

Airport Consultative Committee

ENVIRONMENTAL EFFECTS WORKING PARTY

8th July 2026 @ 10.00 hours,

Meeting held at Lulsgate House and virtually using Microsoft Teams

Draft Minutes of the Meeting

Present:

David Hall, Chairman (DH)

Hannah Pollard, Head of Sustainability, Bristol Airport (HP)

Beth Wingfield , Bristol Airport (BW)

)

Jill Patch, Winford Parish Council (JP)

Hilary Burn- Cleeve Parish Council (HB)

Dee Mawn, North Somerset Council (DM)

Andrew Goodchild, Head of Planning and Growth (AG)

Nick Williams, Noise Consultant, Bickerdike Allen (NW)

Alicia Fox- secretary

- **Apologies for absence**

Shaun Luckham- Wrington Parish Council (SL)

Lindsay Howe North Somerset Council (LH)

Sundar Muthuganesan, Bristol Airport (SM)

- **Minutes of the previous meeting held on 28th April 2026**

The minutes were agreed as a true record of the meeting.

- **Matters arising from previous meetings**

Tour of waste tour following the meeting for those who are interested.

- **Noise- Bickerdike Allen- Nick Williams**

Slides attached Appendix A

Bickerdike Allen have been working with Bristol Airport for around 10 years.

Noise Assessment look at four types:

Air noise (and vibration), Ground noise- aircraft moving around airport, Road noise and Construction noise/vibration. Main consideration is the Air noise as it impacts the largest majority of people.

Road traffic noise: defined calculation that is used. For the 15mppa application they have used this calculation for roads around the Airport but also roads further afield which are known to be used by airport traffic.

Construction noise: a lot of the time they may not have all the details on the duration over which particular equipment might be in use, so they have to make pessimistic assumptions. For 15mmpa they are following a similar process to how the 12mmpa application was done.

Air noise: only two metrics that can be relied on from a planning policy point of view- LAeq,16h and LAeq,8h. There are two primary measures, LOEAL and SOEAL

Every 5 years within the UK noise mapping is carried out. SEL- Single event level is another measurement used for aircraft noise. SEL measures total noise energy, you add them all up and divide by the number of movements to give you an average.

AEDT allows for various inputs including; runway locations, flight tracks, local terrain, aircraft operation, aircraft type and departure weight.

CAA document CAP2091 sets out best practice. In terms of calibration Category A would be Heathrow and using lots of Radar information. Other end of the scale is level E, level D and E requires less monitoring, Bristol Airport fall under Category D although this does not affect the extent of assessment carried out to support planning applications.

Departures are generally noisier than arrivals. Runway 27 departures occur 3 times more than runway 9 due to prevailing winds. This impacts the shape of the noise contour at Bristol.

Insulation Scheme- The Airport have set out changes to the mitigation scheme as part of the planning application, proposing to remove the annual cap, increase the amount offered, particularly for those affected by night noise and are considering using approved contractors. NW noted a lot of installations of windows under the scheme have not been including vents which means people are still having to open windows. The Airport hope if they have approved contractors window ventilation will be included as standard.

The 15mmpa application includes a series of new acoustic barriers which help to limit the impact of ground noise on those living closest to the Airport.

QUESTIONS:

HB- What is the threshold for aircraft vibration noise?

NW- The threshold is determined in terms of LMAX noise level and believe it is 97db LCMAX but unable to confirm the figure, he will confirm after the meeting. (Confirmed this is correct following the meeting)

HB- The aircraft stands and subsequent taxiing on the Goblin Combe side do not have any barriers, why is this?

NW- There are practical reasons as to why a high barrier cannot be located at the end of a runway but this is factored into the model.

HB- No mention of cumulative noise for departure taxiing aircraft and arriving aircraft which can be heard together, why is it not factored.

NW- There is no specific criteria to look at cumulative noise in terms of policy, there are no different thresholds available to look at and point out any significant change.

HB- How did you consider the noise for Bristol Airport with aircraft taking off over a Combe which causes the noise to ricochet.

NW- The height and terrain of the Airport were factored into the calculation.

HB- You say there are no significant impacts and yet there will larger aircraft and therefore more thrust needed for take off, plus an increased fleet mix which shows more older generation aircrafts.

NW- Advised he would need to check the fleet make up as the fleet mix in the 15mppa application shows the opposite: there's a greater mix of new generation vs older generation.

AG – New generation aircraft will account for at least 85% of fleet mix by 2038, this is set out in the forecast report within the planning application.

HB- 2038 is a long time away for residents to start to benefit those within the contours.

AG- Larger aircraft movements on the 92 day busy day summer schedule has been factored into the noise assessment and the forecast report shows a steady increase in the ratio of new generation aircraft between now and 2038.

NW- Confirmed the larger aircraft have been factored into the model presented.

HB- 80 percent of the fleet mix at 2029 are estimated to be older aircraft and therefore there is no benefit to the local area.

NW- Again, fleet mix needs to be checked, but confirmed that no one is disputing that from 2029 if the Airport does not grow any further (i.e. remains at the current 12mppa cap), noise would decrease, however, if the Airport continues to grow to 15mppa there will more noise but levels would be below those experienced in 2024 because of the use of new generation aircraft.

Noise measurement doesn't mean you are hearing that specific noise all the time it is an average of the noise. Lots of research has been done in the UK to ask the public how annoyed are you by the aircraft noise and generally this correlated to the LAeq levels.

HB- It is difficult to find a contractor who will install new windows into older properties where there are oak frames.

AG- Confirmed the Airport are looking at all options but feel for most people an approved contractor with the ventilation in the windows is the best solution, however appreciate that this solution will not suit everyone and all house styles, for example those who live in Listed Buildings may need a different approach, the Airport would welcome input from the EEWG on this detail at the appropriate moment.

JP- Said she was intrigued when NW came up with the HA and HSD figures. She said she had never been asked if she is highly annoyed by the aircraft noise.

NW- HA and HSD are not a survey that is carried out. The DfT published a correlation between the LAeq levels to the HA and HSD, it is an objective measure.

