	62.9	62.0	58.2	57.3
2	61.4	60.8	58.0	57.5
3	59.4	52.7	52.4	41.0
4	53.9	41.9	48.0	28.9
5	71.1	52.0	70.5	48.2
6	53.0	31.6	49.5	37.1
20	62.9	59.2	57.7	55.6

Table 2: Average measured noise levels

Introduction

This quarterly report, commissioned by Dublin Airport, presents a summary of the noise performance near Dublin Airport, for the period from July 1st to September 30th 2022.

To monitor aircraft noise levels and flight tracks near Dublin Airport, a Noise and Flight Track Monitoring System (NFTMS) is in place. This system, by Envirosuite, is composed of a feed from Air Traffic Control radar to capture the aircraft, and a series of Noise Monitoring Terminals (NMTs) which are installed in the area around the airport. In total, seven NMTs are in place:

- Bay Lane: (NMT 1: monitoring runway 28L departures and runway 10R arrivals)
- St. Doolaghs: (NMT 2: monitoring runway 10R departures and runway 28L arrivals)
- Bishopswood: (NMT 3: monitoring local area)
- Feltrim: (NMT 4: monitoring local area)
- Balcultry: (NMT 5: monitoring runway 34 departures and runway 16 arrivals)
- Artane: (NMT 6: monitoring runway 16 departures and runway 34 arrivals)
- Coast Road: (NMT 20: monitoring runway 10R departures and runway 28L arrivals)

This report presents the results of the measurements in the period from the start of July to the end of September 2022 for all NMT locations. The NMT locations are shown in Figure 2. General statistics of flight operations of Dublin Airport in the third quarter of 2022 are provided in the General Statistics section. Results specific to the measurements obtained at the various monitoring stations are presented in the Noise Monitoring Statistics section.



Figure 2: Noise Monitoring Terminal locations

General Statistics

Traffic

In the third quarter of 2022, Dublin Airport handled a total of 57,521 flights and 8,868,000 passengers. This is an increase of 125% in traffic and an increase of 171% in passenger numbers compared to the same period in 2021. Note that the number of movements includes both departures and arrivals. Figure 3, gives an hourly distribution of the movements for third quarter of 2022, compared to the hourly distribution of the same period in 2021.

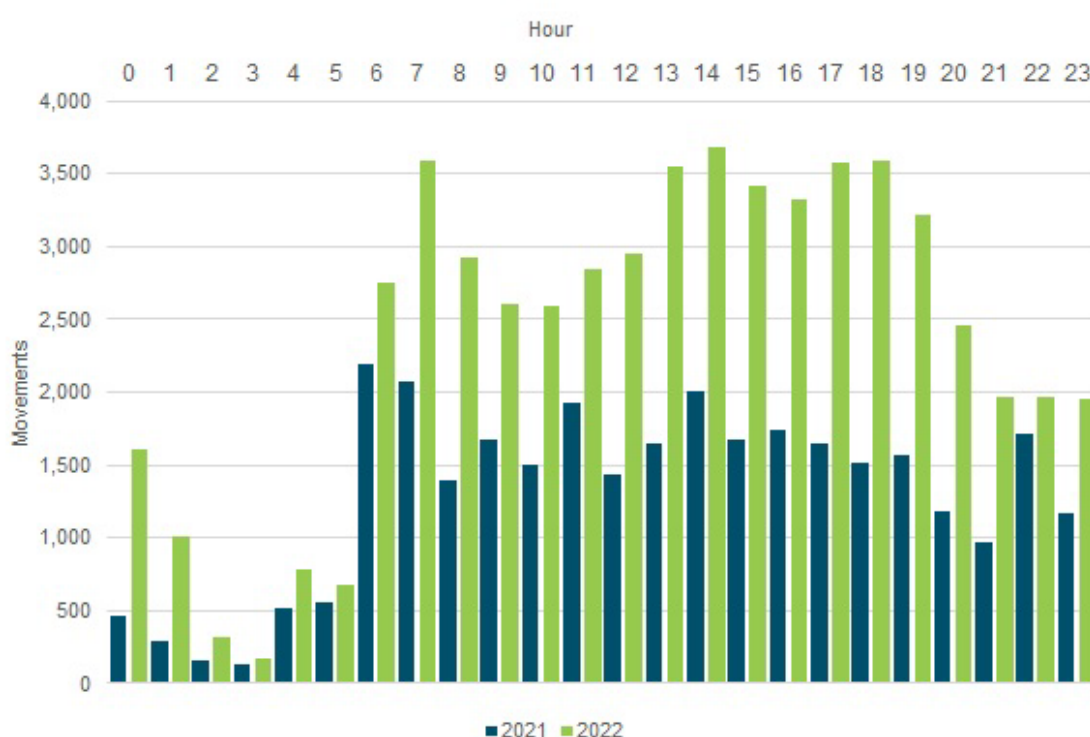


Figure 3: Hourly distribution of movements from July – September 2021 vs 2022

A wide variety of aircraft operate from Dublin Airport ranging from turboprop aircraft such as the ATR and Dash-8 to wide body jets like Boeing 777. However, majority of movements were performed using medium sized jets, with the Boeing 737 and Airbus A320 series aircraft accounting for more than 66% of the total. Figure 4 provides a more detailed overview of aircraft types. The aircraft types are divided into the categories: A/B and C/D. Table 3 on the next page list typical aircraft types belonging to these categories.

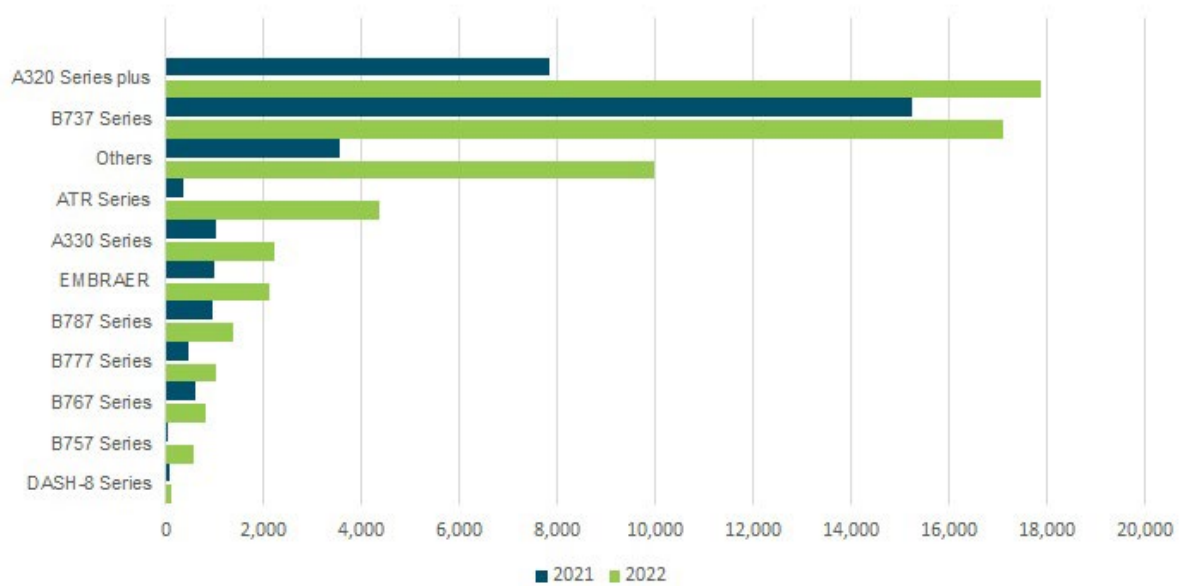


Figure 4: Aircraft type distribution July – September 2021 vs 2022

Aircraft category	Aircraft type:
A/B	Propellor aircraft
	Turboprop aircraft
	Whisper jets (aircraft like BAe-146 and Avro-Jet)
	Mostly small general aviation aircraft powered by piston engines
C/D	Airbus
	Boeing
	Bombardier Canadair Regional Jet (CRJ) - Series
	Business jets
	Embraer

Table 3: Aircraft type classification

Track Adherence

There are four environmental corridors at Dublin airport, one for every runway direction. For both the third quarter of 2021 and 2022, 99% of category C/D aircraft stayed within these corridors. Category A/B aircraft may operate outside these.

Runway use and weather

Figure 5 shows that Runway 28L, the runway for aircraft landing and departing in the westerly direction, handled 78% of all movements in the period July to September 2022 versus 87% in 2021. Runway 10R, the runway for aircraft landing and departing in the easterly direction, was 22% of the movements in the period July to September 2022 versus 13% in 2021. The remaining percentage of the movements in 2021 and 2022 took place on the cross runway 16/34.

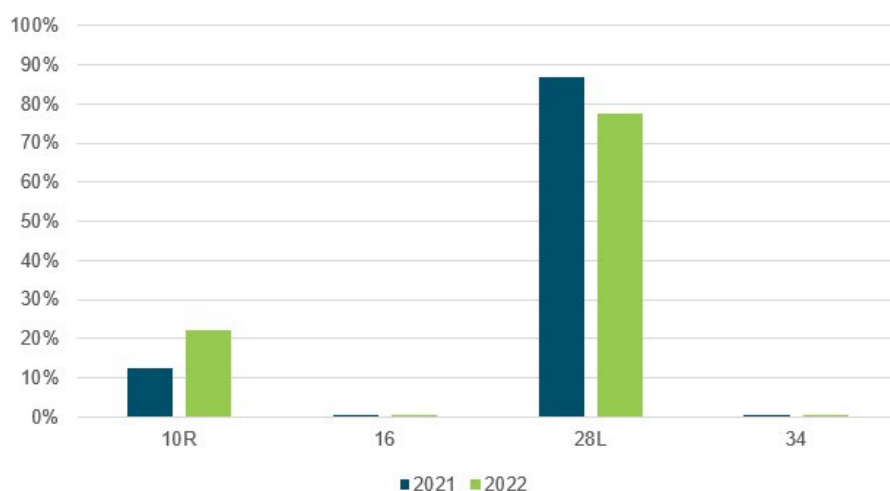


Figure 5: Runway usage, July – September 2021 vs 2022

Overflying height analysis

The measured sound levels depend on the height at which the NMT is overflown. Generally, higher overflying altitudes result in lower recorded sound levels. For NMT's, which are directly overflown, the average overflying height is shown in Table 4 below for the third quarter of 2021 and 2022. In which A and D stands for arrivals and departures respectively.

NMTs	Height (ft)			
	2021		2022	
	A	D	A	D
NMT1	660	2,230	660	2,190
NMT2	840	2,480	840	2,350
NMT3	630	2,240	580	2,090
NMT4	940	2,820	1,000	2,620
NMT5	850	4,910	880	3,350
NMT6	1,030	2,700	820	2,240
NMT20	1,490	3,360	1,450	3,140

Table 4: Average overflight height

Busiest day flight tracks

The images below are screenshots of tracks from ANOMS NFTMS system. The images show arrival (red) and departure (green) tracks for the busiest day in each month of the third quarter split into traffic flowing easterly runway 10L/10R and westerly runway 28L/28R.

