

Memo

To: Aircraft Noise Community Consultative Group

From: Jeremy Lo

Date: 30 May 2024

Subject: Annual Review of Noise Monitor Locations

Summary of 2024 Review

- Continue the Prices Rd (until disestablishment), Velodrome, Puhinui Rd, Mt Eden, Flatbush, Wiri and Wattle Downs noise monitors in their current locations.
- Deployed a temporary noise monitor in a suitable location to replicate the permanent noise monitor on Prices Road. The latter will eventually be decommissioned due to the upgrading works on Prices Road and with the need to have the noise monitor be deployed on Auckland Airport land for future proofing.
- Deploy a noise monitor (previously in East Tamaki) in the Mt Wellington/Stonefield's area to monitor noise levels pre and post implementation of the Divergent Missed Approach Protection System (DMAPS)
- Deploy a noise monitor (previously in Beachlands) in the South Titirangi area to monitor noise levels pre and post implementation of the DMAPS.

Noise Monitor Requirements

The Airport is obligated under Condition 5 of Designation 1100 of the Auckland Unitary Plan to have three permanent noise monitors, located at:

- Prices Road
- The Velodrome
- Puhinui Road

Additionally, upon the commissioning of the future Northern Runway, two further permanent noise monitors will be required under the Unitary Plan.

Noise Monitoring Voluntarily Undertaken

In addition, the Airport supplements these mandatory noise monitors with temporary monitors. The Airport's policy in relation to such temporary monitors is to locate these where there is a demonstrated need to:


- monitor noise under areas of future/proposed approach/departure paths
- monitor current approaches/departures
- assess areas where multiple approaches/departures intersect.
- for other Airport operational reasons

There are currently seven temporary monitors deployed.

It is important to note that under Designation 1100, the Airport is not required to install any additional monitors over and above the required three for the existing southern runway and two for the northern runway once it is operational. These additional monitors are voluntarily provided by the Airport. All noise monitoring is paid for by the Airport (with the costs flowing into the cost base used to determine aircraft landing charges which are paid by airlines). Noise monitoring costs are not funded by Auckland Council or by the Government.