HB- If you use the new data that has come out from DfT rather than SONA how would it change your data?

NW- Currently unable to comment as it has only just been published.

HP- As it stands they can only use existing policy.

AG- The Airport have not rerun the numbers based on the new policies, however they are actively considering if this is something that they will do. NSC are suggesting it is an exercise they would like to be carried out.

DH- The terminology of Highly Annoyed it is a data line rather than it being a factual phrase. Best to focus on the levels of noise rather than the terminology itself.

He asked if the modification to the noise insulation scheme enables people who have previously benefited will be able to apply for an upgrade?

AG- If an application was approved recently it would likely be deemed as not needing an upgrade yet, they would like to prioritise those who have not have any improvements. If the windows were upgraded a while ago then they may benefit from an upgraded insulation and it is something that would be open to discussion. The aim is to still prioritise those most affected. Again, this is something that the Airport would like to discuss with the EEWG as the scheme is developed.

HB- What about the people who live on the contour lines? Some years they are eligible and others they aren't.

HP- If there is money left over they will then consider people outside the contour boundary.

DM- The planning department is now reviewing comments following the formal consultation is closing. Additional information can still be requested and submitted where appropriate and if NSC require more information from the Airport they will be requesting this.

- **General Sustainability Update: Hannah
Attached as Appendix B**

JP- Asked if there had been any comments following the thunderstorms from local residents?

HB- Advised that during half term there was a plane coming in and it suddenly dropped its levels due to the heat and then began to climb.

JP- During the recent storm a TUI hedge hopped before it climbed again to then go on to Birmingham, Jet2 also tilted to its side before climbing again over Felton to go to Birmingham.

HB- if you read the Vulcan Associates response to the planning application online it talks about large aircraft landing in extreme heat and how take off will need an even longer runway than the one proposed.

AG – we are looking over that response and will respond in due course.

HB- Can a report be produced on flight movements during the heatwave to show the flight which dropped due to a change in air pressure.

HP – We will need more information to investigate the noise resulting to the flight “dropping,” regarding Jill’s point, we can ask NATS to provide any oversight at the next ACC.

JP- Who decides if planes are diverted in a thunderstorm?

HP- It is Air traffic control who make the decision on diverting aircraft.

AG- Go arounds are monitored so they should be able to identify the flight in question.

- **AOB topics for future sessions**

- **Dates for future Meetings 2026:**

17th September 2026 10.00-11.30

7th January 2027 10.00-11.30

Environmental Effects

Q3 2026

Agenda

- Admin: Apologies and previous minutes
- Matters arising from previous meetings
- Noise – Bickerdike Allen – Nick Williams
- General Sustainability update
- Environmental Compliance
- AOB

Noise

Nick Williams, Bickerdike Allen

Noise Assessment Approach

- Two key policy thresholds, LOAEL and SOAEL
- <https://www.gov.uk/guidance/noise--2>
- LOAEL – Lowest Observed Adverse Effect Level
 - Above this level noise starts to cause small changes in behaviour and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard
- SOAEL – Significant Observed Adverse Effect Level
 - Above this level the noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present

Noise Assessment Approach

- Step 1 – quantify noise
 - If above SOAEL – significant effect – avoid
 - If above LOAEL – mitigate and reduce to a minimum
-
- Step 2 – compare situation with and without development
 - Significant effect due to development if large enough change (compared to the situation without development)
 - Smaller change required at higher noise levels i.e. above SOAEL

Noise Assessment – Sources Considered



- Main consideration typically air noise
- Ground noise also relevant

Road traffic noise

- Calculation method is Calculation of Road Traffic Noise (CRTN)
- Assessed in line with DfT guidance – LA 111 (part of Design Manual for Roads and Bridges)
- Significant effects usually limited to cases where road layout is altered

Construction

- Assessment considers which equipment used and respective noise levels
- Information taken from on British Standard BS 5228
- Other key inputs are which bits of equipment being used simultaneously, and for how long

Construction

- Predictions make some pessimistic assumptions e.g. 100% on-time if more detailed info not available, which is often true at planning stage
- Purpose is to highlight potential issues which are considered in detail via Construction Environmental Management Plan (CEMP)
- 15mppa assessment highlighted some potential significant effects – these can be avoided by using barriers. No likely significant effects once CEMP implemented

Vibration

- Construction
 - Similar approach to noise assessment
 - Key activities are piling and vibratory compaction
 - Separation distance is significant so no significant effects predicted for 15mppa
- Aircraft
 - Vibration can occur when noise is above a certain level
 - Assessment checks whether noise threshold exceeded for any properties
 - Finding was that threshold not exceeded now or at 15mppa

Air Noise

- Considers noise from aircraft arriving and departing
- Includes associated noise from aircraft on the ground:
 - Start of roll noise – when engines power up on runway before takeoff
 - Reverse thrust noise – when landing aircraft use engines to slow down

Air Noise – Primary Metrics

- LAeq,16h and LAeq,8h
- Based on busy 92-day summer period (mid June to mid Sept)
- Take into account both the number of flights and how loud they are
- Based on govt guidance which is derived from research (community surveys)
- Used in UK since 1990
- SONA 2014 specifically reviewed which was best metric and concluded these remained the best

Air Noise – Additional Metrics

- Other metrics have no agreed criteria and based on govt work (SONA 2014) primary metrics are the best indicators of community response. However govt policy (APF) is that additional metrics should be presented to aid understanding of impacts
- N65 – number of daytime flights above 65 dB Lmax
- N60 – similar but for night and 60 dB Lmax

Air Noise – Additional Metrics

- Lden – EU metric. Similar to LAeq,16h but considers the 24-hour annual day, with 5 dB penalty for evening (1900-2300) and 10 dB penalty for night (2300-0700) movements to reflect that these are more sensitive time periods
- Lnight – EU metric, same as LAeq,8h but based on annual period
- SEL / LAm_{ax} – measures of individual aircraft noise level. SEL is total noise energy, LAm_{ax} is instantaneous maximum

Air Noise – Additional Metrics

- Highly annoyed (HA) / highly sleep disturbed (HSD) – population level metrics which estimate the number of people HA/HSD based on the external level (e.g. LAeq,16h). Give an indication of how the overall noise impact changes
- Awakenings – population level metric which estimates the number of awakenings due to aircraft noise, based on external LAmax level.