July 2022 Easterly operations

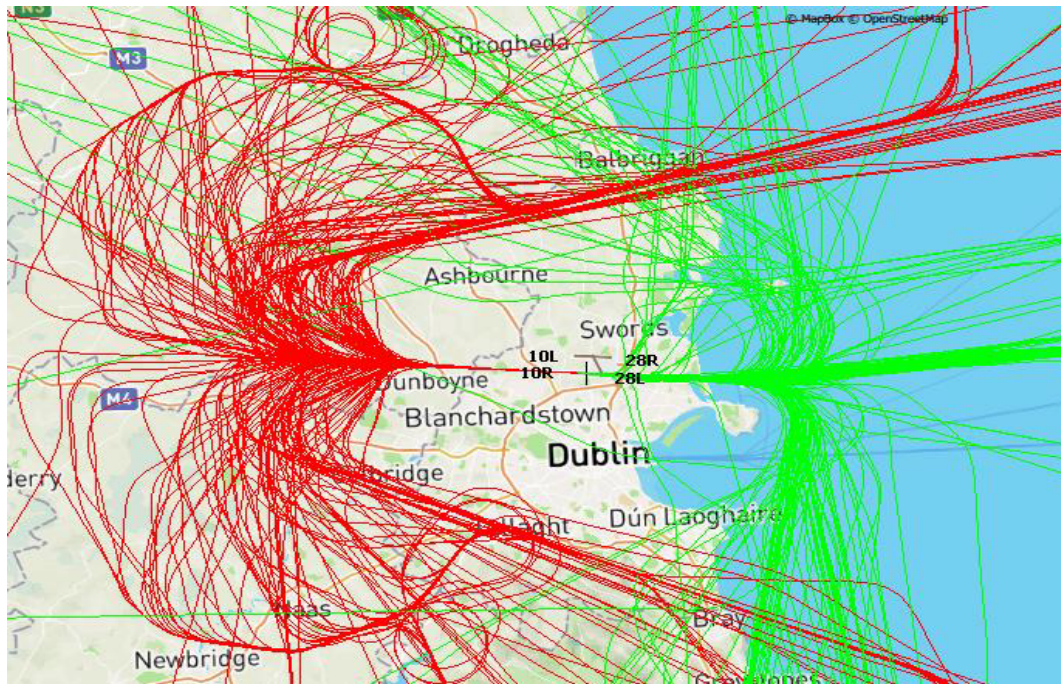


Figure 6: 441 Easterly operations on 27th July 2022

July 2022 Westerly operations

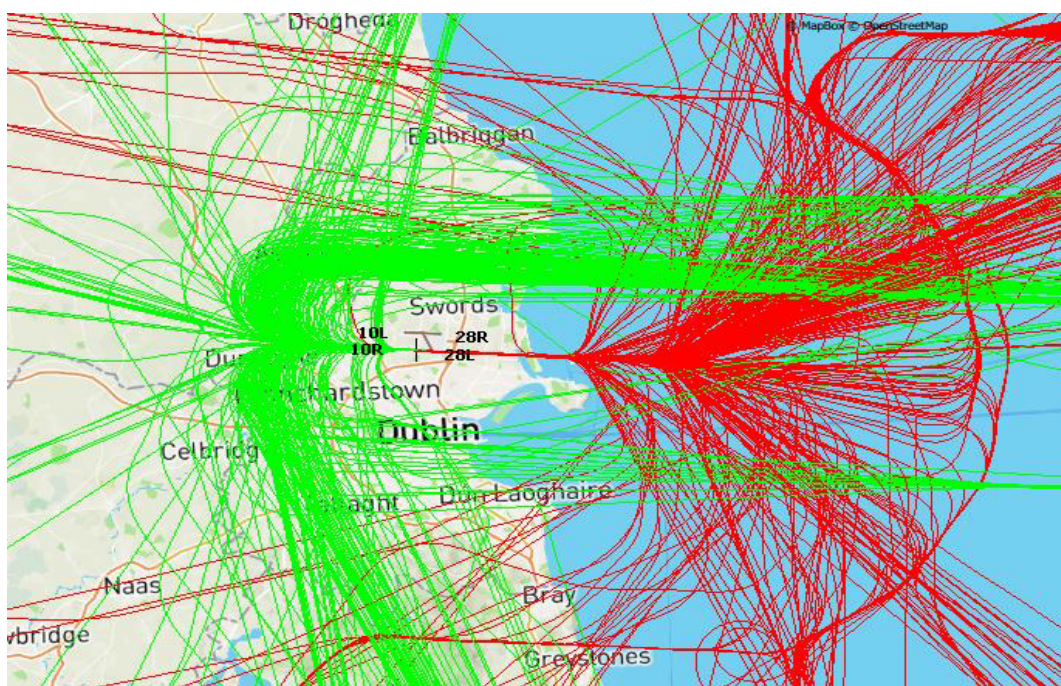


Figure 7: 706 Westerly operation on 1st July 2022

August 2022 Easterly operations

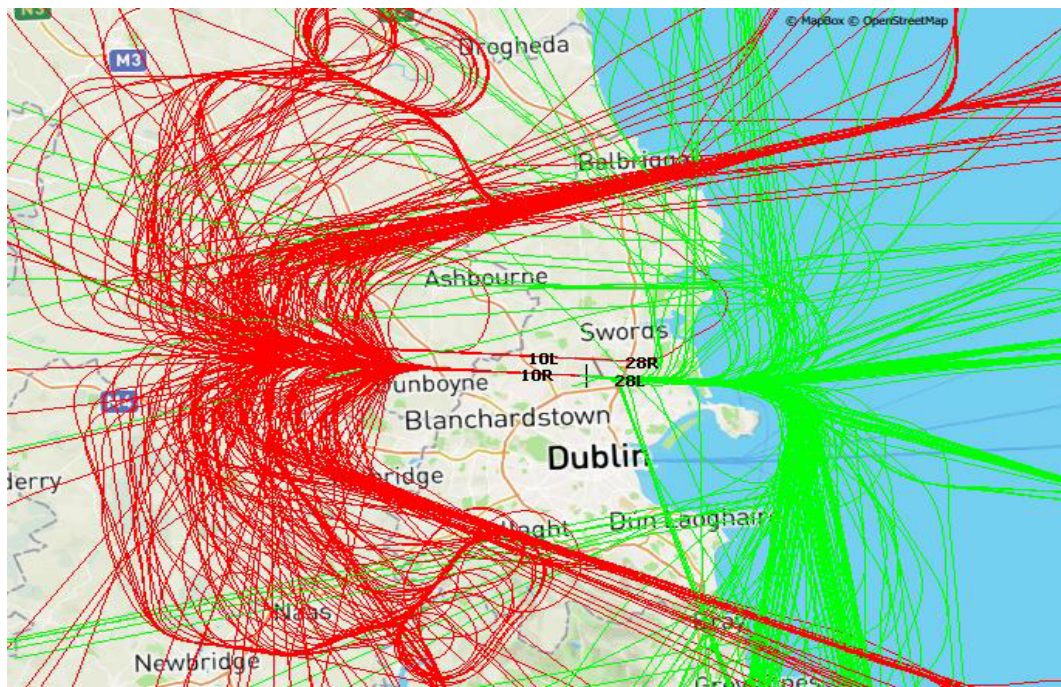


Figure 8: 655 Easterly operations on 29th August 2022

August 2022 Westerly operations

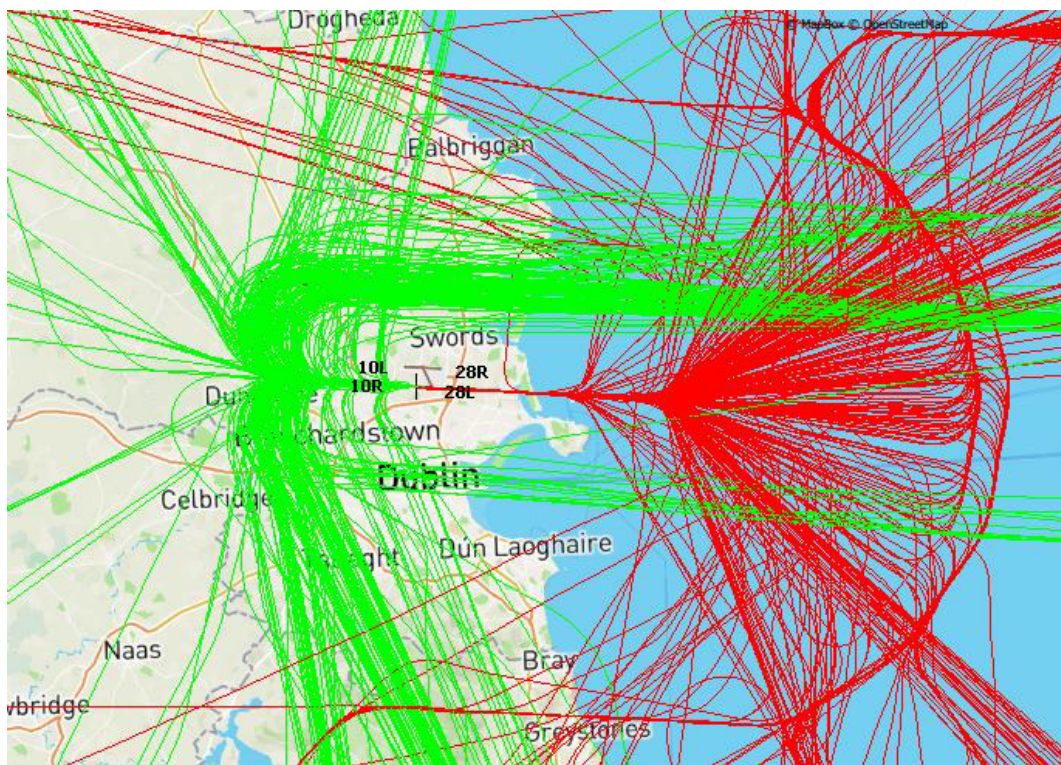


Figure 9: 708 Westerly operations on 19th August 2022

September 2022 Easterly operations

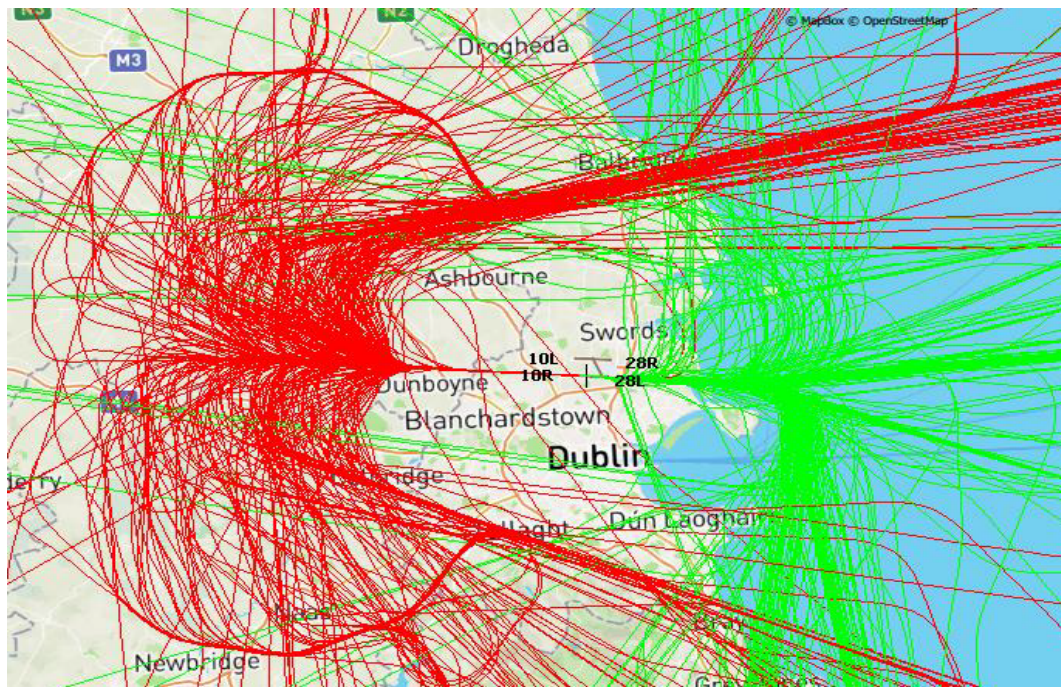


Figure 10: 684 Easterly operations on 5th September 2022

September 2022 Westerly operations

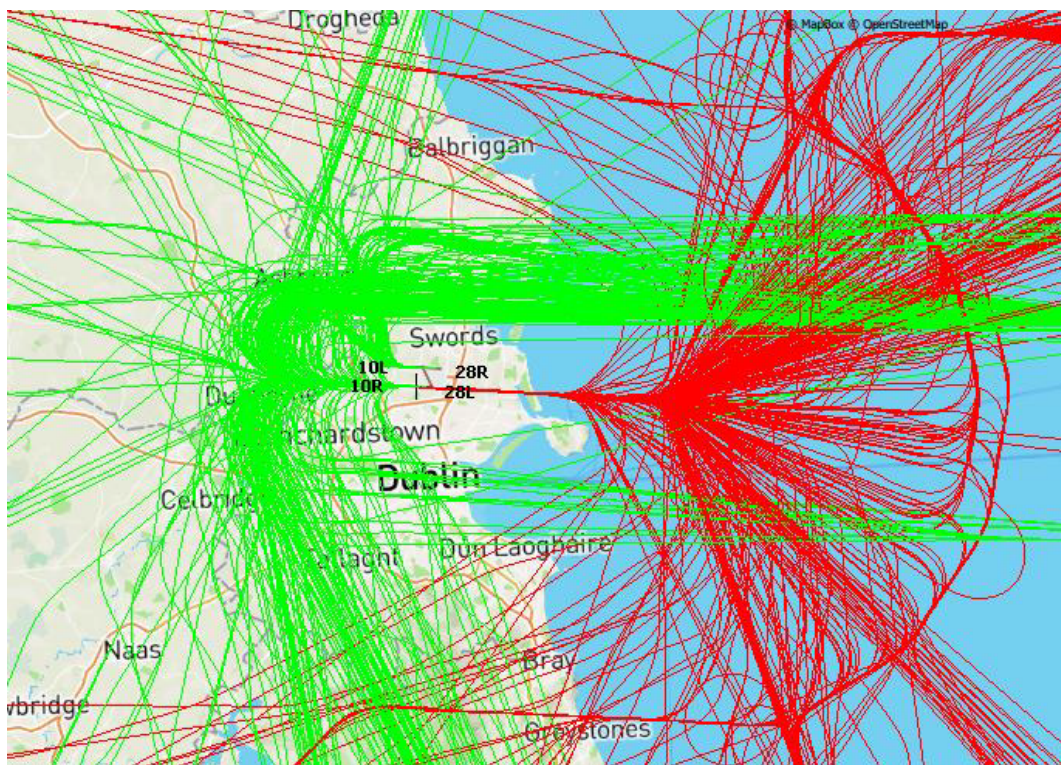


Figure 11: 710 Westerly operations on 9th September 2022

Noise Monitoring Statistics

Reading guide

The noise values presented in this report are values based on measurements, these values will differ from noise contours produced by computer modelling and are not directly comparable. Noise contours produced by computer modelling are typically based on an average summer or annual day and include all aircraft movements rather than those which produce correlated noise events.

The measured noise values are obtained from Noise Monitoring Terminals (NMTs). An upgraded Noise and Flight Track Monitoring System (NFTMS) with all new NMTs, provided by Envirosuite, has been commissioned by DAA as of 2017 to monitor the noise performance of Dublin Airport. This system subject to a further upgrade in Q1 2021 and further upgrades and expansions of the system are being considered.

These NMTs are set to record continuously and to trigger a noise event when two conditions are met. The first condition is the threshold level. The threshold level needs to be exceeded before recording is initiated. The threshold levels are continuously adjusted by Envirosuite to ensure maximum correlation between noise and individual operations. The second condition is the length of the recorded noise events. The recorded noise events should last for at least 10 seconds. Due to its proximity to agricultural, roads, and/or urban areas, NMTs can be triggered not just by aviation noise. It is for this reason the system is designed to correlate a noise event with an aircraft departing or landing. Similarly, the system can detect when the noise originates from a weather event, such as thunder or other stormy conditions.

Noise measurements are classified in three categories: aircraft, community, and weather. The community category, or normal human activity, includes all noise events that are not categorized as aircraft or weather. The measurement of total noise includes all three noise categories.

Noise levels calculation methodology

The noise monitoring system logs, per correlated aircraft event, the duration and measures the noise level of the event, which is later converted to LAeq, 1hour. This is the sound level, in decibels, equivalent to the total A-weighted sound energy of one hour. Average noise levels, for a reference duration, are derived from LAeq, 1 hour. The four noise levels are used in this report are:

- LAeq, 16 h, average daytime noise levels: - The LAeq, 16 h is determined by averaging the aircraft noise levels per month between 07:00 and 23:00, hence 16 hours.
- LAeq, 8 h, average nighttime noise levels: - The LAeq, 8 h is determined by averaging the aircraft noise levels per month between 23:00 and 07:00, hence 8-hour equivalent.
- LAeq, average hourly noise levels: - Same methodology applies for LAeq, compared to LAeq, 16 h and LAeq, 8 h, instead an average is taken per hour over a half year period instead of per month.
- LMax: - LMax indicates the maximum recorded noise level per correlated aircraft-noise event, while the average noise levels indicate the average noise levels for a reference duration.
- LMax distribution: This distribution is determined by determining the number of occurrences per 3 dB bracket, since every 3 dB increase is a doubling in sound level.

Average NMT figures

The following graphs presented below display an Average value measured per NMT between the reporting period from July 1st up to and including September 30th, 2022. The categories are as followed:

Average monthly LAmax noise levels per NMTs are shown in Figure 12

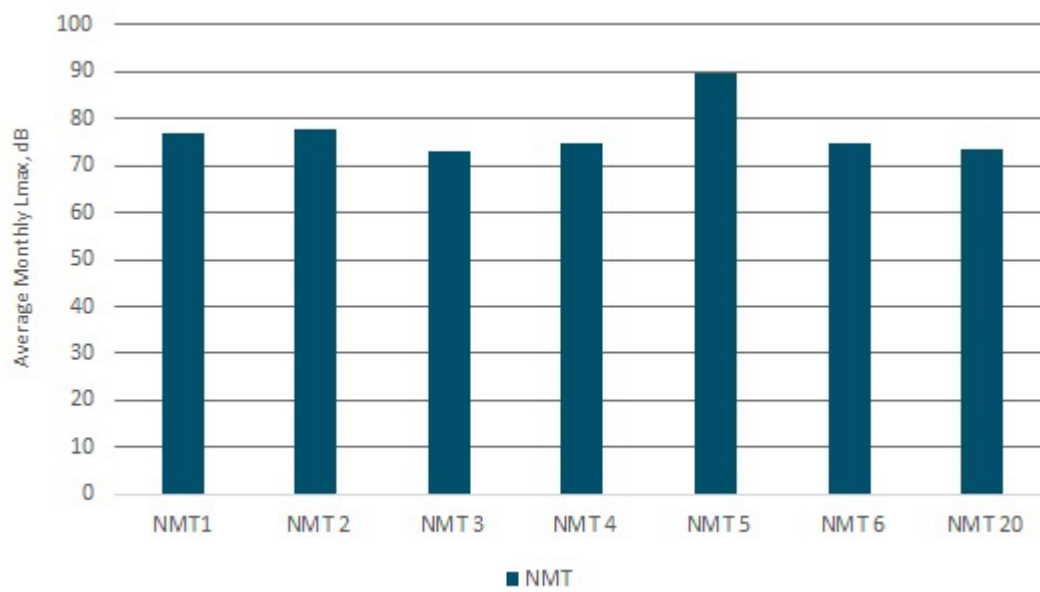


Figure 12: Average LAmax levels distribution for NMTs, July – September 2022

Average monthly LAmax noise levels per NMT for departing and arriving aircraft.

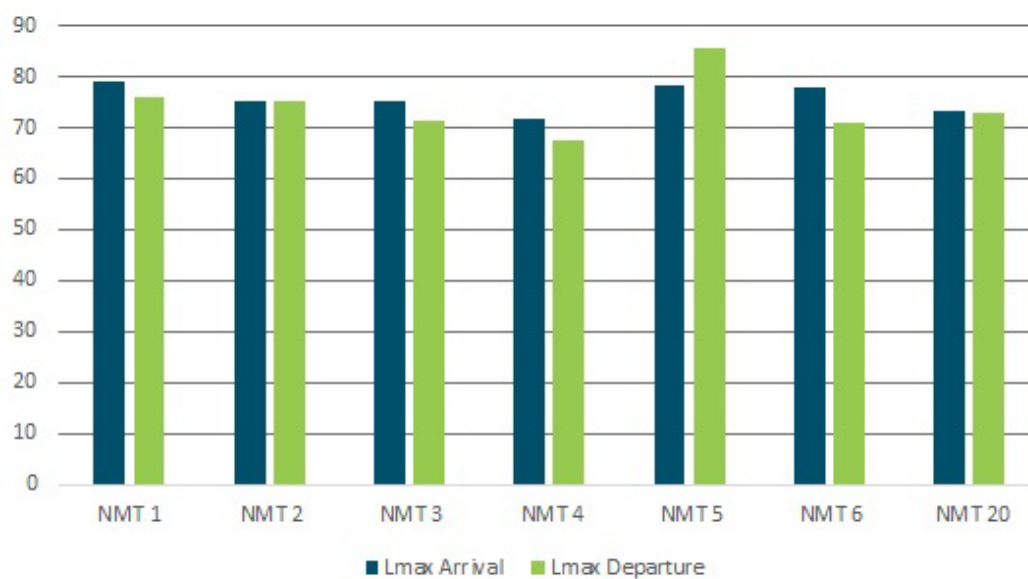


Figure 13: Average LAmax levels distribution for NMTs for arriving and departing aircraft, July – September 2022

Figure 14 presents the average noise levels measured at by all the NMTs for this reporting period during daytime which is defined as 07:00 in the morning to 22:59 in the evening. This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented per NMT.

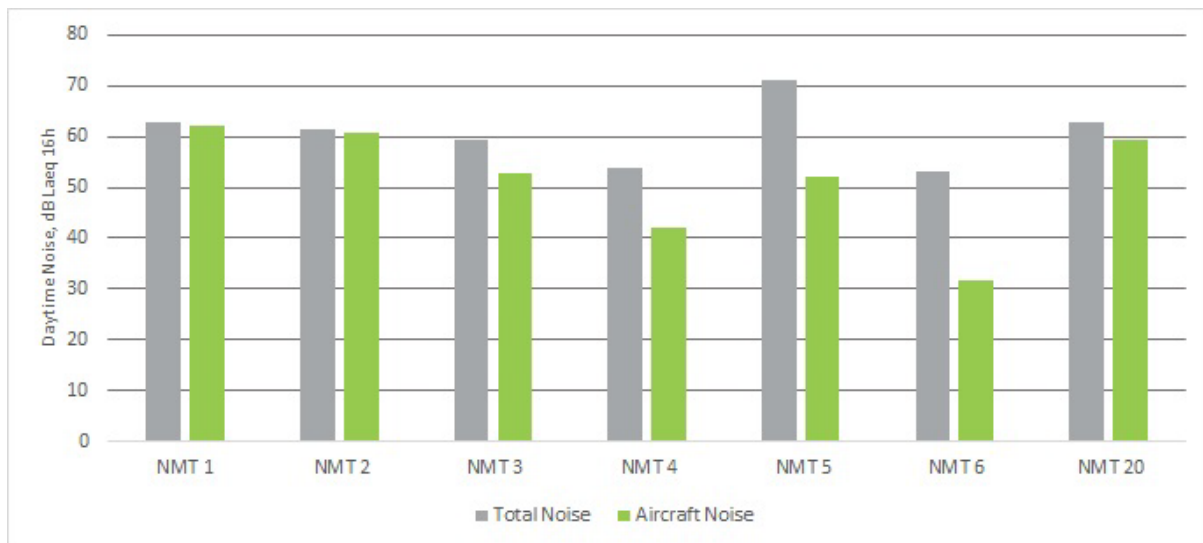


Figure 14: Averaged daytime noise levels per NMTs, July – September 2022

Noise levels during the night are determined using a similar method as described above. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 9 presents these results per NMT.



