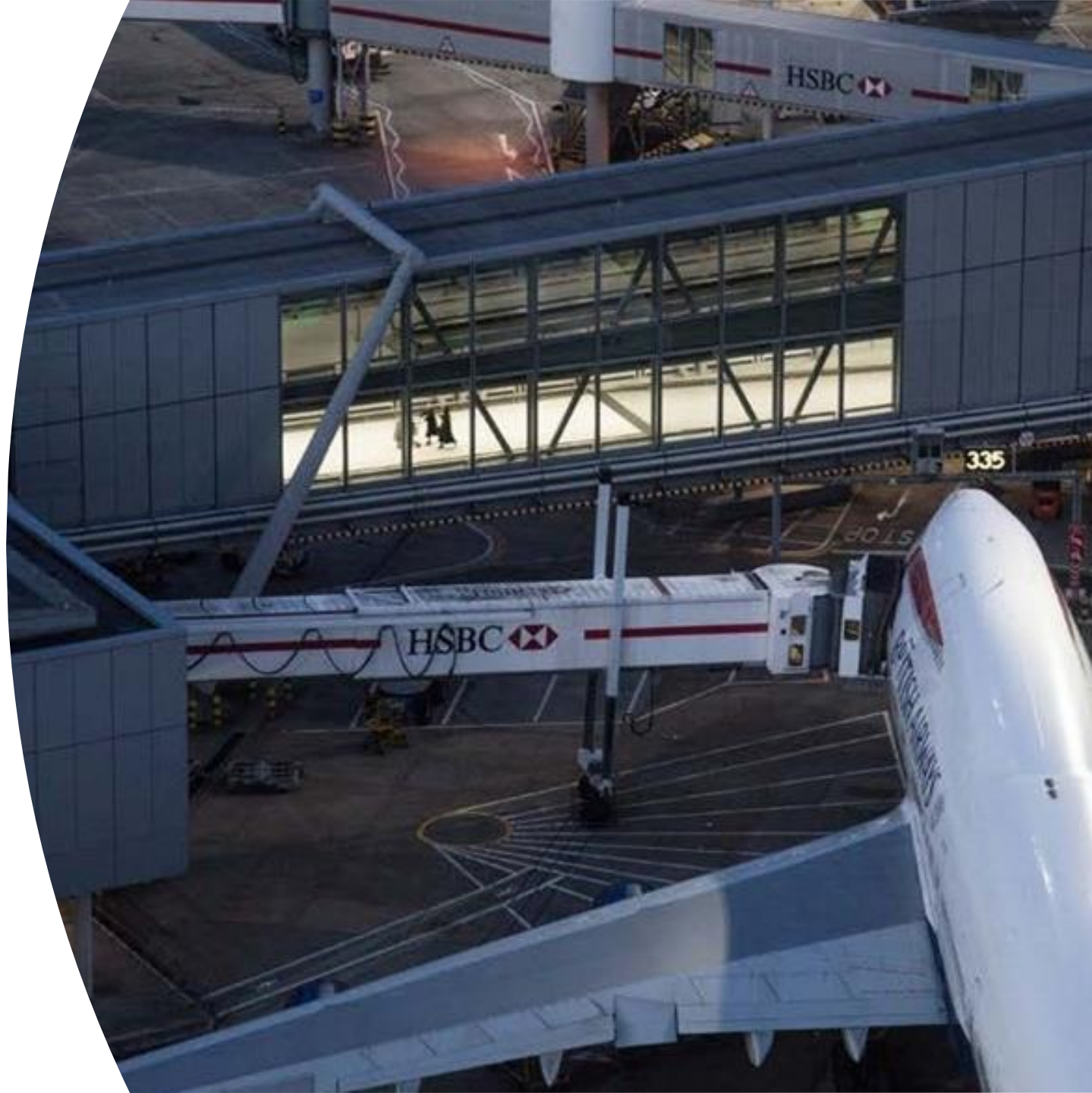


NOISE AND AIRSPACE COMMUNITY FORUM GROUND NOISE MANAGEMENT PLAN

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GROUND NOISE MANAGEMENT PLAN

A strategic document that will focus on monitoring, managing, and mitigating noise from activities such as aircraft taxiing, engine testing, ground service equipment, and auxiliary power units.