Air Noise – Calculation

- Air noise is experienced over a wide area – not possible to measure at every location (and even if it was, need to assess future noise). Therefore modelling approach is used
- 2 models commonly used in UK
 - ANCON – developed by CAA, not commercially available
 - AEDT (replaced INM) – developed by FAA (USA), widely used in industry
 - Both models give similar results with similar inputs

Air Noise – Calculation

- AEDT allows for:
 - Runway locations
 - Flight tracks
 - Local terrain (ground height)
 - Aircraft operation (arrival/departure)
 - Aircraft type
 - Departure weight (estimated from destination)

Air Noise – Model validation

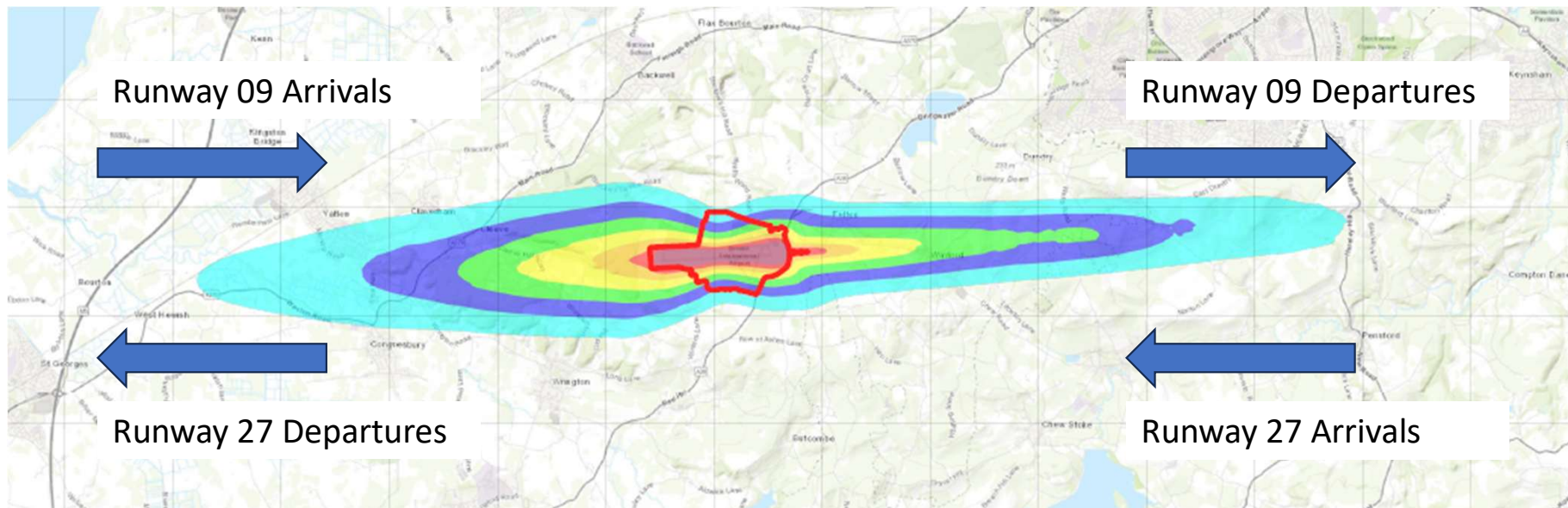
- AEDT has in-built library of noise and performance data for many aircraft types
- Noise levels measured at permanent NMTs
- For each of most common aircraft types, average measured level compared with AEDT prediction at NMTs
- Model adjusted to match levels measured at Bristol
- Adjustments relatively small – generally less than 1 dB

Air Noise – Model validation

- CAA document on minimum modelling requirements – CAP2091
- Sets expectation for different levels of detail based on population exposure
- Bristol is category D which requires no model validation, so approach followed is higher standard than required by CAA