Figure 15: Averaged nighttime noise levels per NMTs, July - September 2022

NMT 1: Bay Lane

Noise Monitoring Terminal 1 ('Bay Lane') is located west of Dublin Airport, see Figure 16 below, under the extended runway centreline of runway 28L. Its purpose is to monitor runway 28L departures and runway 10R arrivals. The resulting data for NMT 1 measurements in the period from July 1st up to and including September 30th, 2022 are presented in this section.



Figure 16: Noise Monitoring Terminal Bay Lane Location

Noise Events

The figure below shows the breakdown of noise events attributed to aircraft, weather, and the community.

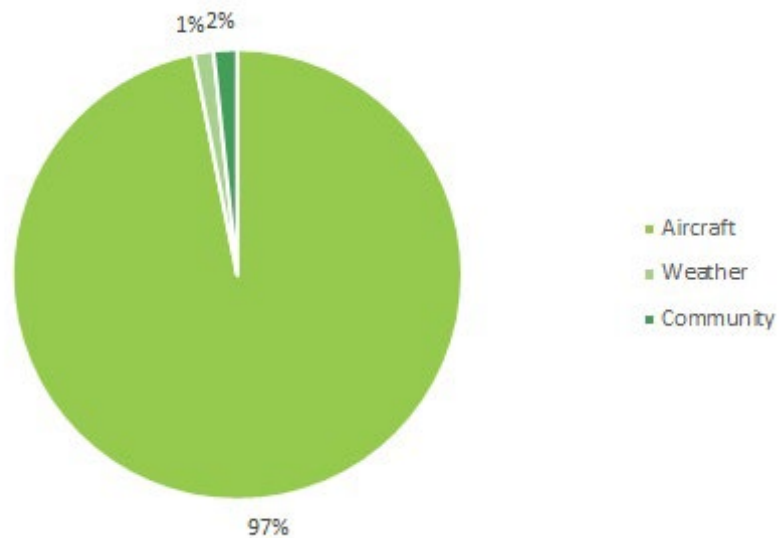


Figure 17: NMT 1 Noise Event Types

NMT Operational Status

To ensure that Noise Monitoring Terminals keep working within specific limits, internal calibration checks are completed every 6 hours. Outside of the 6 hourly calibration checks, NMTs will require maintenance and during this time will not record noise events. The operational status of NMT 1: Bay Lane is presented in Figure 18.

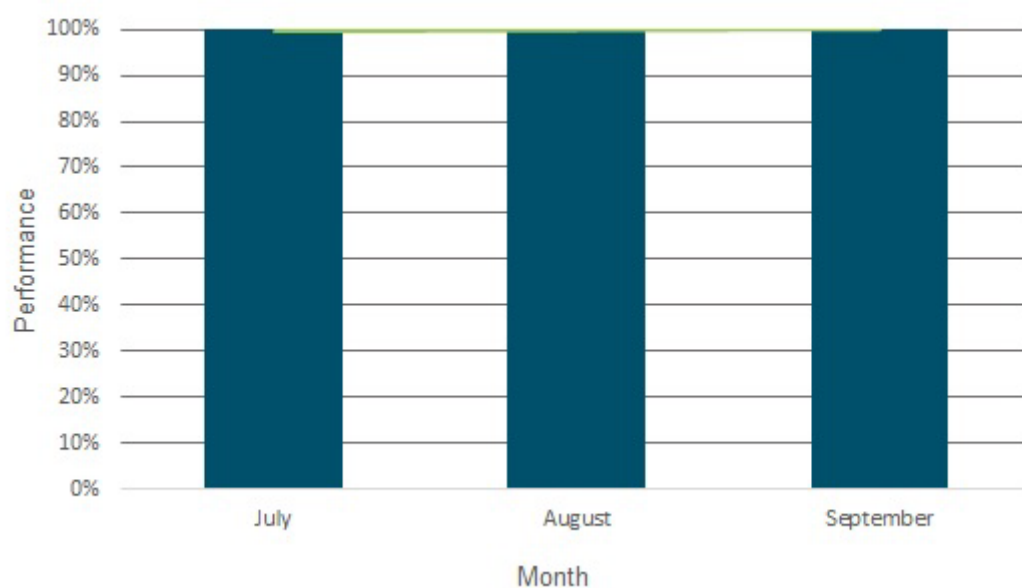


Figure 18: Operational status of NMT1, July – September 2022

Noise Levels

Figure 19 presents the average noise levels measured at NMT 1 during daytime periods, which are defined to be from 07:00 in the morning to 22:59 in the evening. Recorded noise levels during these time segments are therefore averaged over a 16-hour window.

This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented monthly.

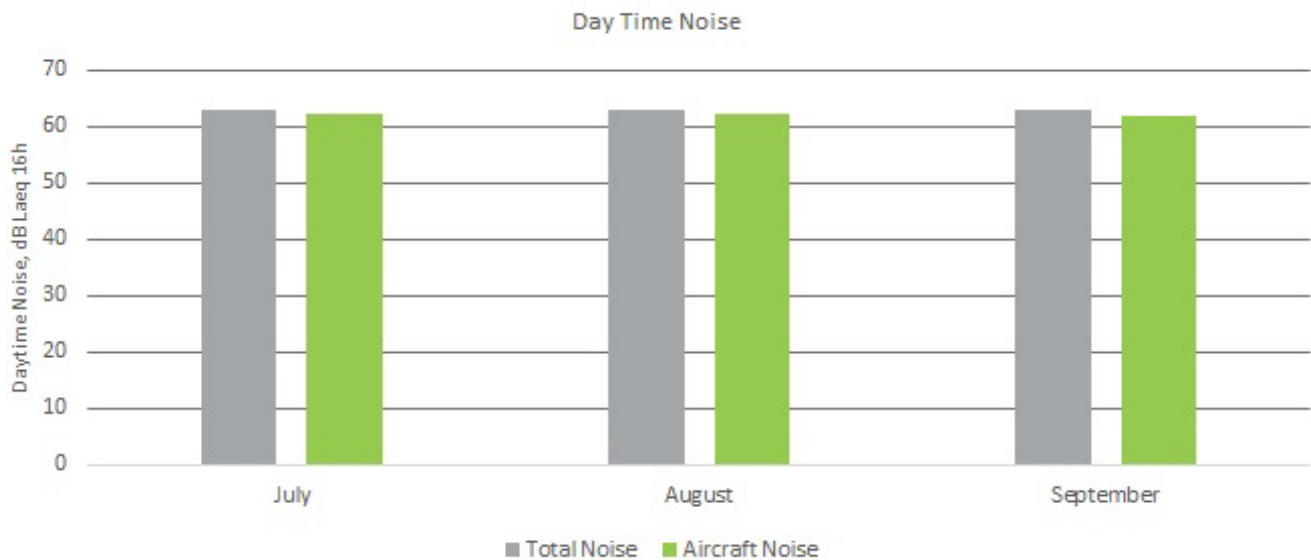


Figure 19: Averaged daytime noise levels for NMT 1, July – September 2022

Noise levels during the night are determined using a similar method as mentioned above. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 20 presents these results monthly.

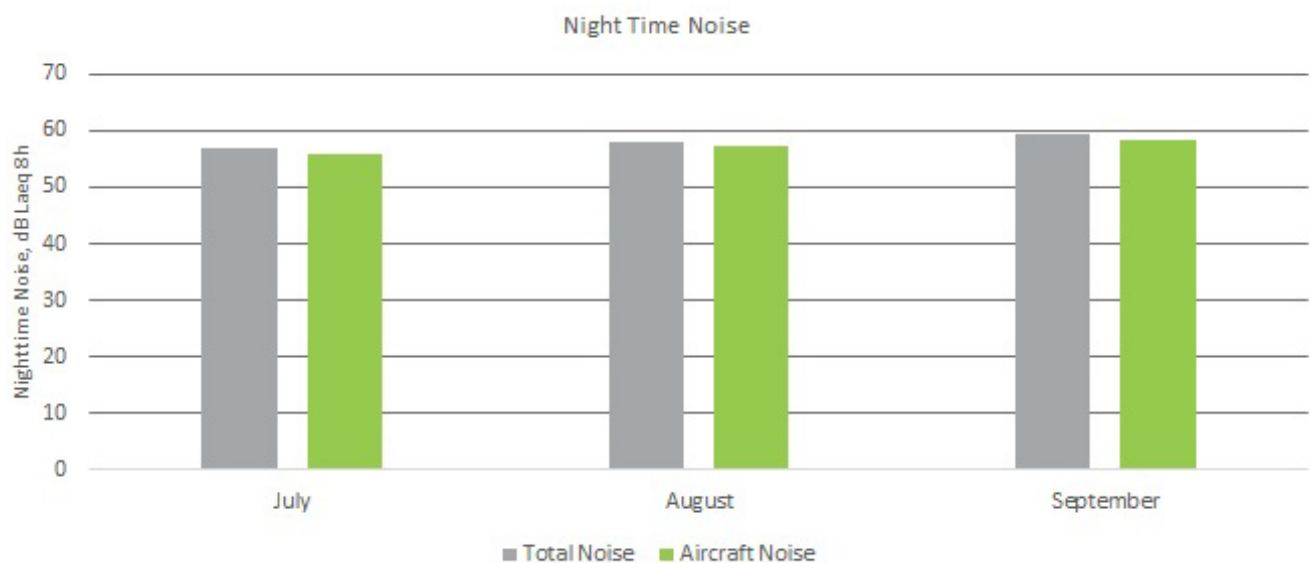


Figure 20: Averaged nighttime noise levels for NMT 1, July – September 2022

The hourly noise distribution at NMT 1 as shown in Figure 21.

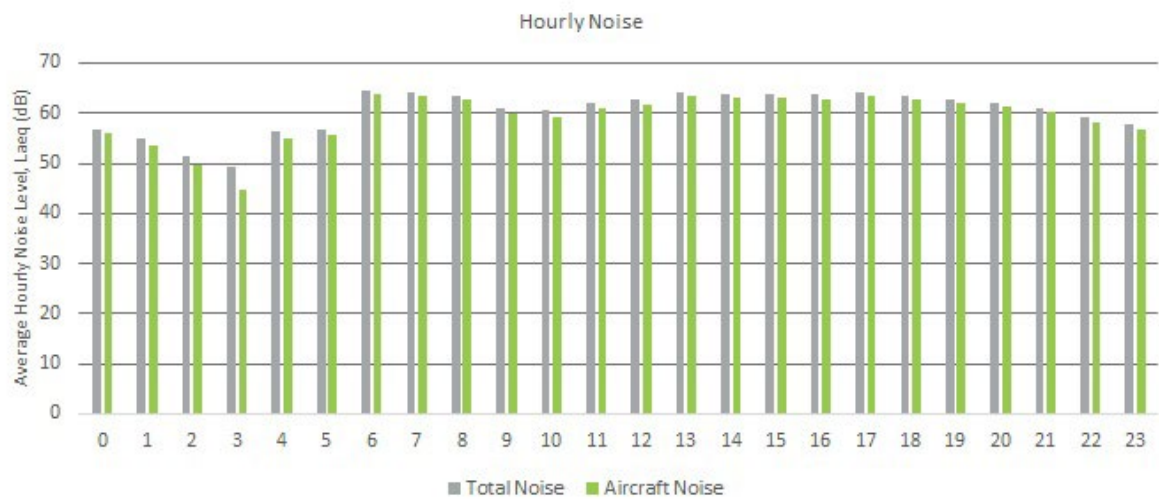


Figure 21: Averaged hourly noise levels for NMT 1, July - September 2021

Figure 22 shows the L_{Amax} distribution for aircraft noise for the third quarter of 2022 for NMT1.

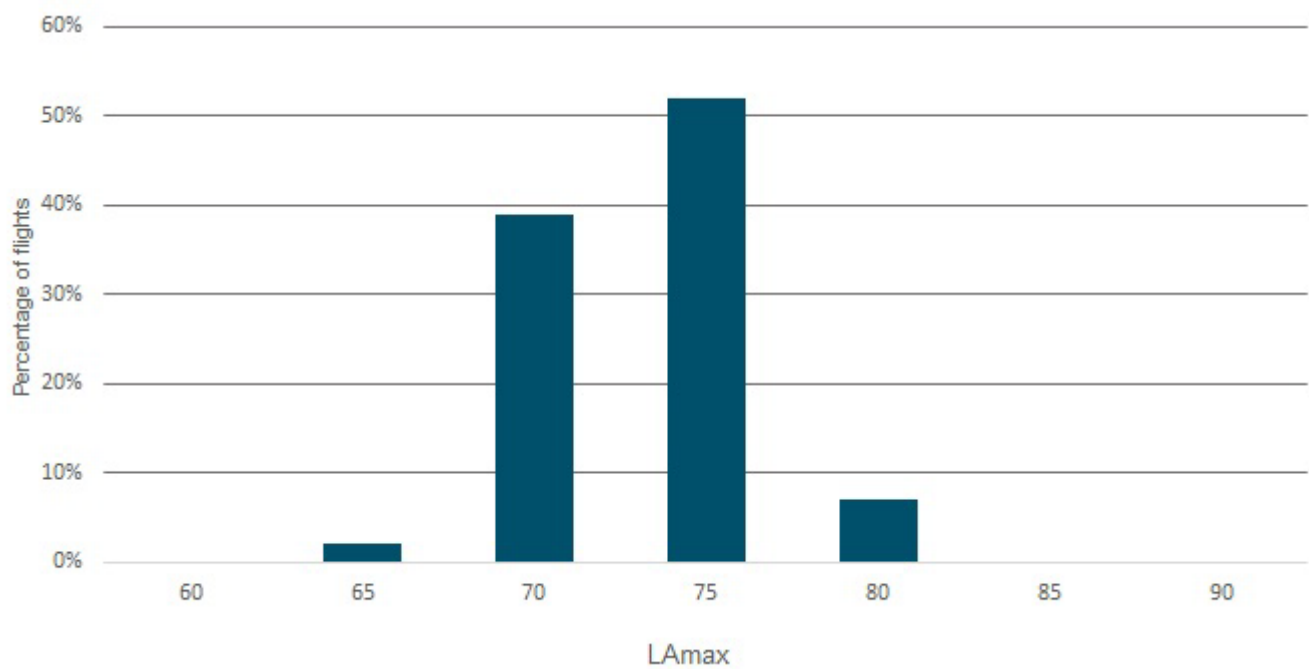


Figure 22: L_{Amax} levels distribution for NMT 1, July – September 2022

Table 5 shows the top 10 loudest correlated aircraft types from the total count of correlated noise events to NMT1.

Aircraft Type	Max dB	Total Count
MD83	87.2	1
B764	81.9	95
B77W	80.7	254
B772	80.6	148
B753	80.2	5
A333	79.9	984
B735	79.7	4
B77L	79.7	43
A332	79.6	4
B739	79.5	13

Table 5: LAmax by aircraft types correlated to NMT1, July - September 2022

NMT 2: St. Doolaghs

Noise Monitoring Terminal 2 ('St. Doolaghs') is located east of Dublin Airport, see Figure 23 below, under the extended runway centreline of runway 10R. Its purpose is to monitor runway 10R departures and runway 28L arrivals. The resulting data for NMT 2 measurements in the period from July 1st up to and including September 30th, 2022 are presented in this section.



Figure 23: Noise Monitoring Terminal St. Doolaghs Location

Noise Events

The figure below shows the breakdown of noise events attributed to aircraft, weather, and the community.