CONTEXT

- Heathrow is required by law to produce, review and where necessary revise on a five-year cycle, a **Noise Action Plan (NAP)** relating to the assessment and management of aircraft noise.
- Requirement originates from the European Commission Directive 2002/49/EC (END). Legally implemented in England through the Environmental Noise (England) Regulations 2006 as amended by the Environmental Noise (England) (Amendment) Regulations 2018.
- Defra offers essential guidance regarding the **mandatory components** of the NAP and the accompanying strategic noise mapping.
- The primary focus of the NAP is on controlling noise levels from aircraft departures and arrivals, it stresses that this should not deter the NAP from also encompassing best practices for addressing **ground-based noise activities**.



NOISE ACTION PLAN COMMITMENT

Heathrow's fourth NAP, which looks to build and improve upon the actions, activities and commitments of the previous three NAPs, includes:

- **Key Action 9:** Through research, develop and implement a Ground Noise Management Plan which will include work with international partners to develop a standard for the use of Pre-Conditioned Air where available.

WORKING COMPONENTS OF A GROUND NOISE MANAGEMENT PLAN

Identification of Noise Sources



Noise Rules and Restrictions



Mitigation Measures



Monitoring and Reporting



Engagement and Communication

IDENTIFICATION OF GROUND NOISE SOURCES

Mobile Ground Operations

- **Taxiing Aircraft** - noise varies by engine type (propeller or jet), influenced by aircraft type, size.
- **Auxiliary Power Units (APU)** - activated during taxiing to the gate. Powers aircraft systems when main engines are off.