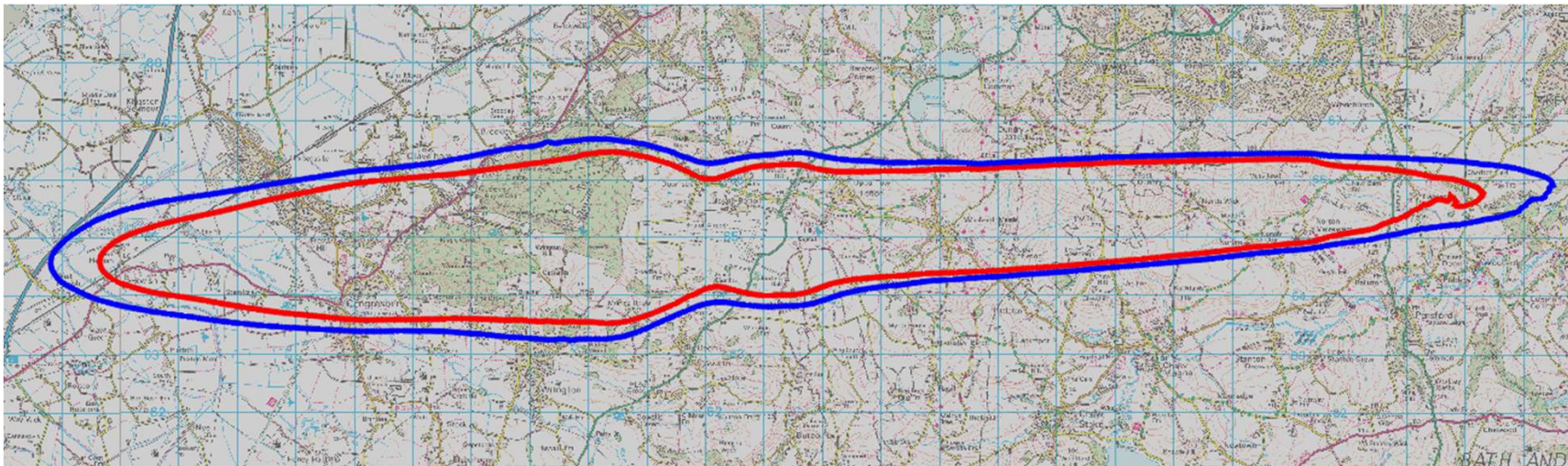
Air Noise – Contours explained

- Main output is noise contours



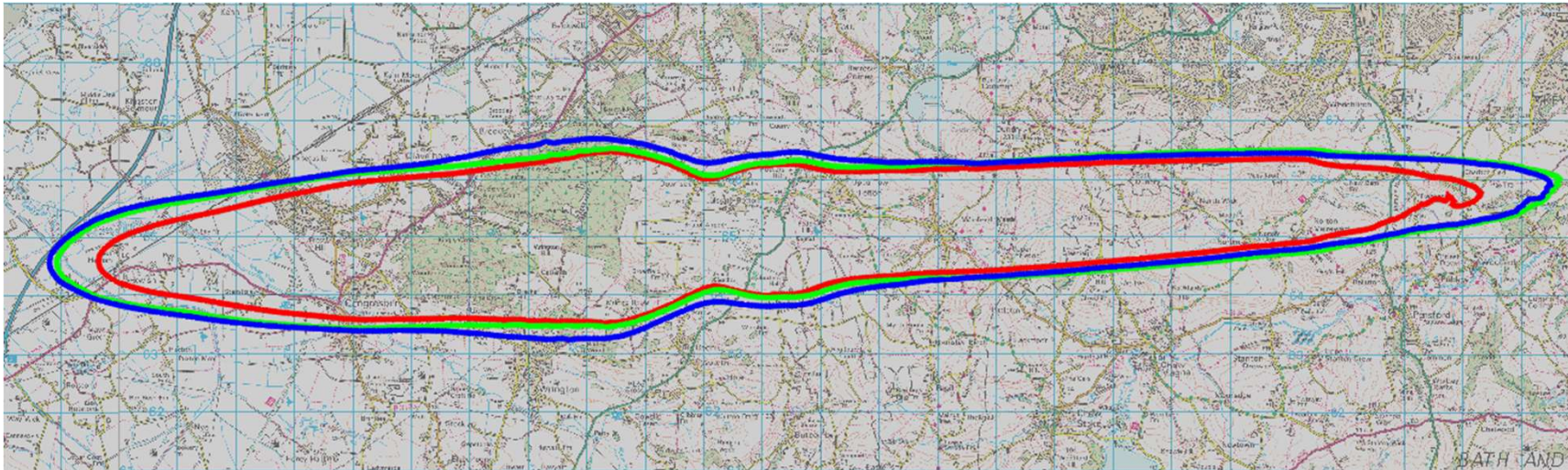
Air Noise – Contours explained

- Example contour – 45 dB LAeq,8h (night)
- 2029 12mppa (blue), 2038 12mppa (red)
- Contour gets smaller over time as fleet evolves
- Bigger reduction to west due to departures improving more



Air Noise – 15mppa findings

- Example contour – 45 dB LAeq,8h (night)
- 2029 12mppa (cyan), 2038 12mppa (red), 2038 15mppa (green)
- 2038 15mppa larger than 2038 12mppa but smaller than 2029 12mppa (similar)



Air Noise – 15mppa findings

- Overall finding is increase of around 1 dB (range from 0-2) for both day and night
- For people below SOAEL, 3 dB change is needed to trigger significant effect in planning terms
- For people above SOAEL, 1 dB change is needed. Insulation required to avoid significant effect

Insulation Scheme

- Those exposed to highest noise levels eligible for insulation scheme
- Scheme to be enhanced as part of application process:
 - Remove annual funding cap
 - Increase amount offered, in particular for those exposed to night noise
 - Seek to introduce approved contractors
- To be secured via S106 agreement with NSC (ideally) or Unilateral Undertaking

Ground Noise

- Considers noise from aircraft on the ground
- Does not include start of roll / reverse thrust – these are included in air noise
- Main sources are taxiing and aircraft on stands (using engines or APUs)
- Character is quite different to air noise – often longer duration but much quieter

Ground Noise

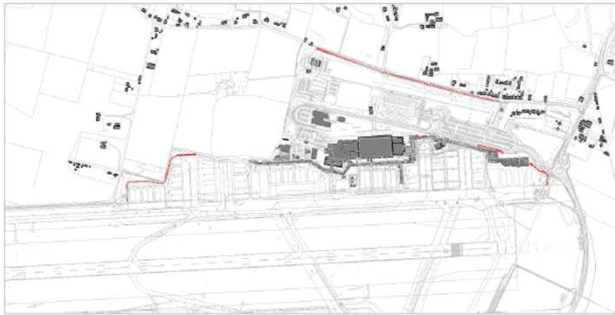
- Uses modelling approach similar to air noise but different software
- Relevant standard is ISO 9613-2
- Multiple software packages which implement this, BAP use CadnaA which is widely used in acoustics industry

Ground Noise

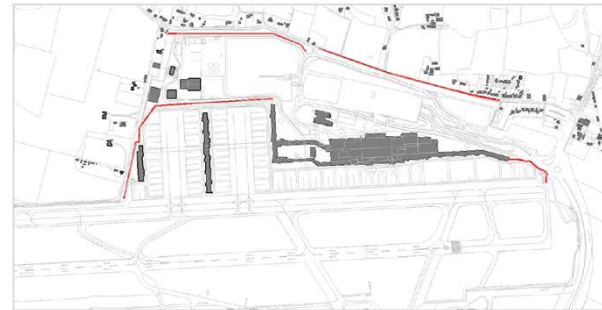
- Outputs are contours, similar concept to air noise
- Can be more easily screened by barriers as aircraft on ground
- Conservative assumption that future aircraft no quieter than existing
- 15mppa produces more noise from aircraft but there are benefits for some due to increased screening