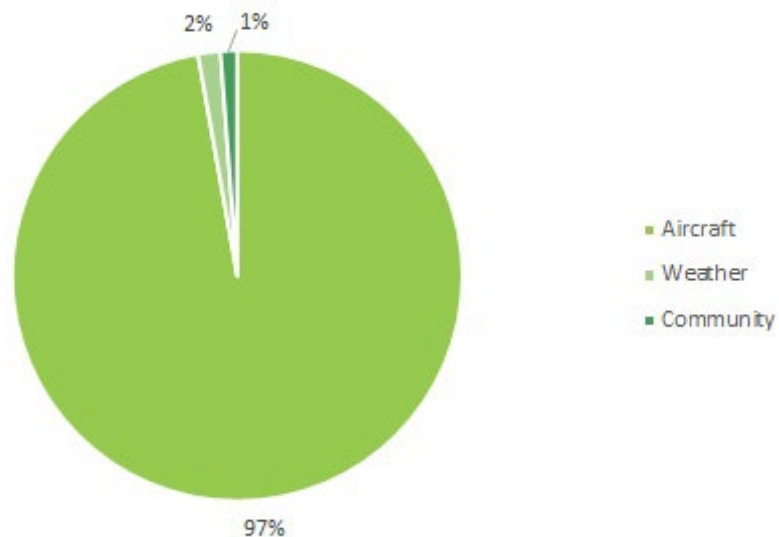


Figure 24: NMT 2 Noise Events Types

NMT Operational Status

To ensure that Noise Monitoring Terminals keep working within specific limits, internal calibration checks are completed every 6 hours. Outside of the 6 hourly calibration checks, NMTs will require maintenance and during this time will not record noise events. The operational status of NMT 2: St. Doolaghs is presented in Figure 25.

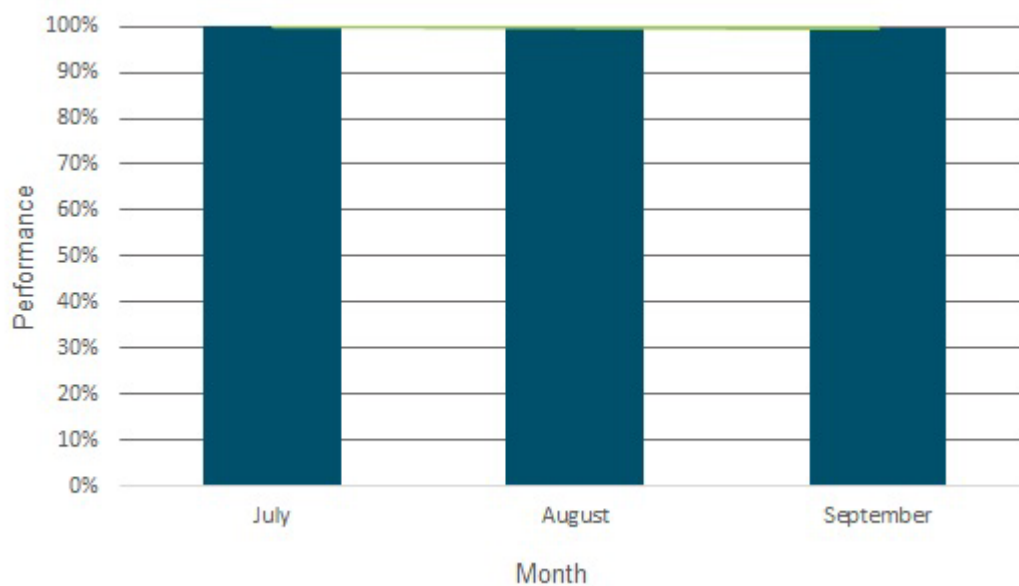


Figure 25: Operational status of NMT 2, July – September 2022

Noise Levels

Figure 26 presents the average noise levels measured at NMT 2 during daytime periods, which are defined to be from 07:00 in the morning to 22:59 in the evening. Recorded noise levels during these time segments are therefore averaged over a 16-hour window.

This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented monthly.

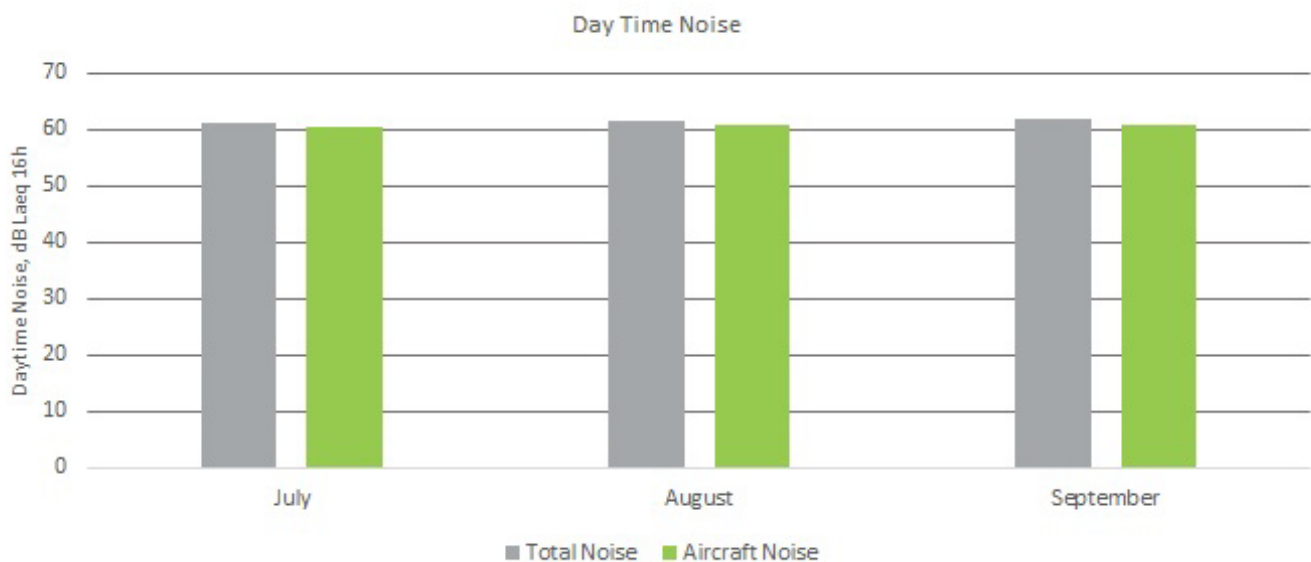


Figure 26: Averaged daytime noise levels for NMT 2, July – September 2022

Noise levels during the night are determined using a similar method. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 27 presents these results monthly.

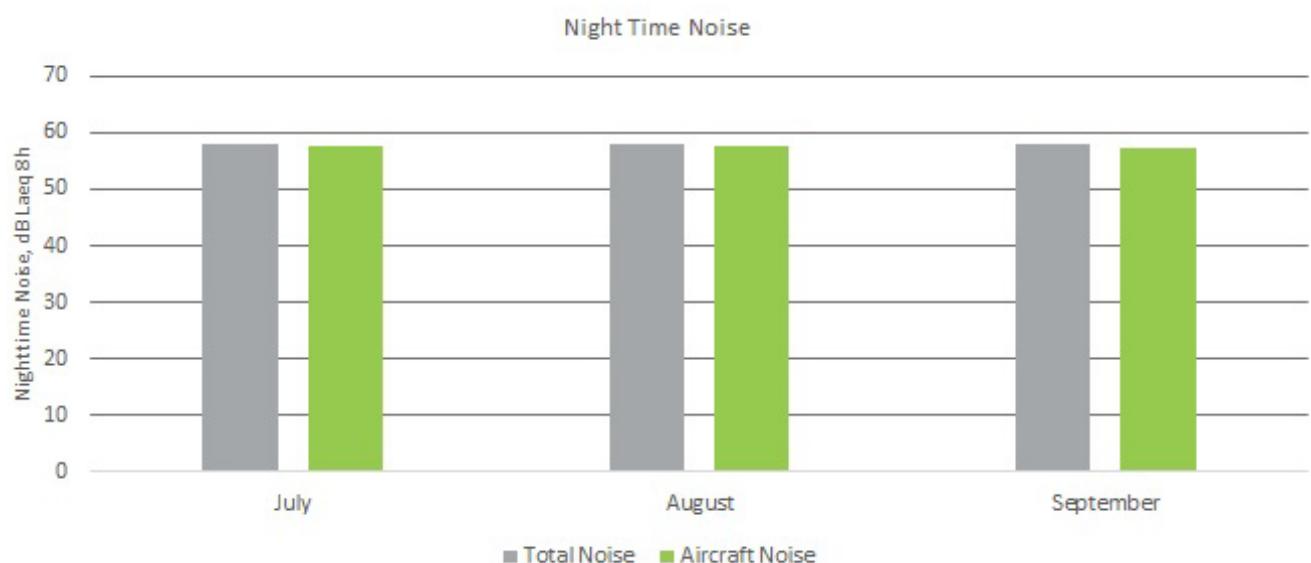


Figure 27: Averaged nighttime noise levels for NMT 2, July – September 2022

The hourly noise distribution at NMT 2 as shown in Figure 28.

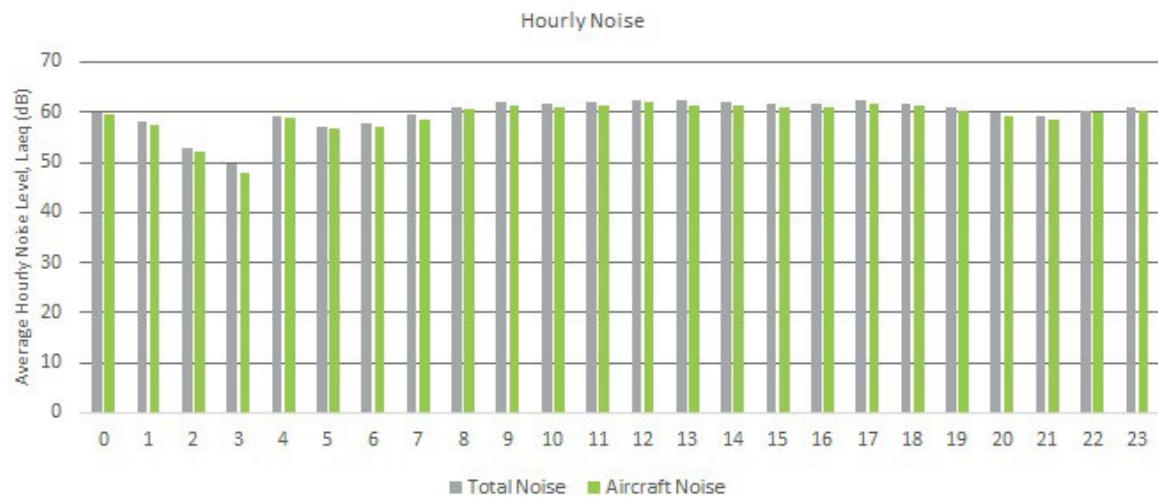


Figure 28: Averaged hourly noise levels for NMT 2, July – September 2022

Figure 29 shows the L_{Amax} distribution for aircraft noise for the third quarter of 2022 for NMT 2.

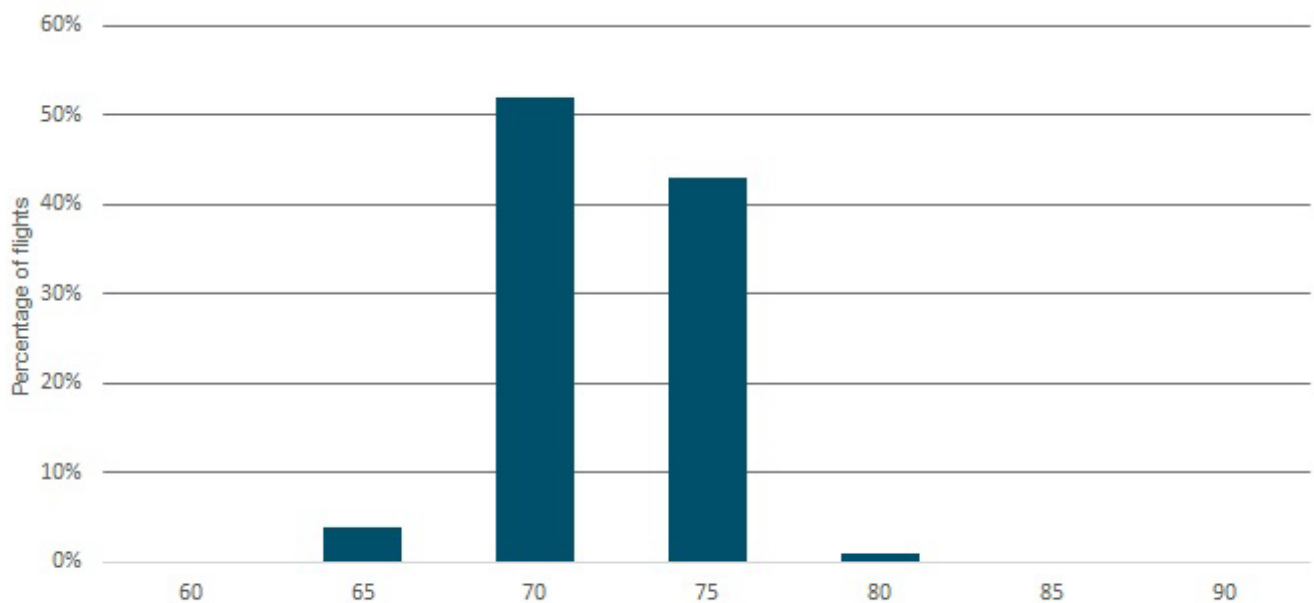


Figure 29: L_{Amax} levels distribution for NMT 2, July – September 2022

Table 6 shows the top 10 loudest correlated aircraft types from the total count of correlated noise events to NMT2.

Aircraft Type	Max dB	Total Count
MD82	81	2
MD83	80.8	1
B735	79.1	3
B764	79	154
B77W	78.3	299
A333	78	1227
B734	78	96
B772	77.7	215
B77L	77.4	46
B753	77	12

Table 6: LAmax by aircraft types correlated to NMT2, July - September 2022

Noise Monitoring Terminal 3 ('Bishopswood') is located west of Dublin Airport and north of flightpath for runway 10R/28L, see Figure 30 below. Its purpose is to monitor aircraft noise levels in the local area. The resulting data for NMT 3 measurements in the period from July 1st up to and including September 30th, 2022 are presented in this section.



Noise Events

The figure below shows the breakdown of noise events attributed to aircraft, weather, and the community.

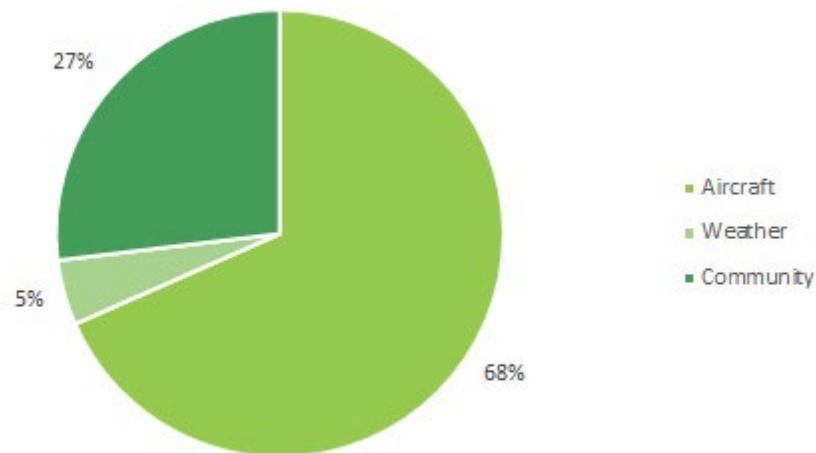


Figure 31: NMT 3 Noise Event Types

NMT Operational Status

To ensure that Noise Monitoring Terminals keep working within specific limits, internal calibration checks are completed every 6 hours. Outside of the 6 hourly calibration checks, NMTs will require maintenance and during this time will not record noise events. The operational status of NMT 3: Bishopswood is presented in Figure 32.

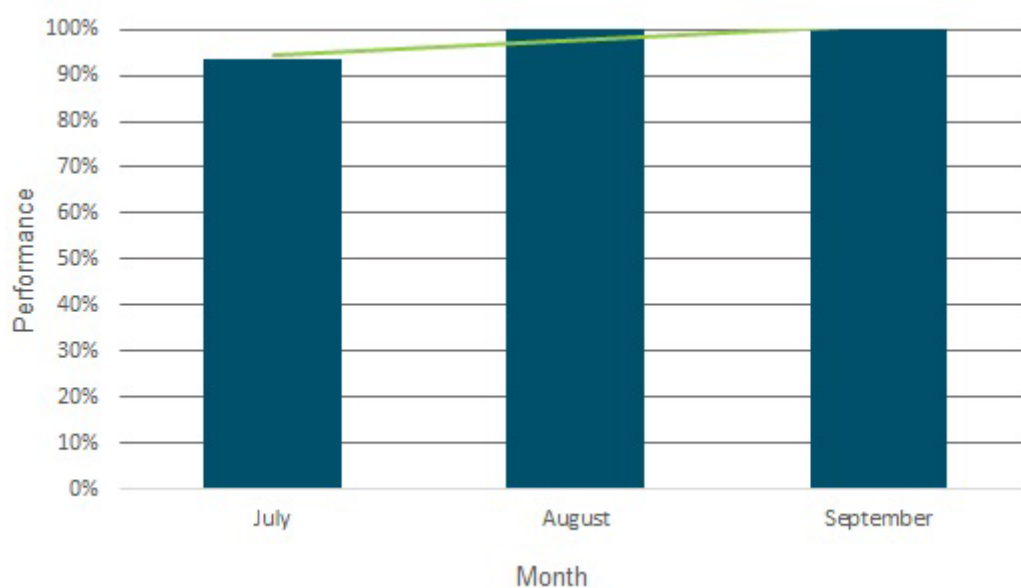


Figure 32: Operational status of NMT 3, July – September 2022

Noise Levels

Figure 33 presents the average noise levels measured at NMT 3 during daytime periods, which are defined to be from 07:00 in the morning to 22:59 in the evening. Recorded noise levels during these time segments are therefore averaged over a 16-hour window.