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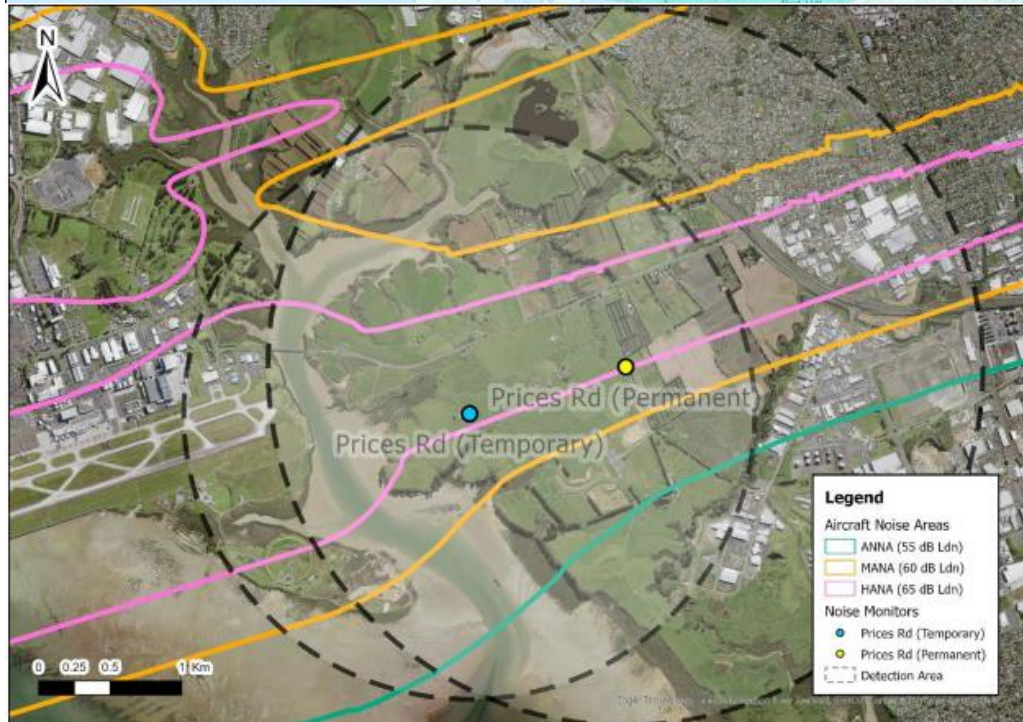
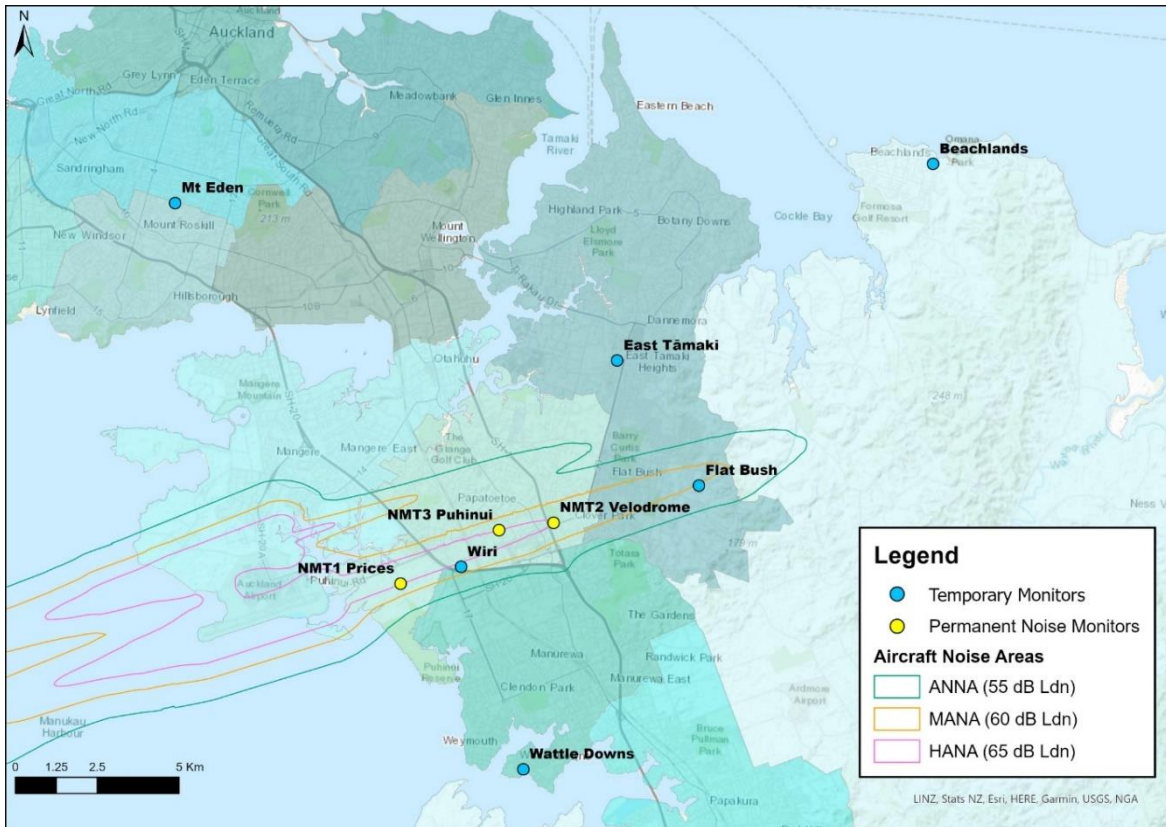


 **Auckland
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The noise monitoring results are publicly available for individual flights online using the Casper system available at [Auckland - flight tracker \(casper.aero\)](http://Auckland-flight-tracker.casper.aero). Complaints or queries on aircraft noise can also be made using the Casper system. Quarterly reports are prepared for the Aircraft Noise Community Consultative Group (ANCCG) on the noise monitoring, which are also available publicly on the Airport's website.

Summary of Current Noise Monitoring

The locations of current noise monitors are set out below.



The table below summarises the installation date, rationale for the monitor being installed and the noise recorded at each monitor. Data for Princes Rd, Velodrome and Puhinui Rd are for FY23 (Jul 22 – Jun 23). Data for the rest of the monitors are from their date of deployment till 30 April 2024.

Location	Installed	Rationale	dB L _{dn} (average)	L _{Amax} (average)	# noise events >70dB (daily average)
Princes Rd	Circa 2000	Designation requirement	61.9	74	127
Velodrome	Circa 2000	Designation requirement	60.9	75	90
Puhinui Rd	Circa 2000	Designation requirement	60.0	70	74
Princes Road Temp	10 Jan 24	Installed as a replacement to the current monitor on Princes Road.	63	74	174
Mt Eden	2015	Installed originally for Green SMART trial. Continued as it captures Yellow/Green/Blue SMART flights as well as conventional arrivals.	38	62	<1
Wiri	2017	Installed as area receives noise above the NZS6805 guidance of 55 dB L _{dn} . Captures Red SMART track flights.	59	75	41
Wattle Downs	2017	Installed to measure noise under the Red SMART track	47	67	13
Beachlands	4 Nov 22	Where the Standard Arrivals path for flights from the North and East turn to join the centre approach	45	64	<1
Flatbush	20 Dec 22	The edge of the Medium Aircraft Noise Area contour (predicted 60 dbL _{dn})	59	70	60
East Tāmaki	4 Aug 22	Green Smart Track for arrivals and departure route during Runway 05R mode.	38	66	<1

Assessment of Current Noise Monitor Locations

The Princes Road, Velodrome and Puhinui noise monitors are all required under Designation 1100 and need to remain in their current locations. However, Auckland Airport was informed in July 2023 that the upgrading works taking place on Princes Road would force the current Princes Road monitor to be disestablished. The Airport has sourced a new location for the Princes Road Monitor but wanted to make sure this location was fit for purpose before decommissioning the permanent Princes Road monitor. The Airport is currently running the Princes Road Permanent and Temporary monitors in parallel to collect enough data to provide the Airport comfort in disestablishing the Permanent Princes Road monitor.