Ground Noise

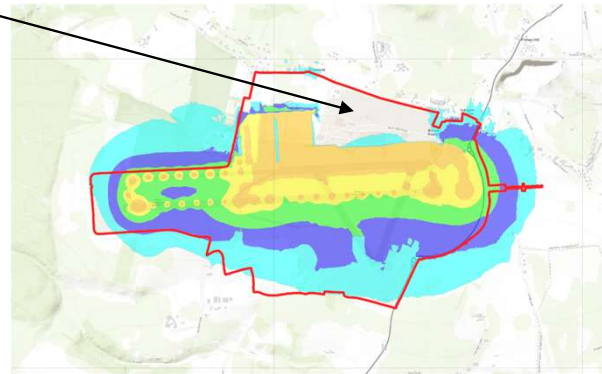
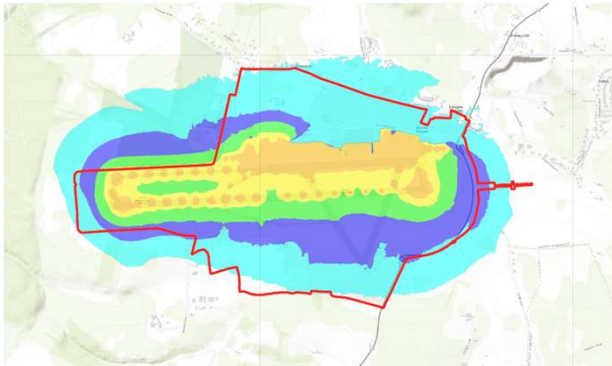
12mppa



15mppa



Effect of screening



General Sustainability Update

Hannah

General sustainability update 2026

- Energy centre installation happening this week!
- Ground noise management plan approved by North Somerset Council. Noise Control Scheme to follow.
- 87% recycling Year to Date



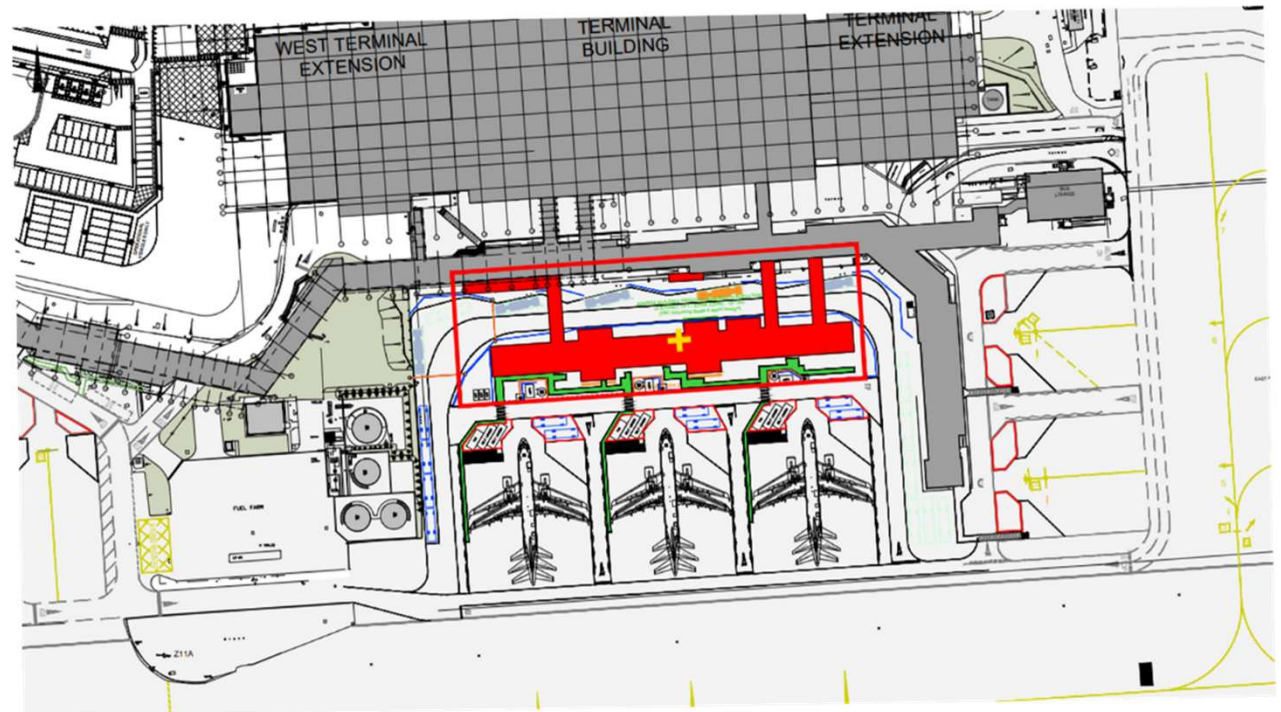
Ground noise monitor

The monitor will be located on the South Gates on the Northside, by aircraft stands 1,2 and 3 and is on the main apron. It is the optimum location for picking up ground noise from aircraft operations, engine runs and other equipment and operations, as it is one of the most frequently used sections of the apron with key stands at the airport.

This location is away from the road, to avoid the extraneous variables of traffic.

Next steps:

Calibrate monitor to ensure it's only picking up ground noise and link to ANOMS system.