This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented monthly.



Figure 33: Averaged hourly noise levels for NMT 3, July – September 2022

Noise levels during the night are determined using a similar method. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 34 presents these results monthly.

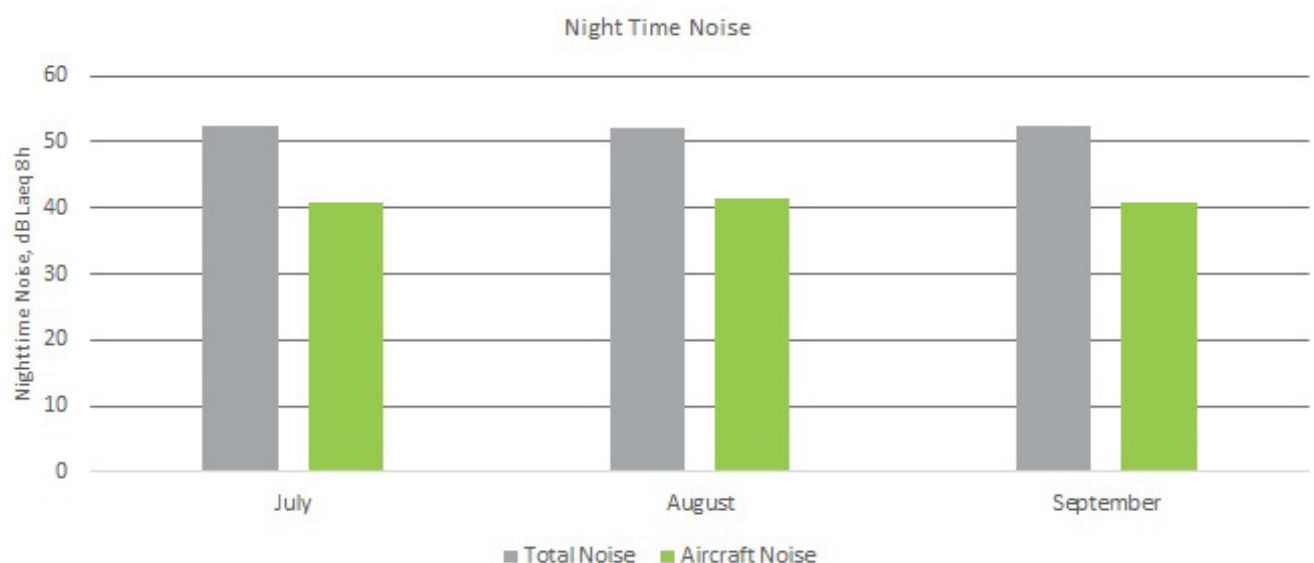


Figure 34: Averaged nighttime noise levels for NMT 3, July – September 2022

The hourly noise distribution at NMT 3 as shown in Figure 35.

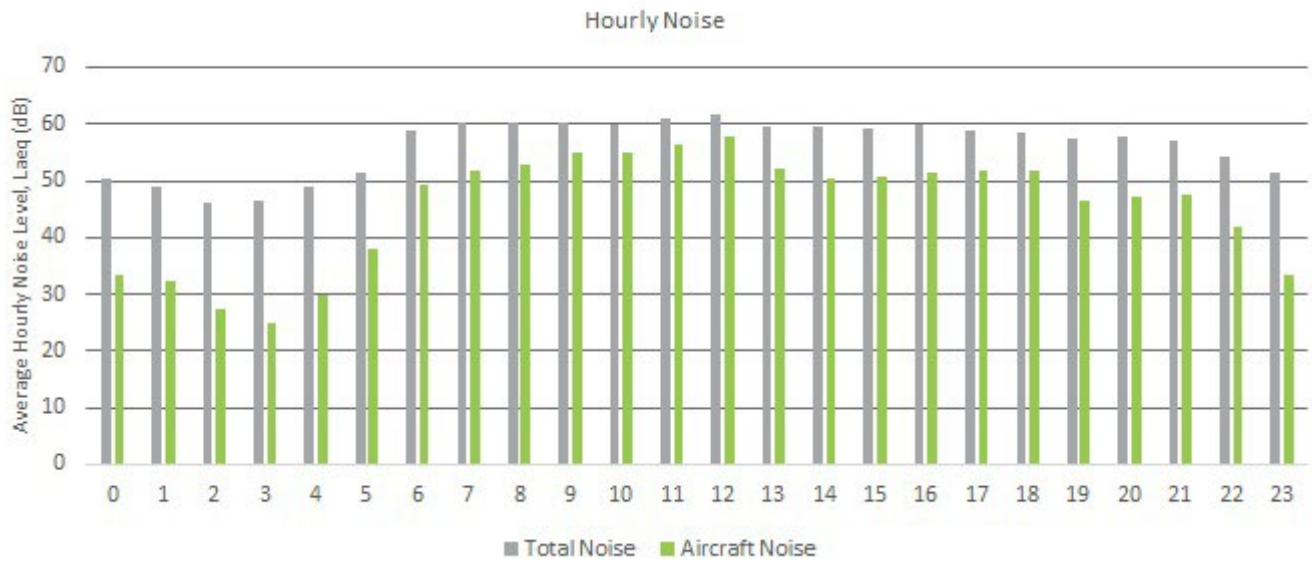


Figure 35: Averaged hourly noise levels for NMT 3, July – September 2022

Figure 36 shows the L_{Amax} distribution for aircraft noise for the third quarter of 2022 for NMT 3.

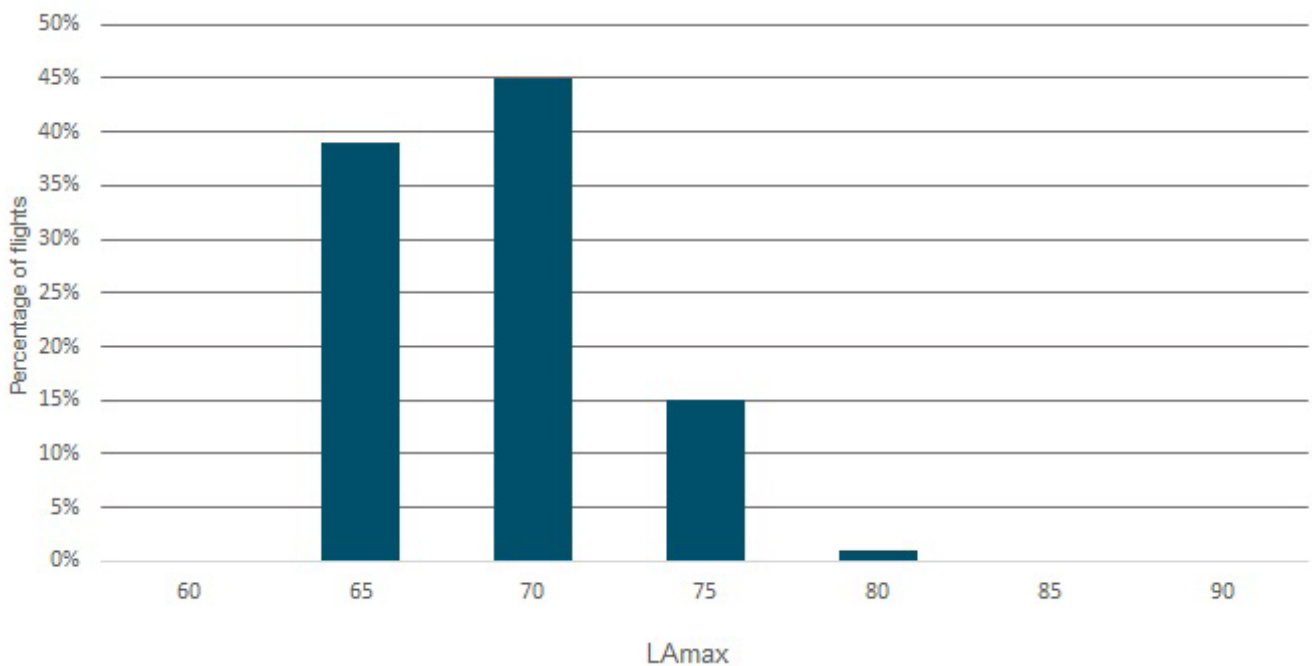


Figure 36: L_{Amax} levels distribution for NMT 3, July – September 2022

Table 7 shows the top 10 loudest correlated aircraft types from the total count of correlated noise events to NMT3.

Aircraft Type	Max dB	Total Count
LJ45	89.8	1
CRJ9	74.8	4
C56X	73.5	1
A333	73	629
E145	73	5
A332	72.8	2
AT76	72.6	4
DH8D	72.3	1
F900	72	1
A21N	71.9	20

Table 7: L_Amax by aircraft types correlated to NMT3, July - September 2022

NMT 4: Feltrim

Noise Monitoring Terminal 4 ('Feltrim') is located east of Dublin Airport and north of the flight path of runway 10R/28L, see Figure 37 below and monitors the local area. The resulting data for NMT 4 measurements in the period from July 1st up to and including September 30th, 2022 are presented in this section.



Figure 37: Noise Monitoring Terminal Feltrim Location

Noise Events

The figure below shows the breakdown of noise events attributed to aircraft, weather, and the community.

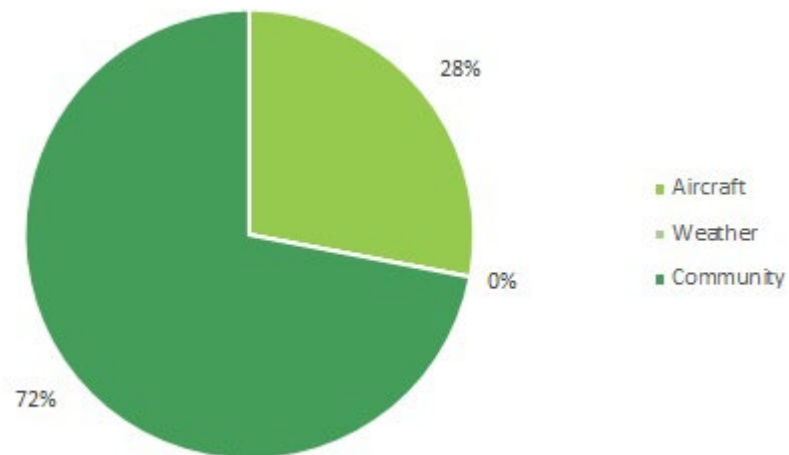


Figure 38: NMT 4 Noise Event Types

NMT Operational Status

To ensure that Noise Monitoring Terminals keep working within specific limits, internal calibration checks are completed every 6 hours. Outside of the 6 hourly calibration checks, NMTs will require maintenance and during this time will not record noise events. The operational status of NMT 4: Feltrim is presented in Figure 39.

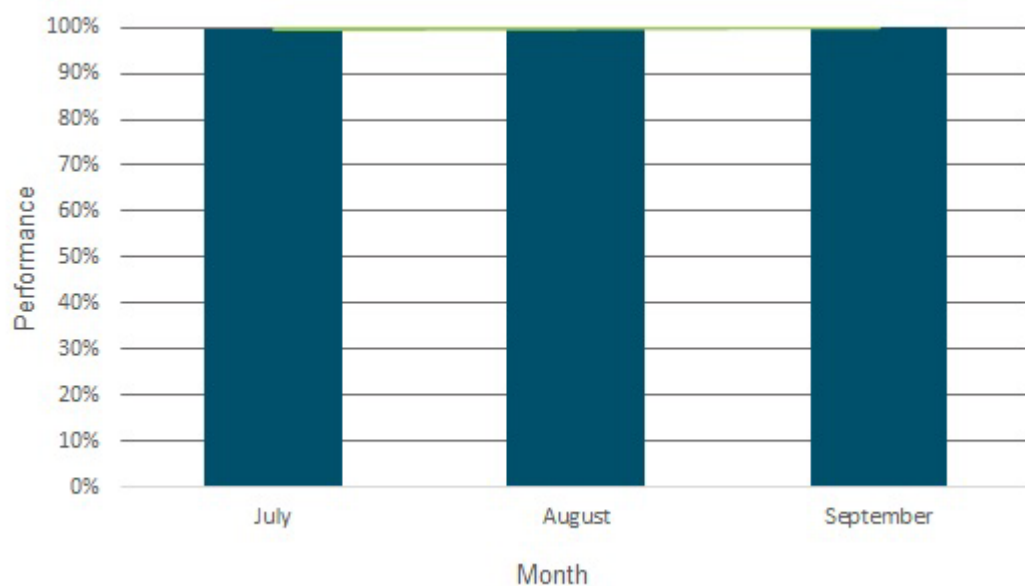


Figure 39: Operational status of NMT 4, July – September 2022

Noise Levels

Figure 40 presents the average noise levels measured at NMT 4 during daytime periods, which are defined to be from 07:00 in the morning to 22:59 in the evening. Recorded noise levels during these time segments are therefore averaged over a 16-hour window.

This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented monthly.

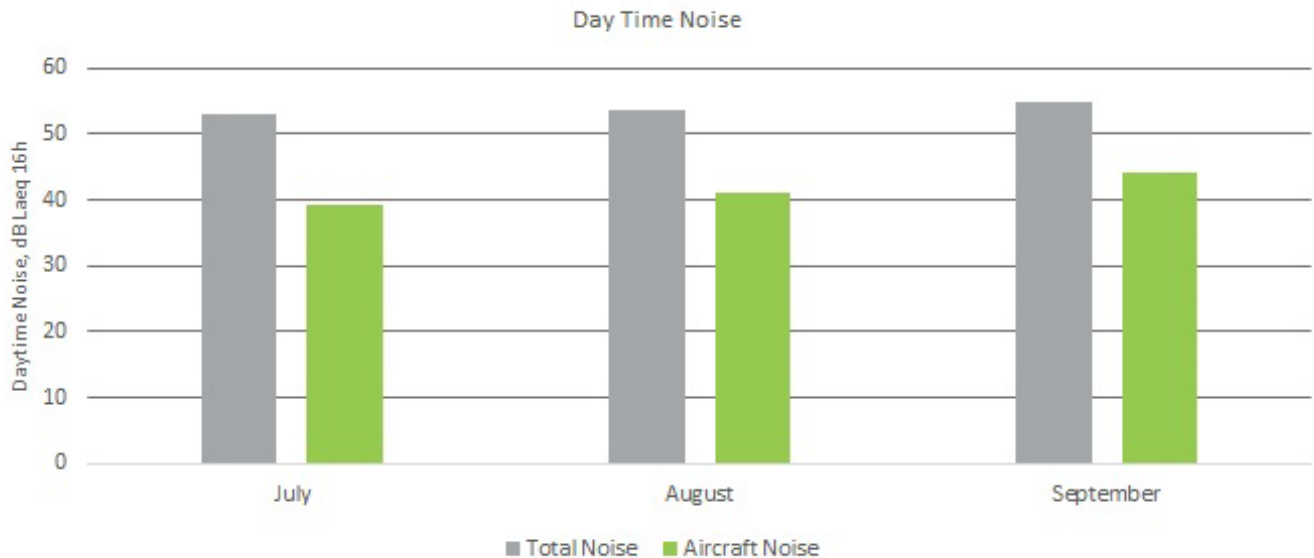


Figure 40: Averaged daytime noise levels for NMT 4, July – September 2022

Noise levels during the night are determined using a similar method. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 41 presents these results monthly.

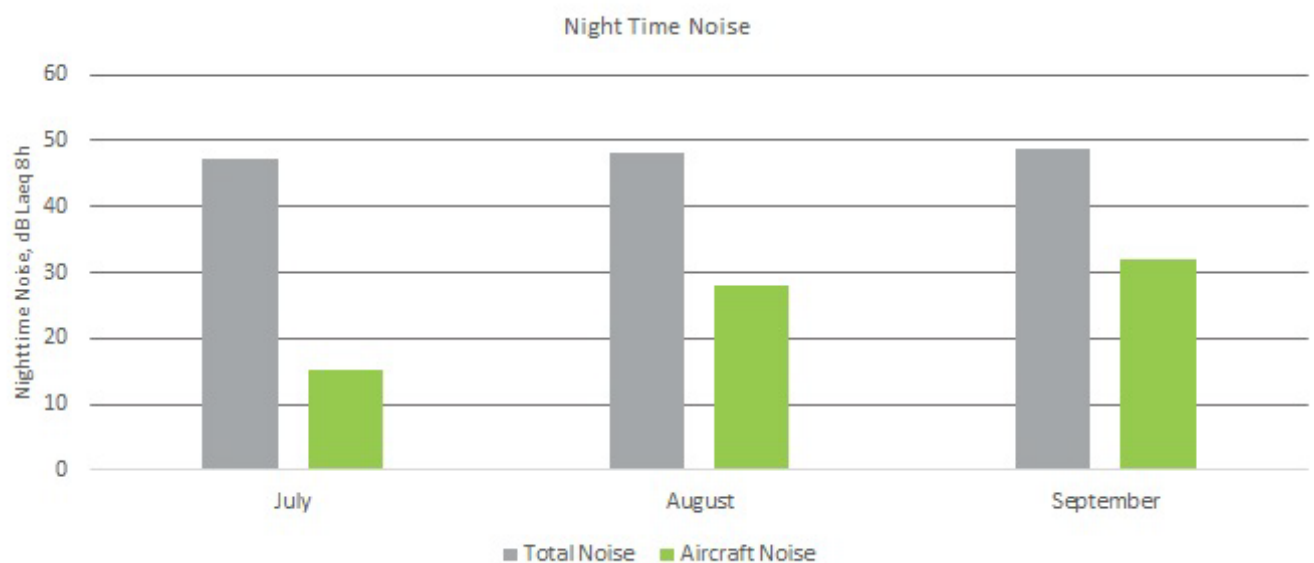


Figure 41: Averaged nighttime noise levels for NMT 4, July – September 2022

The hourly noise distribution at NMT 4 as shown in Figure 42.