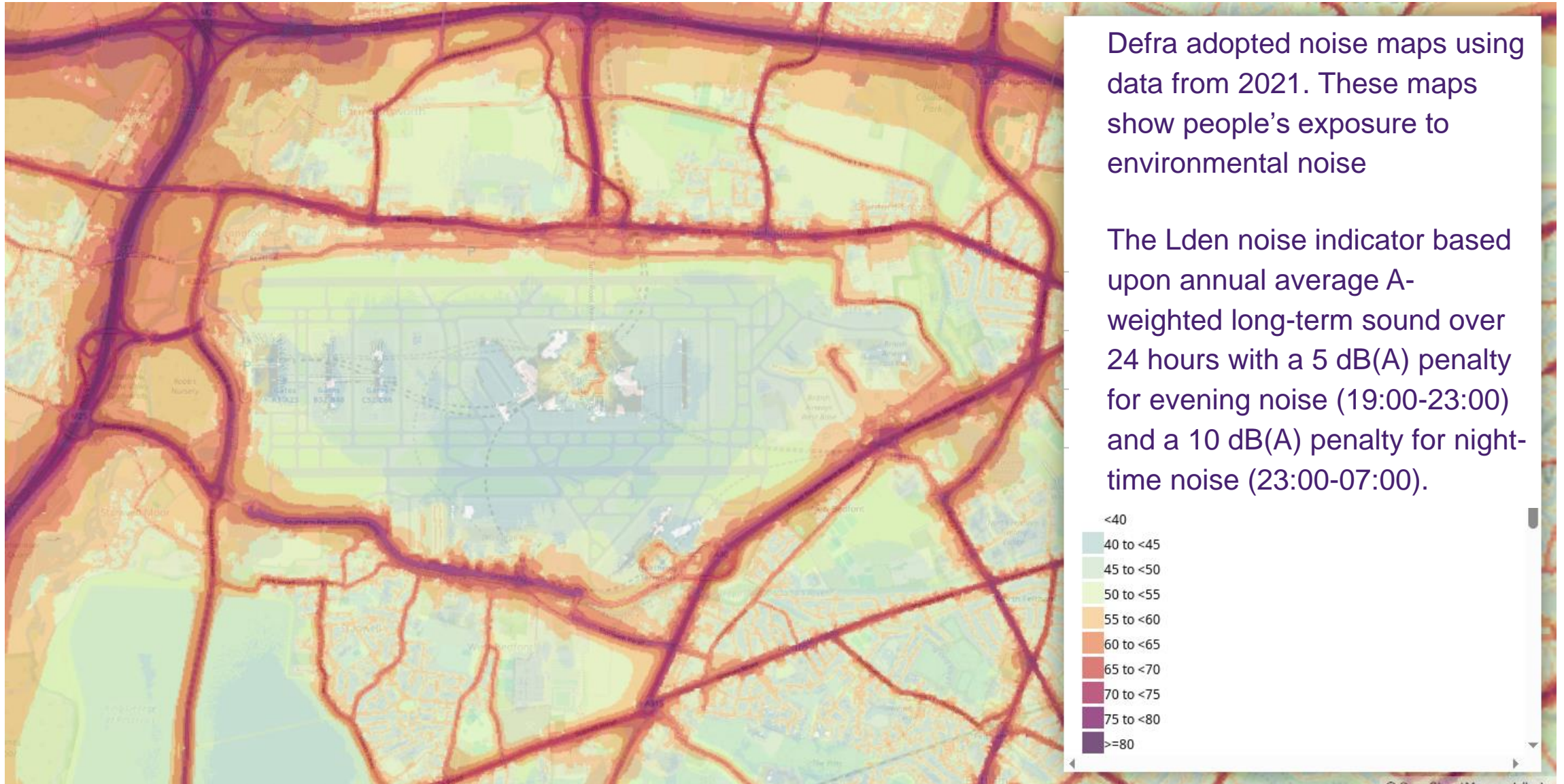
Static Ground Operations

- **Ground Power Unit (GPU)** - supplies electricity to aircraft at a stand.
- **Ground Service Equipment** - includes vehicles and tools for servicing aircraft. Activities: loading/unloading, water replenishment, waste drainage, refuelling, de-icing, maintenance, catering.
- **Engine Testing** - running engines while stationary for checks after maintenance. High-powered testing typically in a Ground Running Pen

MITIGATION MEASURES

- **Research** - developing a Ground Noise Management Plan (GNMP) involves collaborating with international partners to establish a standard for the use of pre-conditioned air, wherever available. This plan aims to mitigate ground noise effectively.
- **Ground Power Unit (GPU) and Pre-conditioned air (PCA)** instead of running aircraft Auxiliary Power Units (APUs) to reduce noise (and emissions)
- **Working with Communities** - a review will be undertaken to enhance online information and tools, improving accessibility and providing greater insight in a more efficient manner.
- **Monitoring progress** - annual NAP progress reporting, updates on the progress will be published, ensuring transparency and accountability in the efforts to reduce noise pollution

MONITORING OF GROUND NOISE ACTIVITY



SOUND MONITORING

- Monitoring at five SVANTEK NMTs (January 2025)
- Monitoring period: 21/11/24 from 16:00:00 – 03/12/24 to 00:00:00
- At least a week's worth of continuous data at all locations
- Data is in 1-second reporting periods (LAeq, LAFmax, LAFmin and LCPeak)