Environmental Update

Beth Wingfield

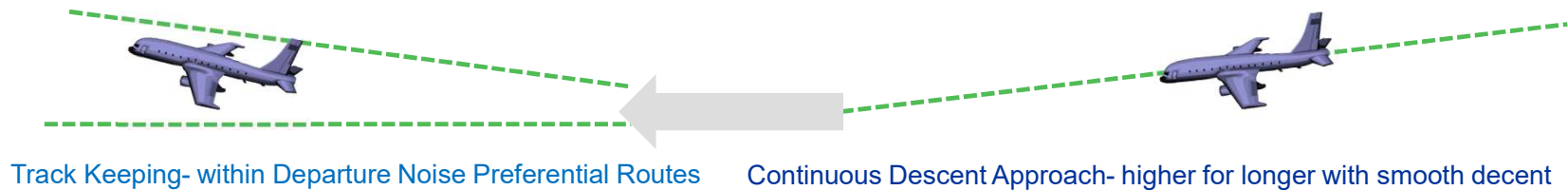
Environmental Compliance - Noise Mitigation Scheme

bristolairport.co.uk/corporate/community/noise-mitigation-grants/

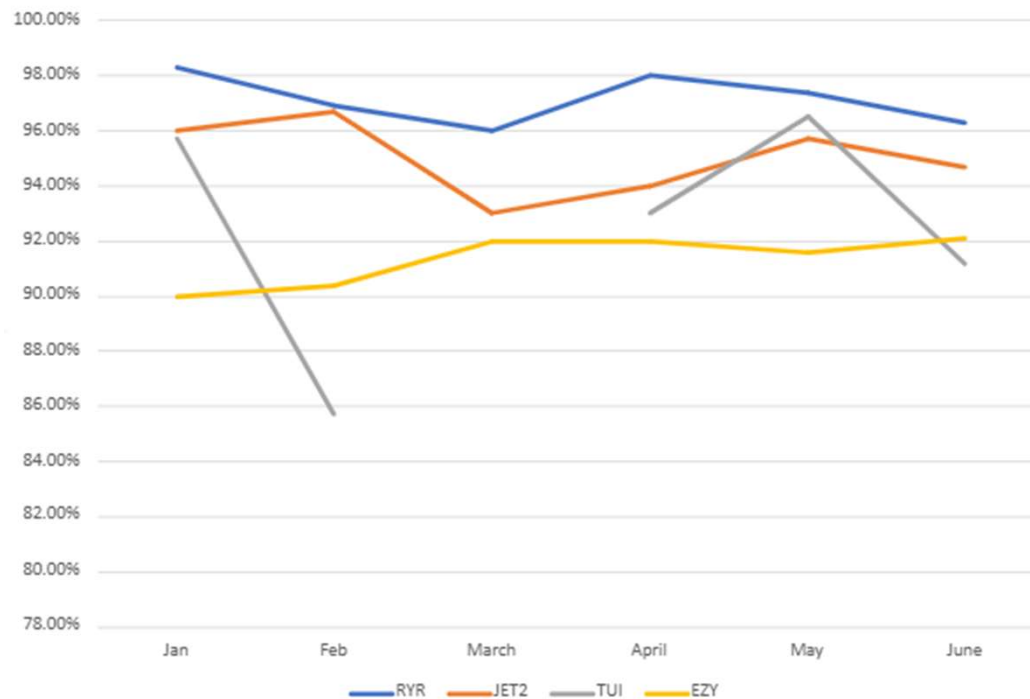
- 53 application in application window 1
 - High number of applications compared to previous years
- Window 2 – Opened for July/Aug



Continuous Descent Approaches



2026 CDA's for Main Airline's



Airlines - CDA %	June
RYR	96.30%
JET2	94.70%
TUI	91.20%
EZY	92.10%
Total for Main Airlines	93.58%

Airspace Activity- Approach and Departure – All Airlines

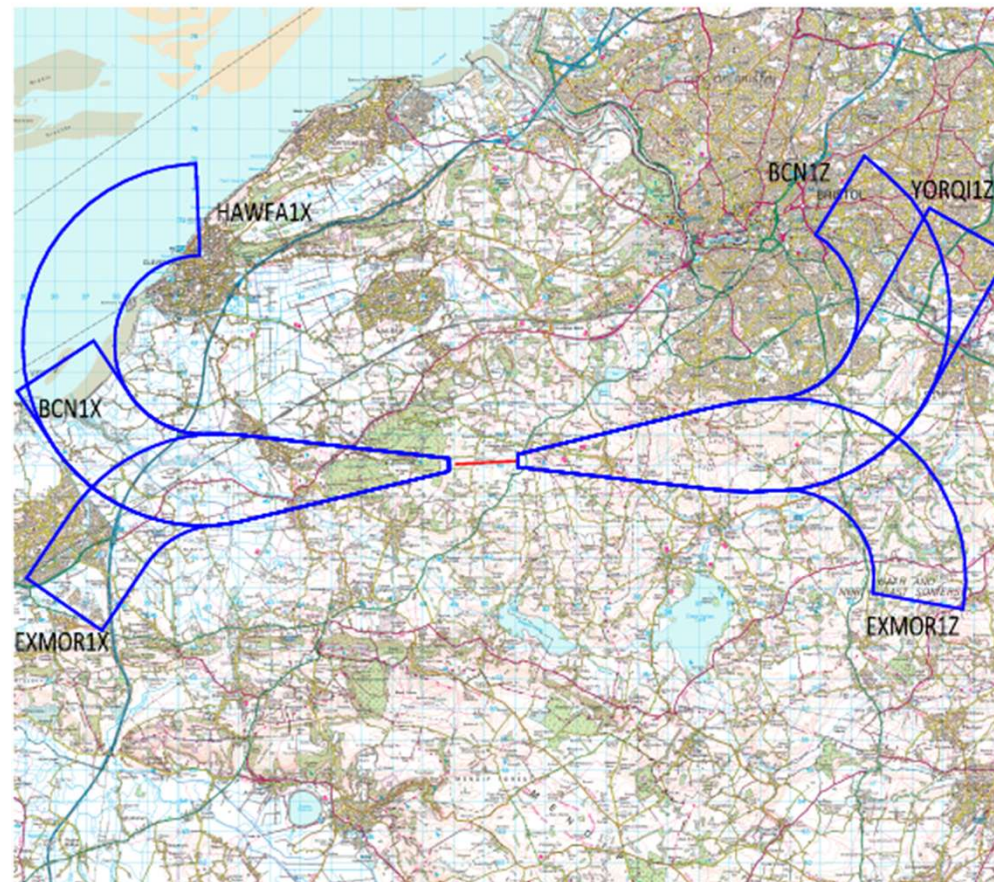


2026	Departures	Violations	% on track
April	3183	32	98.99%
May	3807	43	98.97%
June	3818	39	98.98%
		Average YTD:	99.18%

Data only inclusive of movements of Aircraft over 5700kg in 2025/6

Track keeping – up to 4,000ft

Noise Preferential Routes



This drawing contains Ordnance Survey data © Crown Copyright and database right 2023.