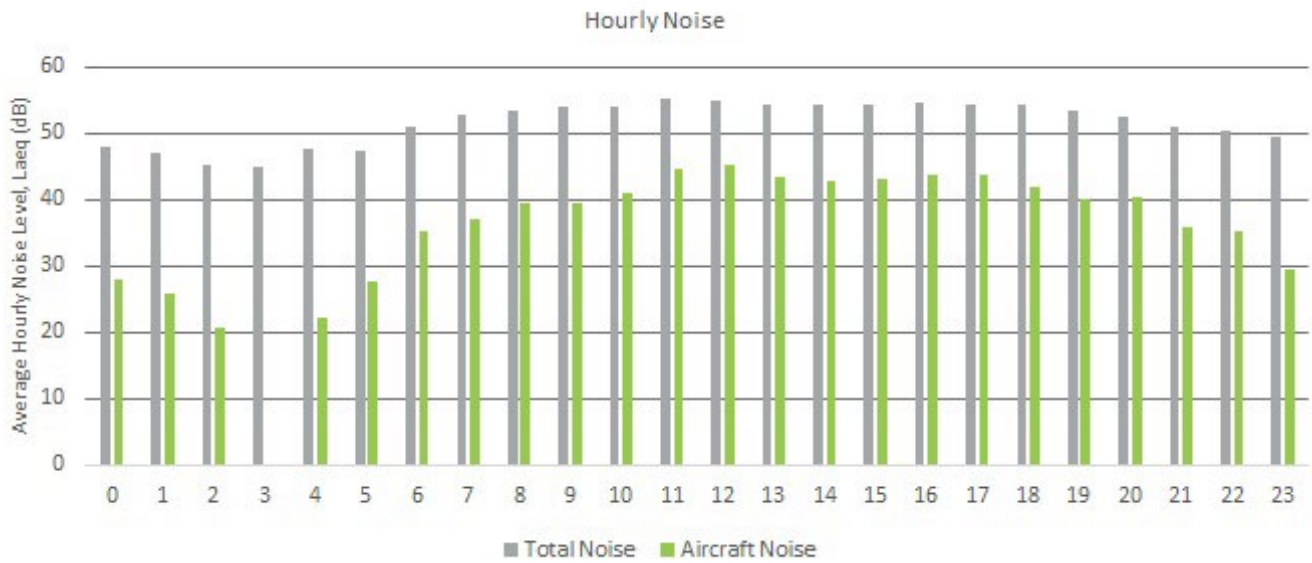


Figure 42: Averaged hourly noise levels for NMT 4, July – September 2022

Figure 43 shows the LAmax distribution for aircraft noise for the third quarter of 2022 for NMT 4.

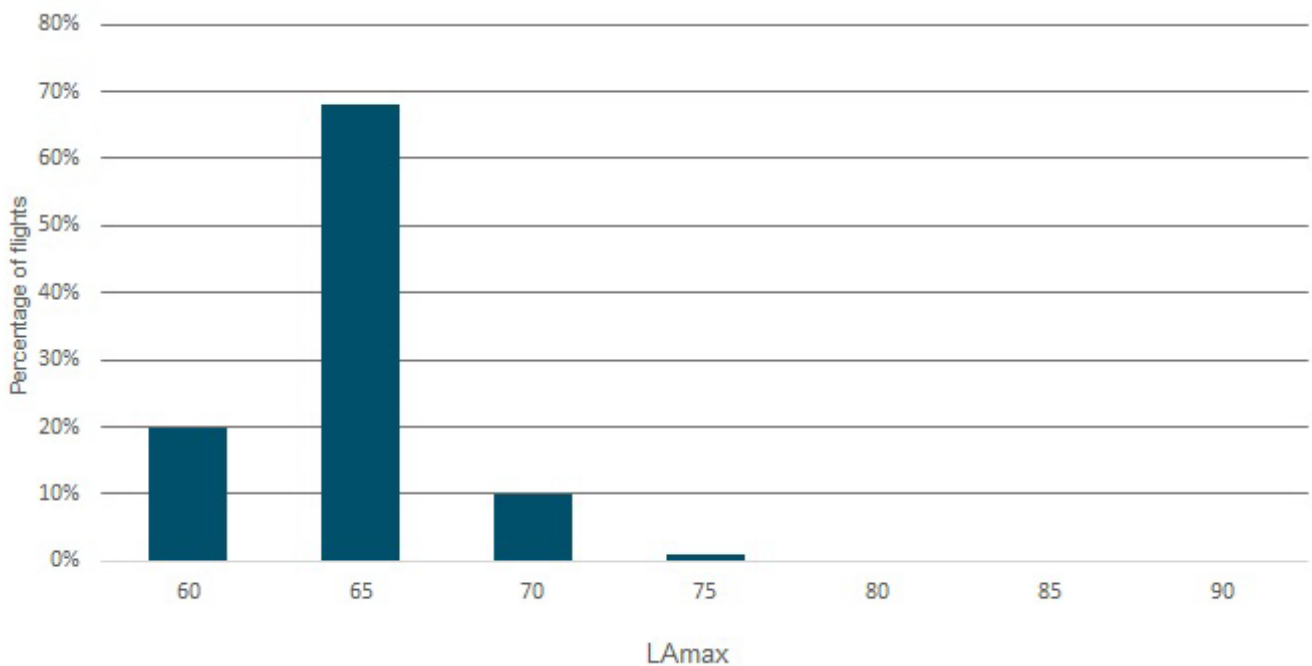


Figure 43: LAmax levels distribution for NMT 4, July – September 2022

Table 8 shows the top 10 loudest correlated aircraft types from the total count of correlated noise events to NMT4.

Aircraft Type	AVG Max dB	Total Count
E550	79.3	1
MD82	74.6	1
B39M	72.7	1
C25B	72.4	1
CL60	71.5	2
C560	70.5	1
GLEX	70.1	2
LJ45	69.7	1
B38M	69.2	14
GLF4	69.1	2

Table 8: LAmax by aircraft types correlated to NMT4, July - September 2022

NMT 5: Balcultry

Noise Monitoring Terminal 5 ('Balcultry') is located northwest of Dublin Airport, see Figure 44 below, under the extended runway centreline of runway 34. Its purpose is to monitor runway 34 departures and runway 16 arrivals. The resulting data for NMT 5 measurements in the period from July 1st up to and including September 30th, 2022 are presented in this section.



Figure 44: Noise Monitoring Terminal Balcultry Location

Noise Events

The figure below shows the breakdown of noise events attributed to aircraft, weather, and the community.

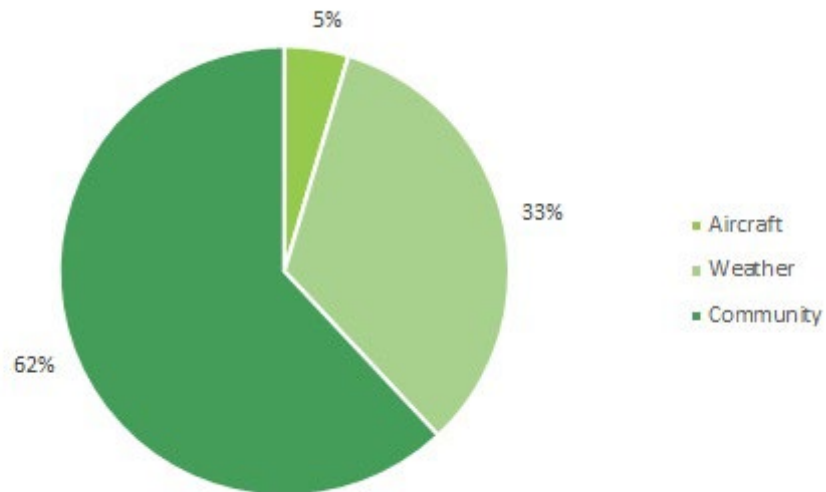


Figure 45: NMT 5 Noise Event Types

NMT Operational Status

To ensure that Noise Monitoring Terminals keep working within specific limits, internal calibration checks are completed every 6 hours. Outside of the 6 hourly calibration checks, NMTs will require maintenance and during this time will not record noise events. The operational status of NMT 5: Balcultry is presented in Figure 46.

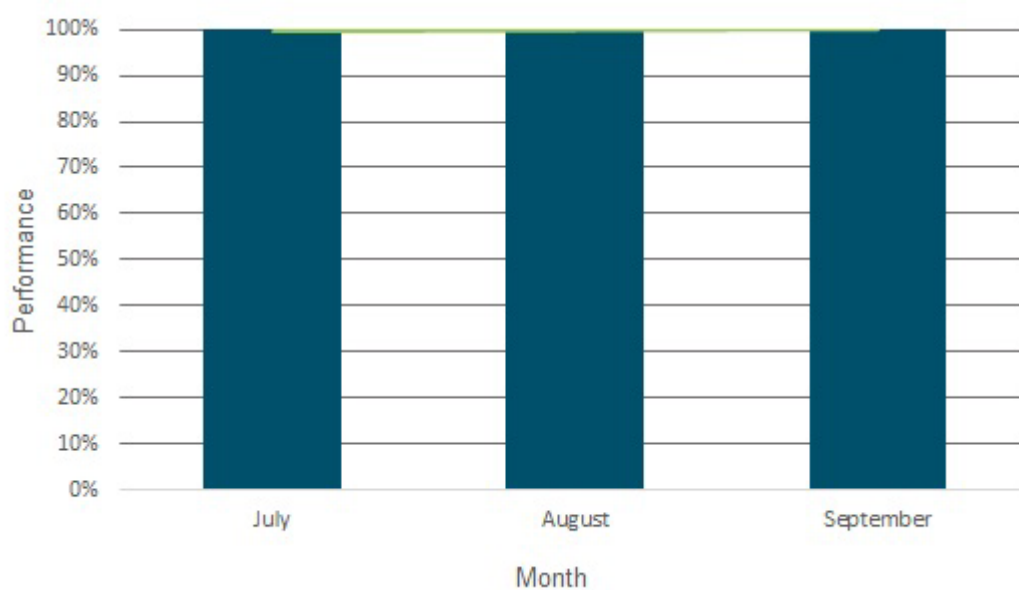


Figure 46: Operational status of NMT 5, July – September 2022

Noise Levels

Figure 47 presents the average noise levels measured at NMT 5 during daytime periods, which are defined to be from 07:00 in the morning to 22:59 in the evening. Recorded noise levels during these time segments are therefore averaged over a 16-hour window.

This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented monthly.



Figure 47: Averaged daytime noise levels for NMT 5, July – September 2022

Noise levels during the night are determined using a similar method. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 48 presents these results monthly.

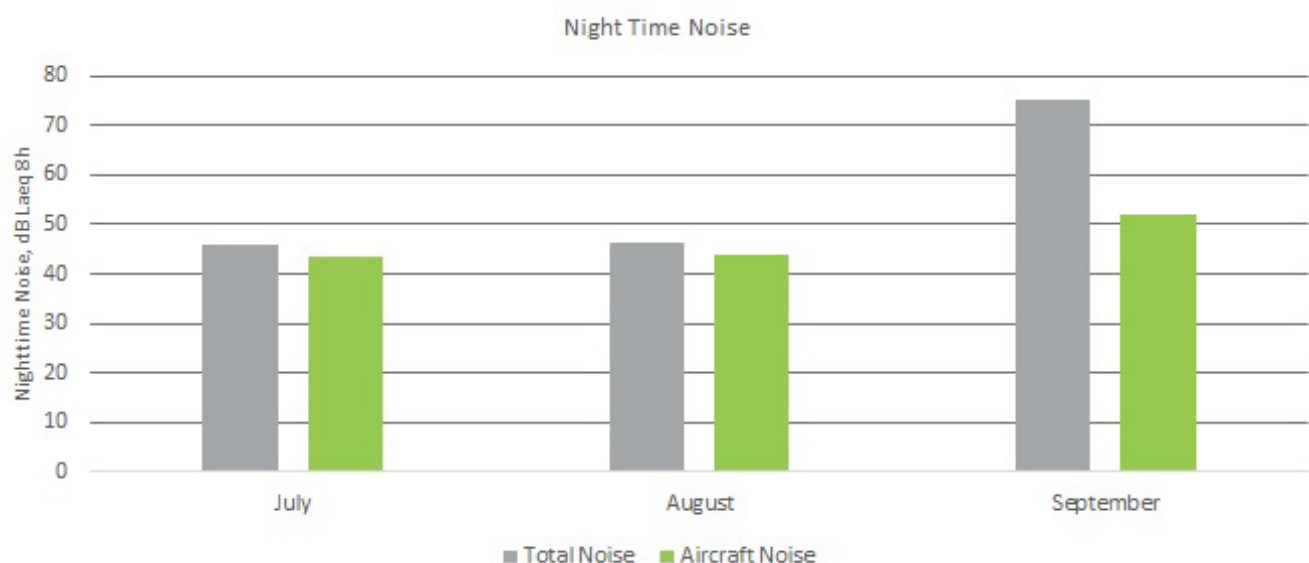


Figure 48: Averaged nighttime noise levels for NMT 5, July – September 2022

The hourly noise distribution at NMT 5 as shown in Figure 49.

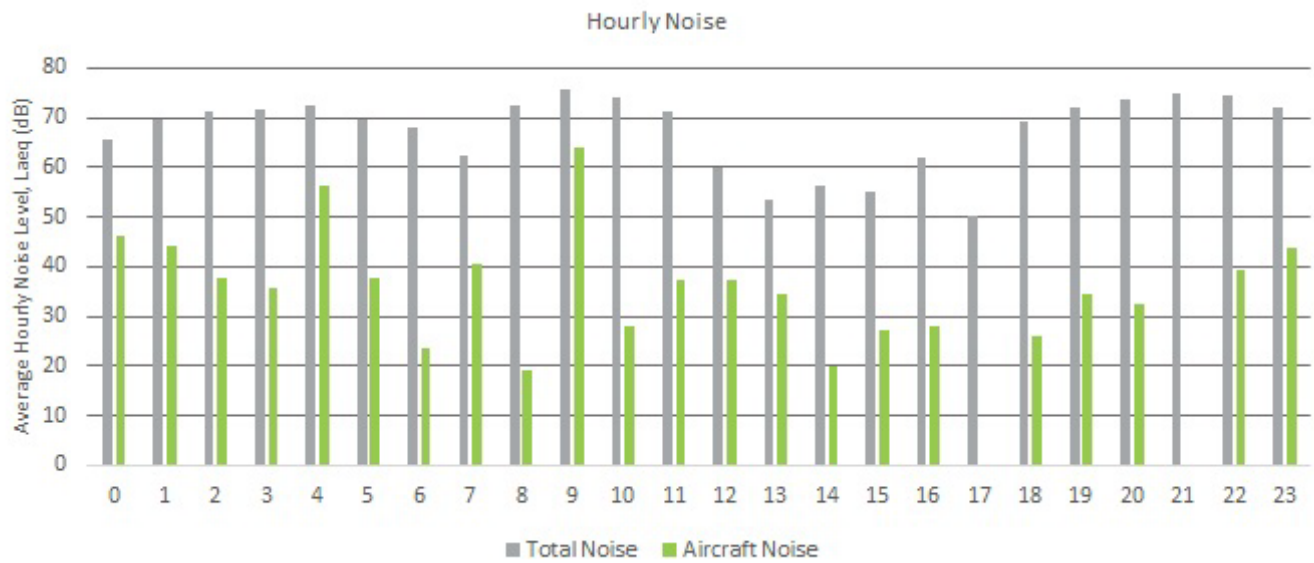


Figure 49: Averaged hourly noise levels for NMT 5, July – September 2022

Figure 50 shows the LAmax distribution for aircraft noise for the third quarter of 2022 for NMT 5.