The Mt Eden monitor is located close to the LOSGA way point where three SMART arrival tracks intersect. It is therefore considered a multi-use monitor capturing noise events for a number of flight paths, and a productive use of a noise monitor resource.

The Flatbush Monitor sits on the outer MANA Contour, under the centre runway approach to provide data and confirm that there is no noise exceedance risk in relation to the MANA. It was a previously a missing element in the noise monitor strategy and was raised by one of the Community Representatives.

The Wattle Downs noise monitor measures noise primarily associated with flights to and from the South which turn off (or join) the runway over Manurewa. As this is a well-used flight path, Auckland Airport considers it is important to continuously monitor aircraft noise in this area. In particular, the Airport wants to ensure that data is able to provide an early indication of whether use might be getting close to permissible noise levels, thus enabling changes to be made to flight routes or times of use so as to ensure breaches of noise contours are prevented from occurring.

The Wiri noise monitor measures noise primarily associated with flights to and from the South which turn off (or join) the runway over Manurewa. However, CASPER has highlighted the poor correlation between aircraft noise events and other noise events is between 30% to 60%. This is due to the location of the noise monitor being placed in an industrial area and close to State Highway 20 (SH20). We are working with CASPER and MDA to review and understand the data provided by the monitor to gauge its effectiveness.

The East Tamaki monitor was deployed to monitor the noise levels of the Green SMART approach for arrivals and the departure route for a number of aircraft in easterly wind conditions. This monitor has been in place now for 9.5 months and the Airport requested Marshall Day Acoustics (MDA) to undertake a full assessment of the data so that this monitor could be disestablished and redeployed to Mt Wellington/Stonefield's for the upcoming Divergent Missed Approach Protection System (DMAPS) study.

The assessment (Appendix A) concluded the noise from aircraft at the East Tāmaki monitor is relatively low and is well below the NZS 6805 Guideline of 55 dB Ldn. MDA considered that there was no longer any technical reason to continue noise monitoring at East Tāmaki so therefore accept the removal of the noise monitor. The East Tamaki monitor will be removed at the end of May.

The Beachlands monitor was installed to measure noise from aircraft turning at the 12nm mark to join the runway centreline approach and to monitor Sydney Night STAR (standard Western arrival route). The current owner recently listed their property for sale and requested for the monitor to be removed at the end of April. This monitor has been in place now for 18 months and the Airport requested Marshall Day Acoustics (MDA) to undertake a full assessment of the data so that this monitor could be redeployed to South Titirangi for the upcoming DMAPS study. The assessment (Appendix B) concluded the noise from aircraft at the Beachlands monitor is relatively low and is well below the NZS 6805 Guideline of 55 dB Ldn. MDA considered that there was no longer any technical reason to continue noise monitoring at Beachlands so therefore accept the removal of the noise monitor. The Beachlands monitor was removed on 29 April 2024.

Proposed Noise Monitor Relocations

1. A Noise Monitor in Stonefield's/Mt Wellington pre and post implementation of DMAPS, under the new Turboprop North flight paths for both 23L & 05R.
2. A Noise Monitor in South Titirangi pre and post implementation of DMAPS, under the new Turboprop North flight paths for both 23L & 05R.

Feedback Requested

The ANCCG is asked to:

- Note that the Prices Road, Velodrome and Puhinui Road noise monitors are required under the Unitary Plan. The Velodrome and Puhinui Road noise monitors will remain in their location. The Prices Road Temporary monitor will replace the Prices Road Permanent monitor once construction begins, and the monitor is disestablished.
- The Monitors at Mt Eden, Flatbush, Wiri and Wattle Downs continue to remain in their current locations.
- Note the completion of noise studies for the temporary noise monitors in Beachlands and East Tāmaki and endorse their redeployment of these temporary monitors to Stonefield's/Mt Wellington and South Titirangi for the DMAPS project.

Appendix A: East Tamaki Temporary Noise Monitor Assessment

Please refer to separate attachment: East Tamaki Temporary Monitor Study

Appendix B: Beachlands Temporary Noise Monitor Assessment

Please refer to separate attachment: Beachlands Temporary Monitor Study