LEGEND:

- Bristol Airport Runway
- Departure Route Corridor

Rev	Date	Description	Initials

REVISIONS

**Bickerdike
Allen
Partners**
Architecture
Acoustics
Technology

121 Salisbury Road, London, NW6 6RG
Email: mail@bickerdikeallen.com
www.bickerdikeallen.com

T: 0207 625 4433
F: 0207 625 0250

Bristol Airport
Noise Action Plan

Departure Route Corridors

DRAWN: JC

CHECKED: NW

DATE: June 2023

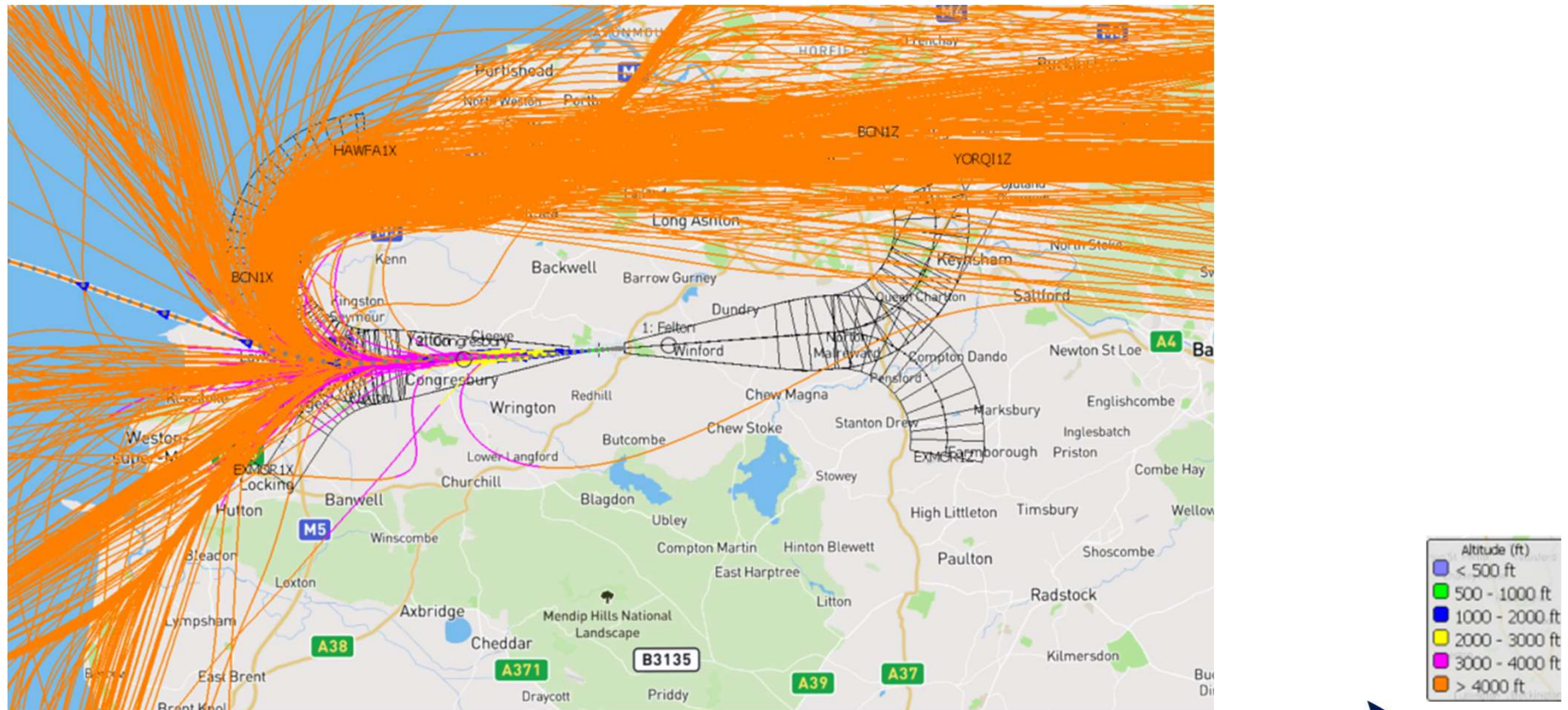
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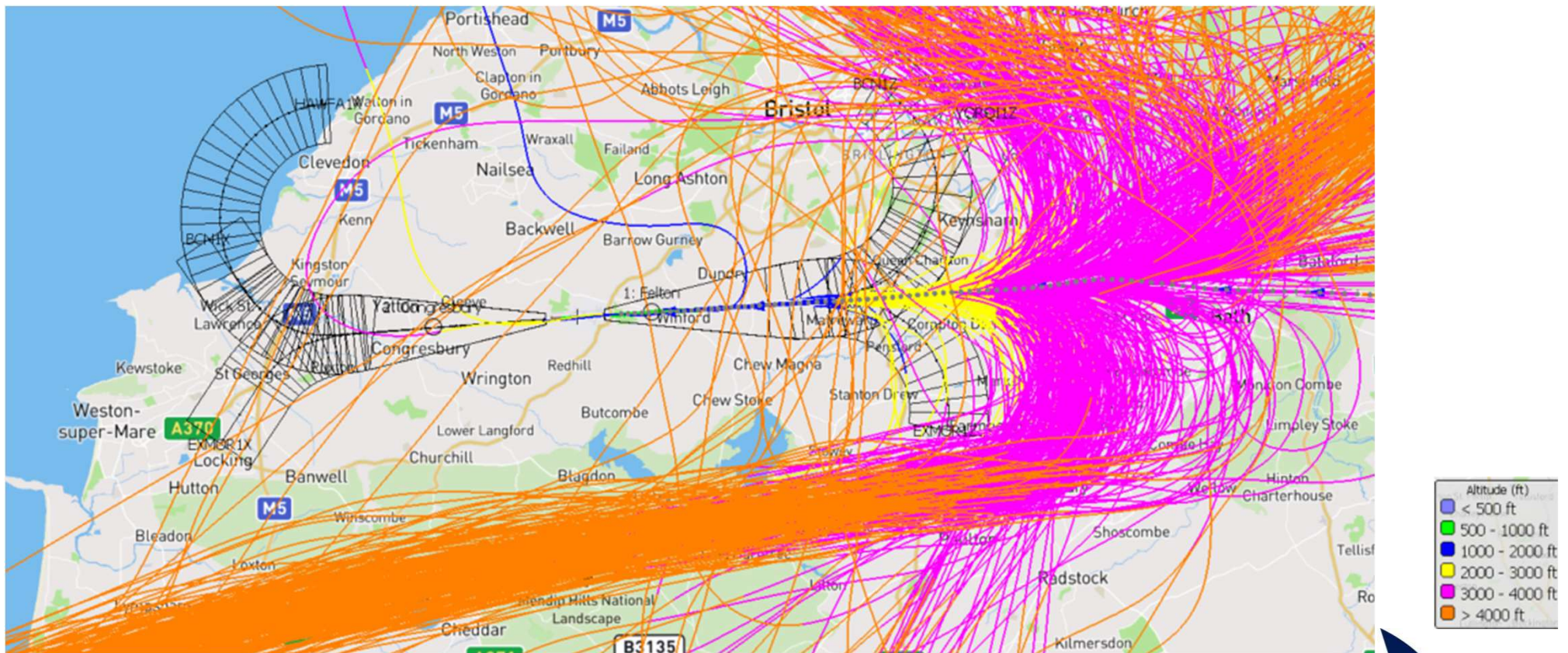
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Bristol Airport
Amazing journeys start here