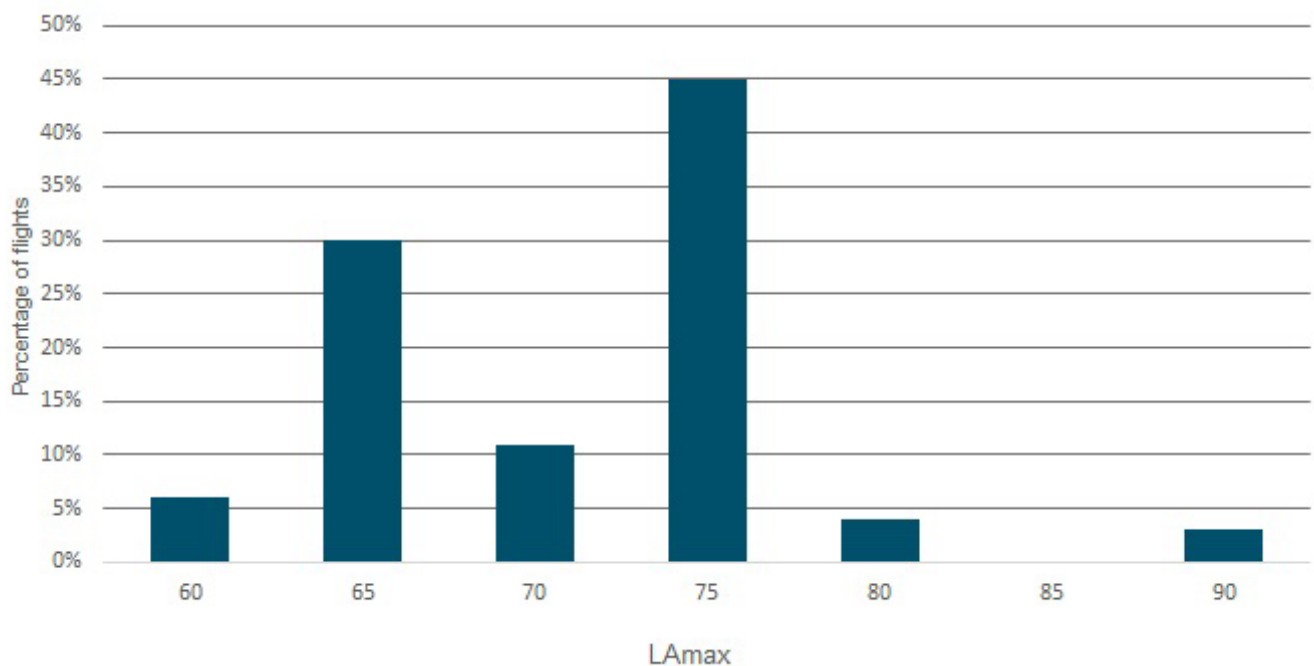


Figure 50: LAmax levels distribution for NMT 5, July – September 2022

Table 9 shows the top 10 loudest correlated aircraft types from the total count of correlated noise events to NMT5.

Aircraft Type	Max dB	Total Count
B77W	80.9	1
B734	80.6	2
B772	79.8	4
AT72	79.6	6
A333	79.4	2
B763	79.2	1
B789	79.1	1
B735	78.7	1
A321	77.5	4
B38M	77.3	21

Table 9: LAmax by aircraft types correlated to NMT5, July - September 2022

Noise Monitoring Terminal 6 ('Artane') is located southeast of Dublin Airport on the roof a school building, see Figure 51 below, under the extended runway centreline of runway 16. Its purpose is to monitor runway 16 departures and runway 34 arrivals. The resulting data for NMT 6 measurements in the period from July 1st up to and including September 30th, 2022 are presented in this section.



Noise Events

The figure below shows the breakdown of noise events attributed to aircraft, weather, and the community.

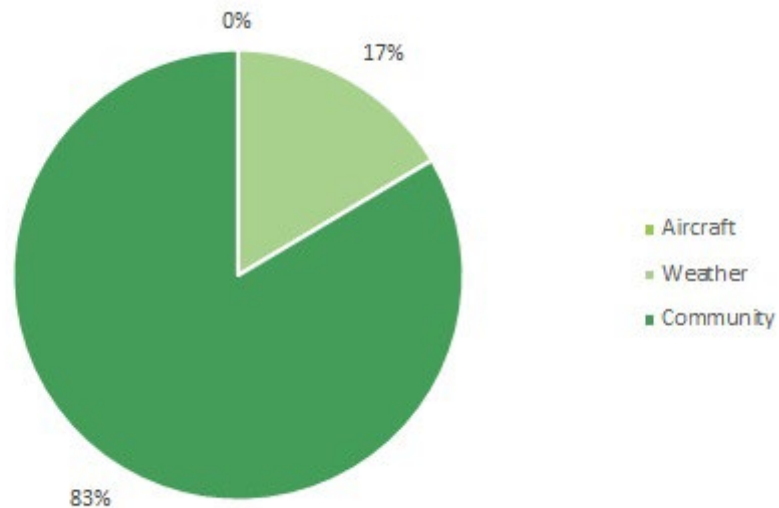


Figure 52: NMT 6 Noise Event Types

NMT Operational Status

To ensure that Noise Monitoring Terminals keep working within specific limits, internal calibration checks are completed every 6 hours. Outside of the 6 hourly calibration checks, NMTs will require maintenance and during this time will not record noise events. The operational status of NMT 6: Artane is presented in Figure 53.

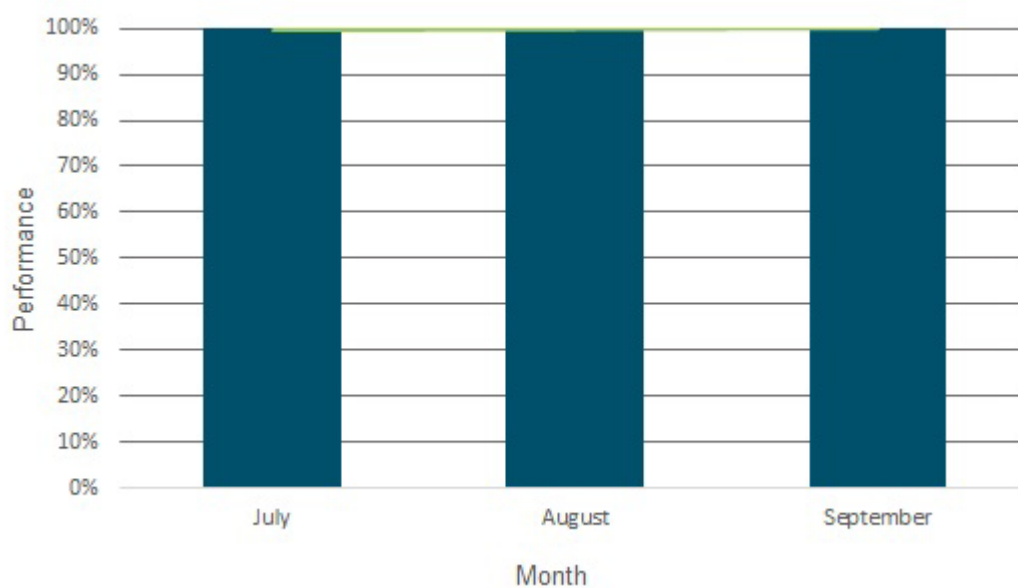


Figure 53: Operational status of NMT 6, July – September 2022

Noise Levels

Figure 54 presents the average noise levels measured at NMT 6 during daytime periods, which are defined to be from 07:00 in the morning to 22:59 in the evening. Recorded noise levels during these time segments are therefore averaged over a 16-hour window.

This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented monthly.

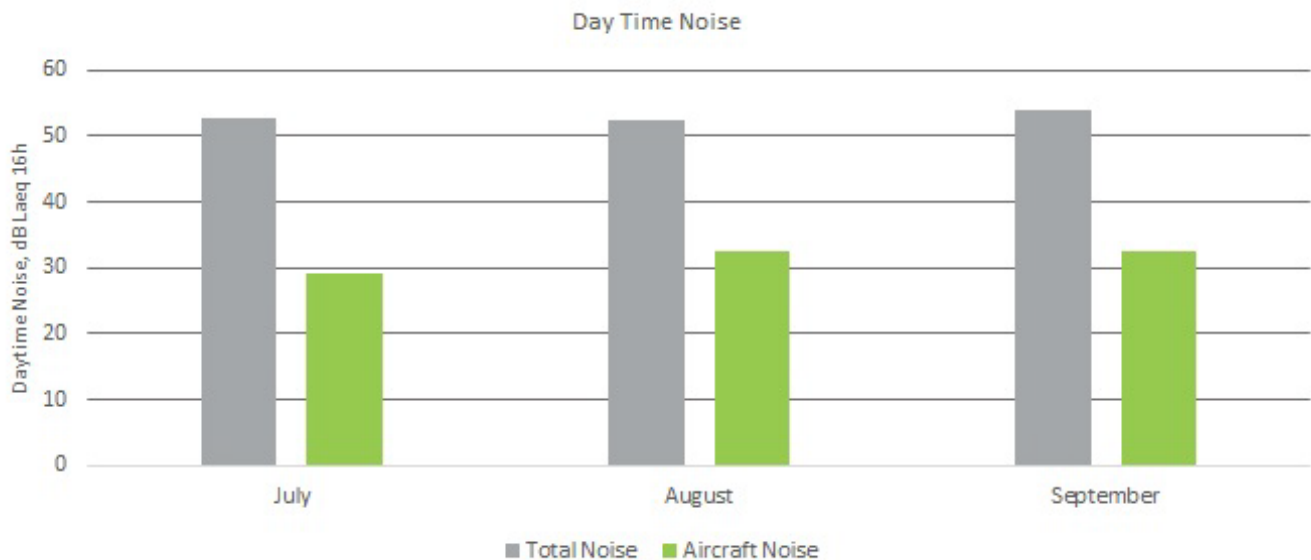


Figure 54: Averaged daytime noise levels for NMT 6, July – September 2022

Noise levels during the night are determined using a similar method. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 55 presents these results monthly.

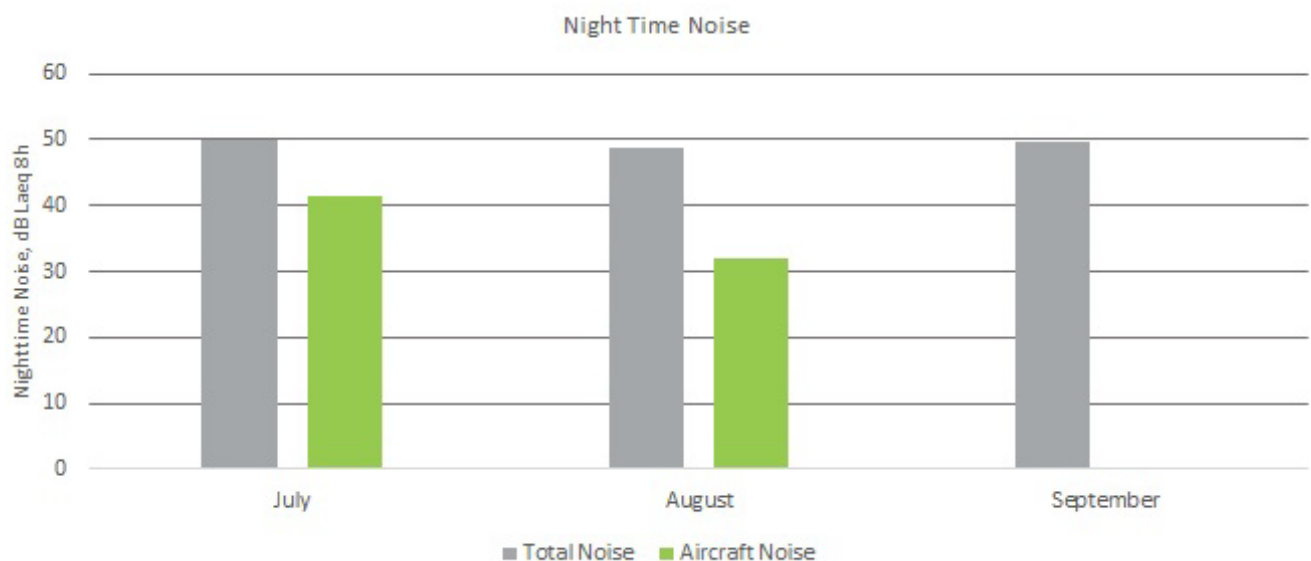


Figure 55: Averaged nighttime noise levels for NMT 6, July – September 2022

The hourly noise distribution at NMT 6 as shown in Figure 56.

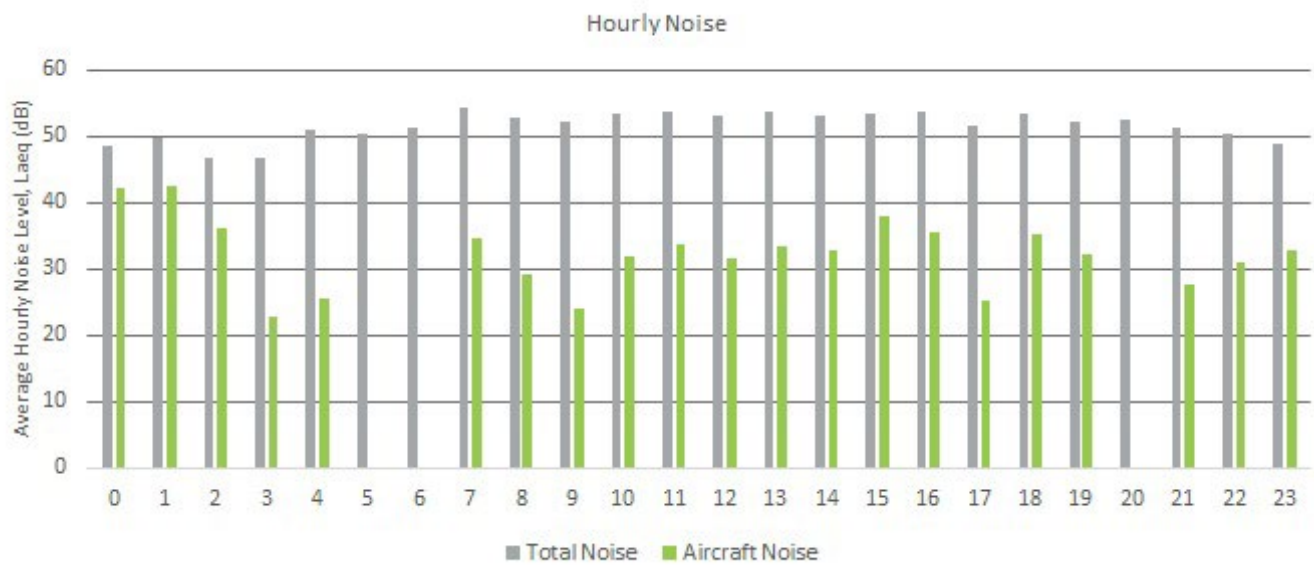


Figure 56: Averaged hourly noise levels for NMT 6, July – September 2022

Figure 57 shows the LAmax distribution for aircraft noise for the third quarter of 2022 for NMT 6

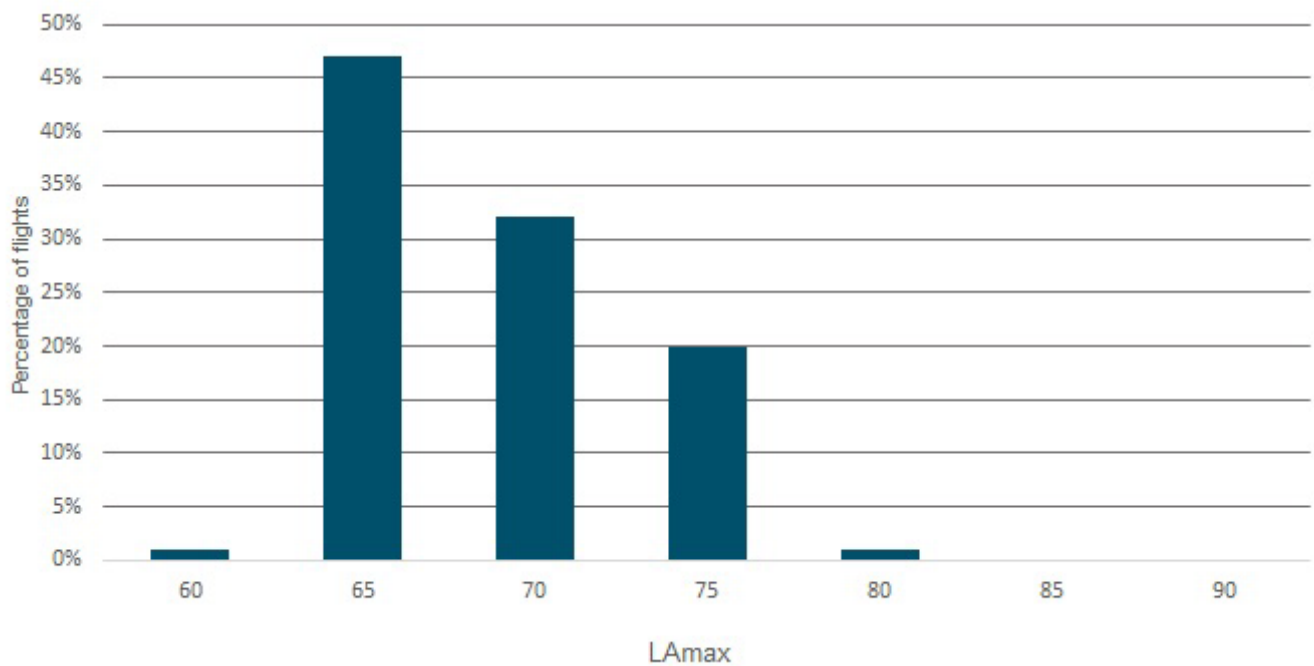


Figure 57: LAmax levels distribution for NMT 6, July – September 2022

Table 10 shows the top 10 loudest correlated aircraft types from the total count of correlated noise events to NMT6.