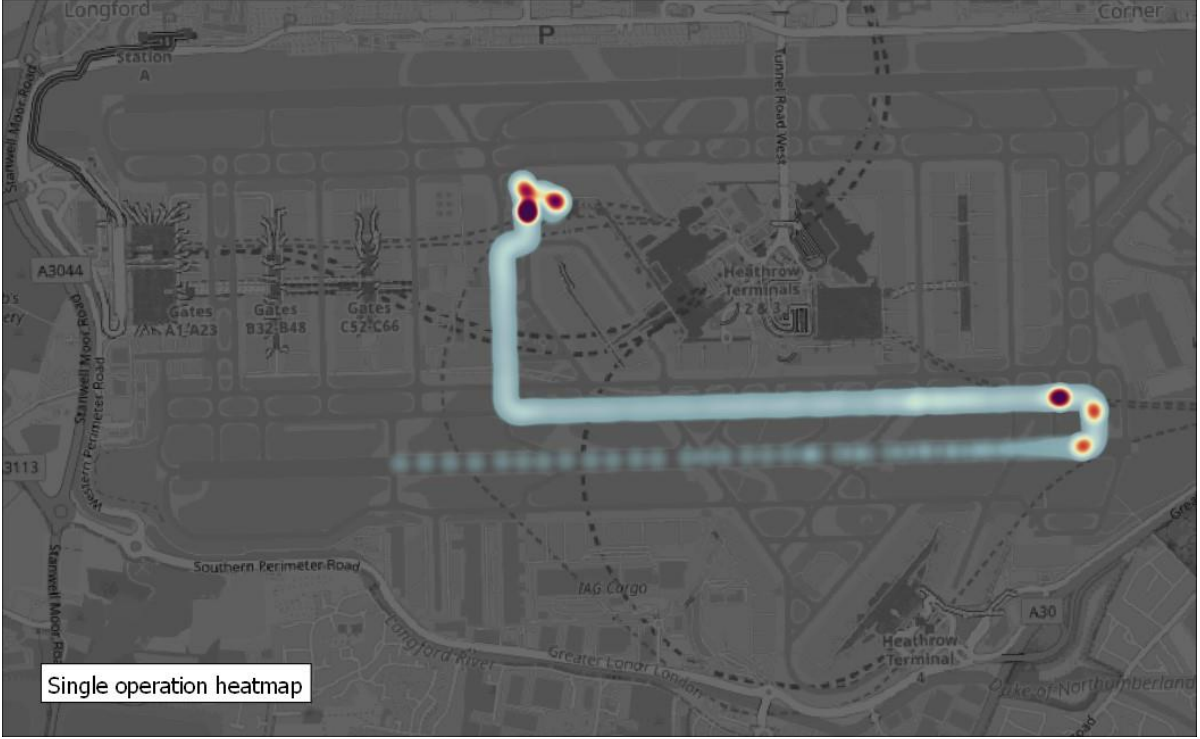


MONITORING OF GROUND NOISE ACTIVITIES

Westerly departing operations during 1hr period, 2200-2300hrs

Single operation shown for Boeing 777-300ER aircraft departing for HKG at 22:45 on runway 27L.

Heatmap on the right shows the density of aircraft positioning data for this operation.