Departure Tracks by Altitude – WC 29/06 (7 days)

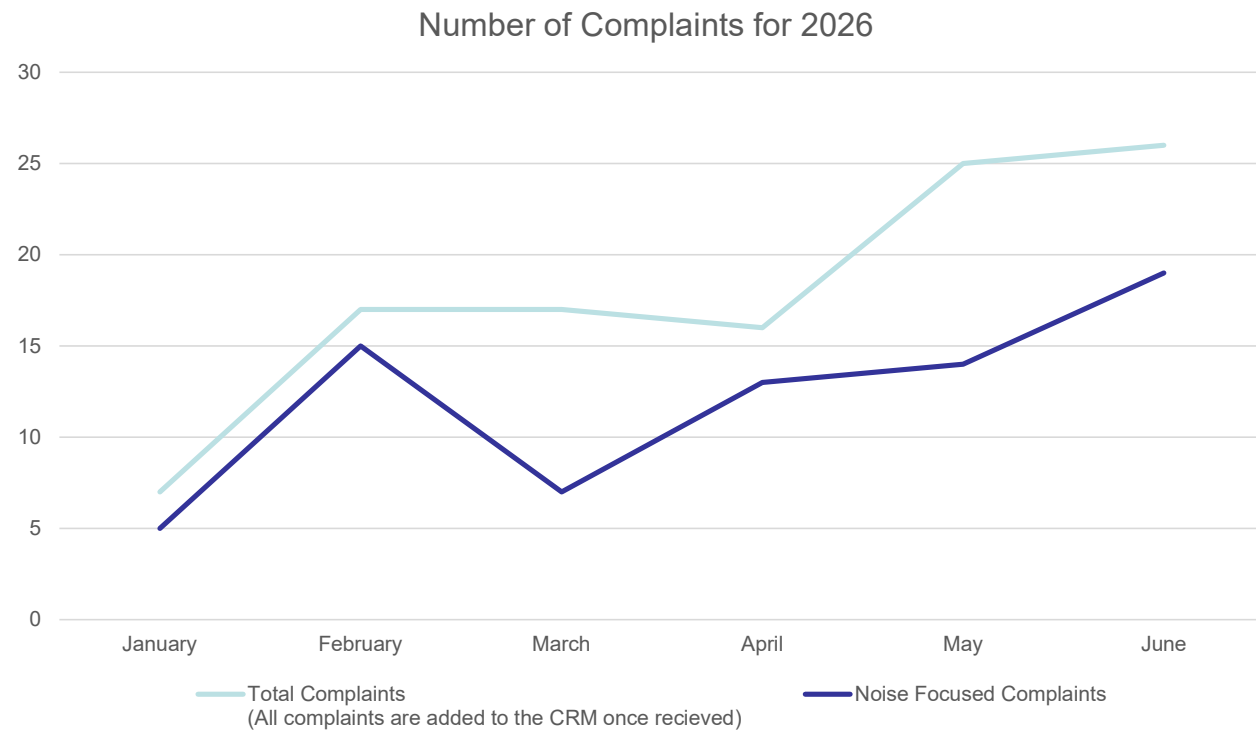


Arrival Tracks by Altitude – WC 29/06 (7 days)



Environmental Complaints – 2026 Q1&2 (Jan-June)

Category	Count of Category
Noise Insulation Scheme	1
Air Quality	1
Aircraft Day Noise	19
Aircraft Night Noise	29
Flightpaths	11
Ground Noise	2
Ground Noise	3
Ground Noise (On Site)	5
Helicopter	1
Helicopter Movement	2
Local Air Quality	1
Low Flying Aircraft	12
Noise Mitigation Scheme	1
Odour	11
Off site vehicle parking	1
Parking	1
Pollution	1
Vortex	1
Waste	3
Water/Flooding	3
(blank)	
Grand Total	109





To discuss:

Next dates:

17th September (10-11.30am)