Aircraft Type	Max dB	Total Count
A333	78.1	1
B738	77.9	11
A320	77.7	11
A319	76.5	1
A321	76.4	1
B38M	76.1	7
AT73	69.7	59
AT76	69.6	28
AT72	69.4	11
P180	69.1	2

Table 10: LAmax by aircraft types correlated to NMT6, July - September 2022

NMT 20: Coast Road

Noise Monitoring Terminal 20 ('Coast Road') is located east of Dublin Airport, see Figure 58 below, under the extended runway centreline of runway 10R. Its purpose is to monitor runway 10R departures and runway 28L arrivals. The resulting data for NMT 20 measurements in the period from July 1st up to and including September 30th, 2022 are presented in this section.



Figure 58: Noise Monitoring Terminal Coast Road Location

Noise Events

The figure below shows the breakdown of noise events attributed to aircraft, weather, and the community.

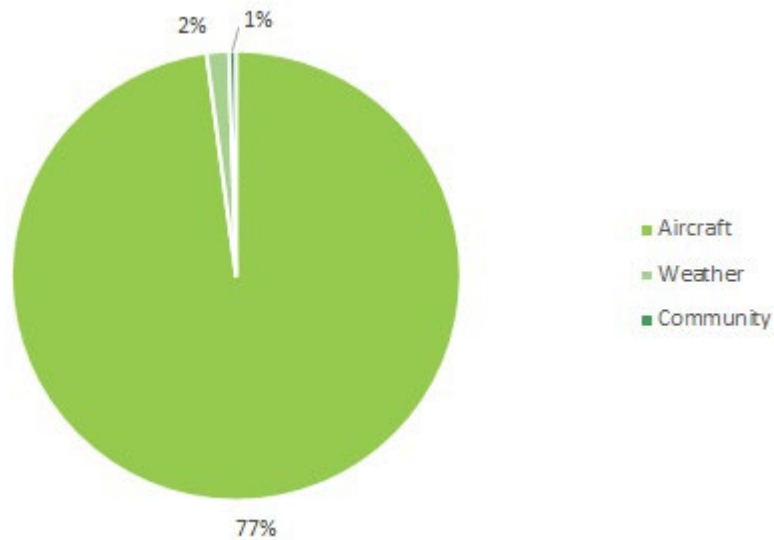


Figure 59: NMT 20 Noise Event Types

NMT Operational Status

To ensure that Noise Monitoring Terminals keep working within specific limits, internal calibration checks are completed every 6 hours. Outside of the 6 hourly calibration checks, NMTs will require maintenance and during this time will not record noise events. The operational status of NMT 20: Coast Road is presented in Figure 60.

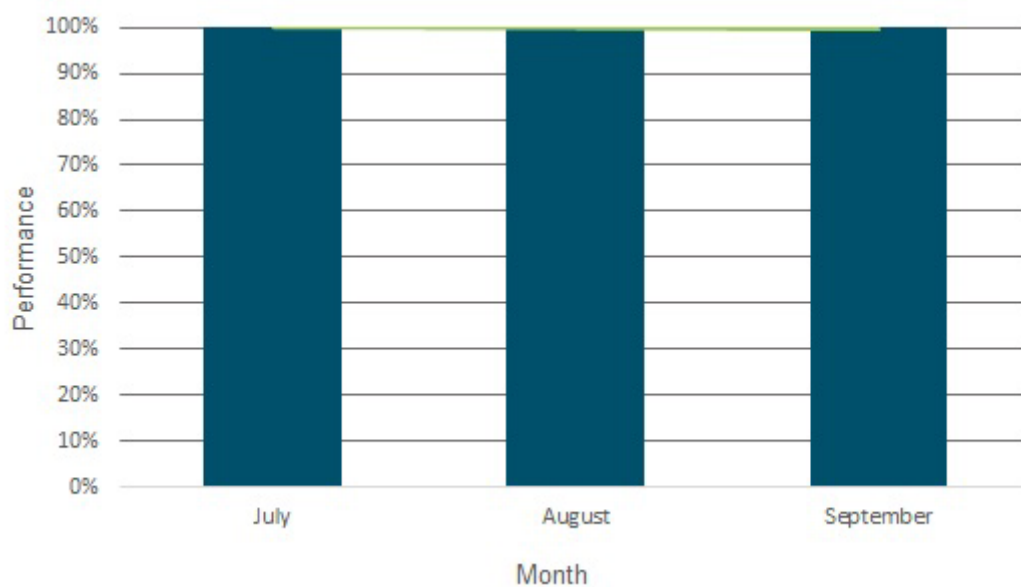


Figure 60: Operational status of NMT 20, July – September 2022

Noise Levels

Figure 61 presents the average noise levels measured at NMT 20 during daytime periods, which are defined to be from 07:00 in the morning to 22:59 in the evening. Recorded noise levels during these time segments are therefore averaged over a 16-hour window.

This procedure is followed both for all noise events, and for those events that were correlated to aircraft movements. The results shown are presented monthly.

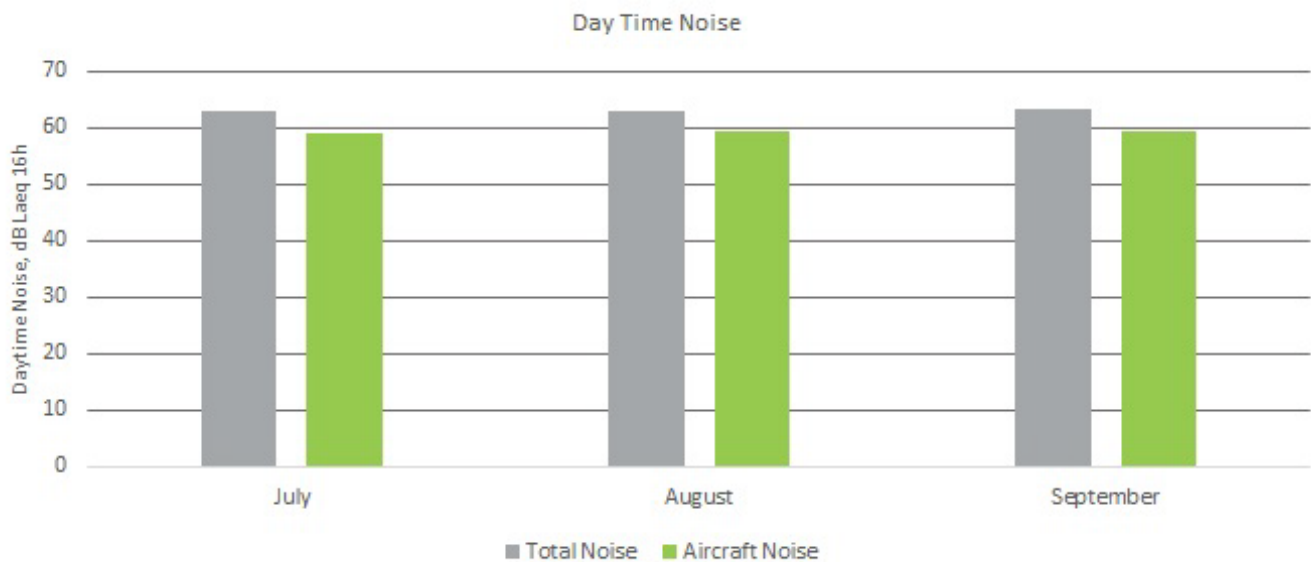


Figure 61: Averaged daytime noise levels for NMT 20, July – September 2022

Noise levels during the night are determined using a similar method. The night period is defined as a period between 23:00 in the evening to 06:59 in the morning. Noise levels are therefore averaged over an 8-hour window. Figure 62 presents these results monthly.

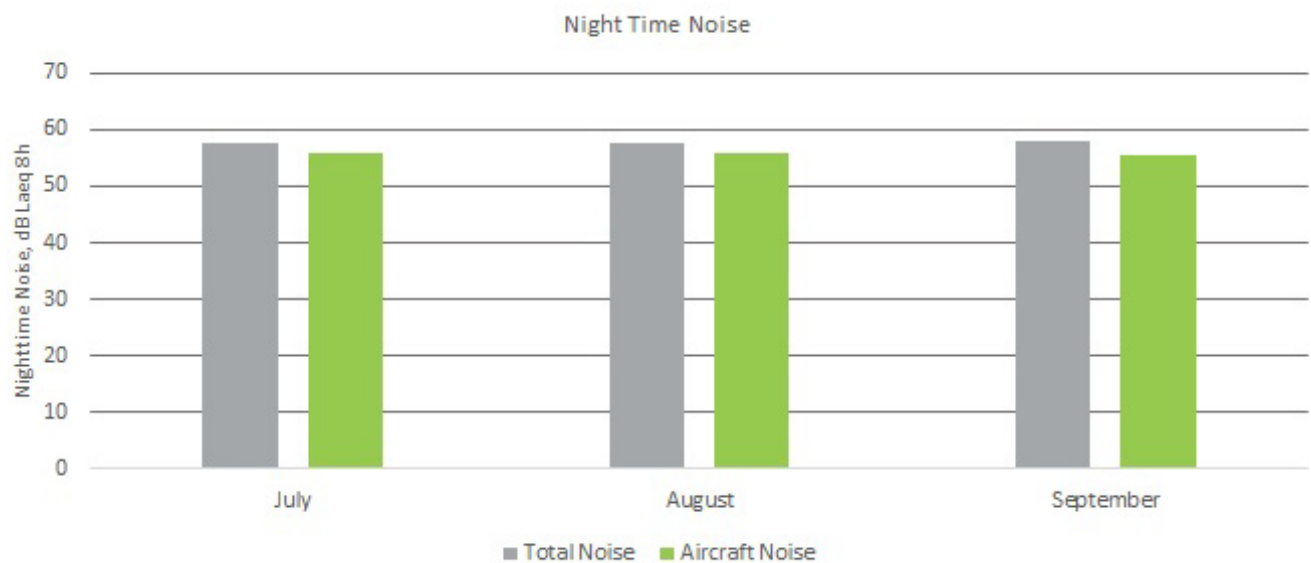


Figure 62: Averaged nighttime noise levels for NMT 20, July – September 2022

The hourly noise distribution at NMT 20 as shown in Figure 63.

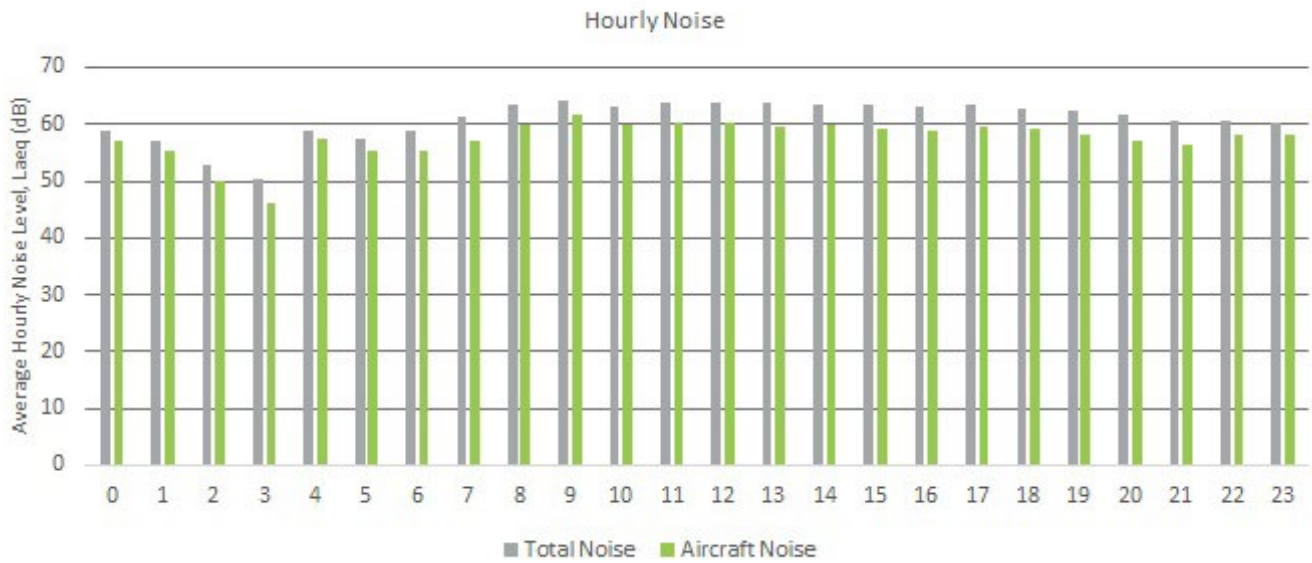


Figure 63: Averaged hourly noise levels for NMT 20, July – September 2022

Figure 64 shows the L_{Amax} distribution for aircraft noise for the third quarter of 2022 for NMT 20.

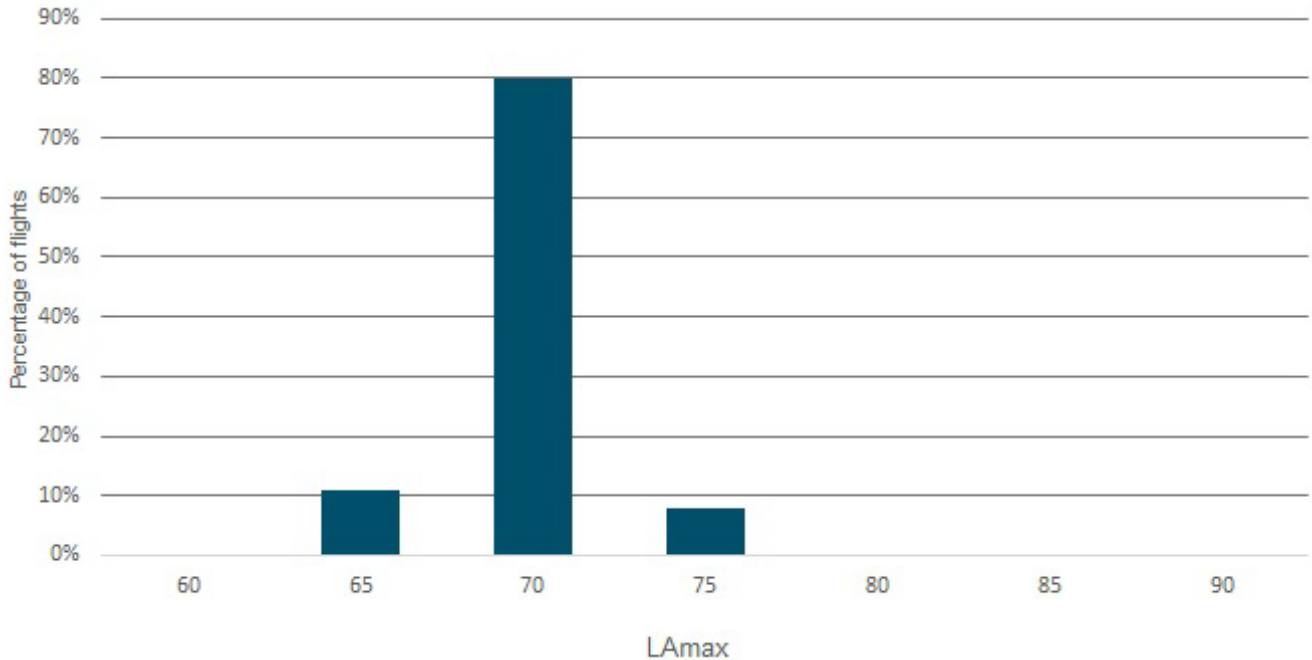


Figure 64: L_{Amax} levels distribution for NMT 20, July – September 2022

Table 11 shows the top 10 loudest correlated aircraft types from the total count of correlated noise events to NMT20.

Aircraft Type	Max dB	Total Count
A339	77.1	1
PRM1	77.1	1
MD82	76.5	2
B77W	76.2	301
B764	76.1	155
MD83	75.9	1
A333	75.7	1220
B772	75.6	211
A342	75.4	1
P180	75.4	4

Table 11: LAmx by aircraft types correlated to NMT20, July – September 2022

Glossary

Symbol	Description	Unit
LAeq	A-weighted, equivalent noise level, averaged per hour over a half year period.	[dB]
LAeq, 8 h	A-weighted, equivalent noise level, averaged over eight hours per month between 23:00 and 07:00 (nighttime), hence 8 hour equivalent.	[dB]
LAeq, 16 h	A-weighted, equivalent noise level, averaged over 16 hours per month between 07:00 and 23:00 (daytime), hence 16 hour equivalent.	[dB]
LA,MAX	A-weighted, maximum recorded noise level per correlated aircraft-noise event, instead of indicating the average noise levels for a reference duration.	[dB]

Report inquiries

Phone: +61 2 9463 4503

Online form: <https://www.dublinairport.com/about-us/-community-affairs/noise-complaint>

This report is drafted by Envirosuite on behalf of Dublin Airport.