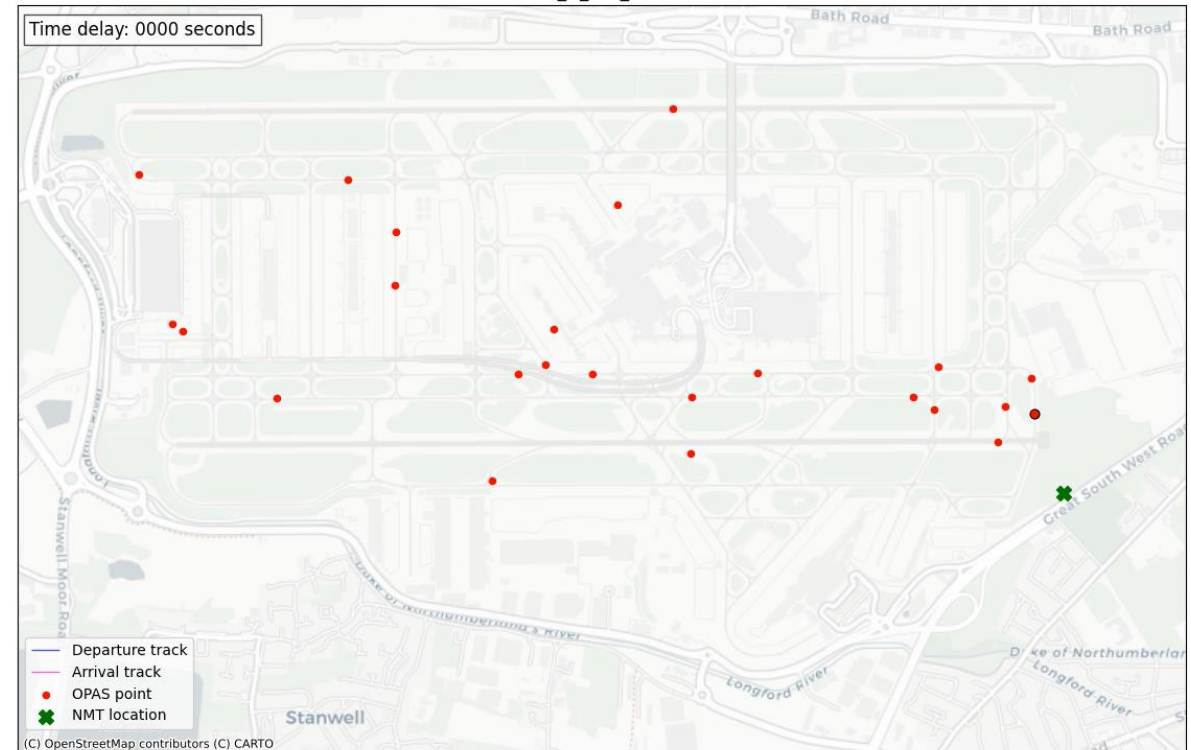


GROUND RADAR AND SPL MONITORING

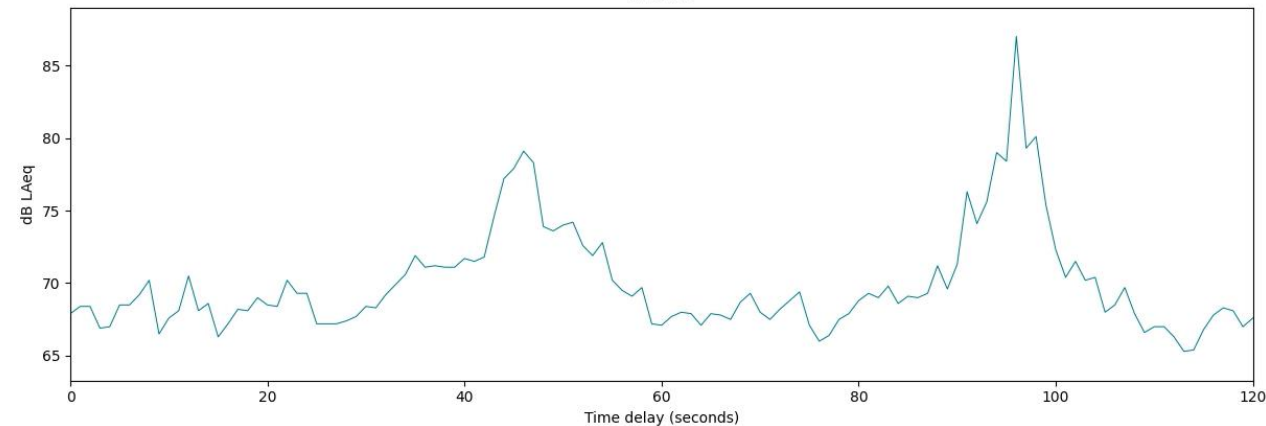
Analysis

- There are periods of correlation between Sound Pressure Level (SPL) time-history and aircraft positions, mostly clearly seen during SOR
- There is influence from non-airport sources and aircraft air noise.
- Despite limitations due to the distance between NMTs and aircraft ground movements, there are indications that aircraft ground activities can be related to landside NMT measurements.
- **Further investigation in 2025**

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NMT N2



GNMP PROJECT PLAN





THANK YOU