

Memo

To: Aircraft Noise Community Consultative Group

From: Kristina Cooper

Date: 30 May 2022

Subject: Annual Review of Noise Monitor Locations

Summary of 2022 Review

Auckland Airport proposes to:

- Continue the Prices Rd, Velodrome, Puhinui Rd, Mt Eden, Wiri and Wattle Downs noise monitors in their current locations
- Relocate the Whitford Monitor due to the Yellow Track trial having finished and the Clevedon Monitor due to the Orange Track trial also having finished, to locations at Beachlands (where a number of flight paths intersect to join the main Runway 23 approach) and to the eastern edge of the MANA in Flatbush.
- Re-deploy the Mt Wellington monitor towards the end of the year in line with any changes made to the Sydney Night Star with consideration of an appropriate location at the September ANCCG when such changes (if any) will be known.

Feedback from ANCCG members at the 13 June 2022 meeting is invited.

Noise Monitor Requirements

Auckland Airport is required 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

In the future, when the Northern Runway is commissioned, two further permanent noise monitors are also required under the Unitary Plan.

Additional Noise Monitoring Voluntarily Undertaken


In addition, Auckland 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 a number of approaches/departures intersect
- For other Airport operational reasons

There are currently five temporary monitors deployed.

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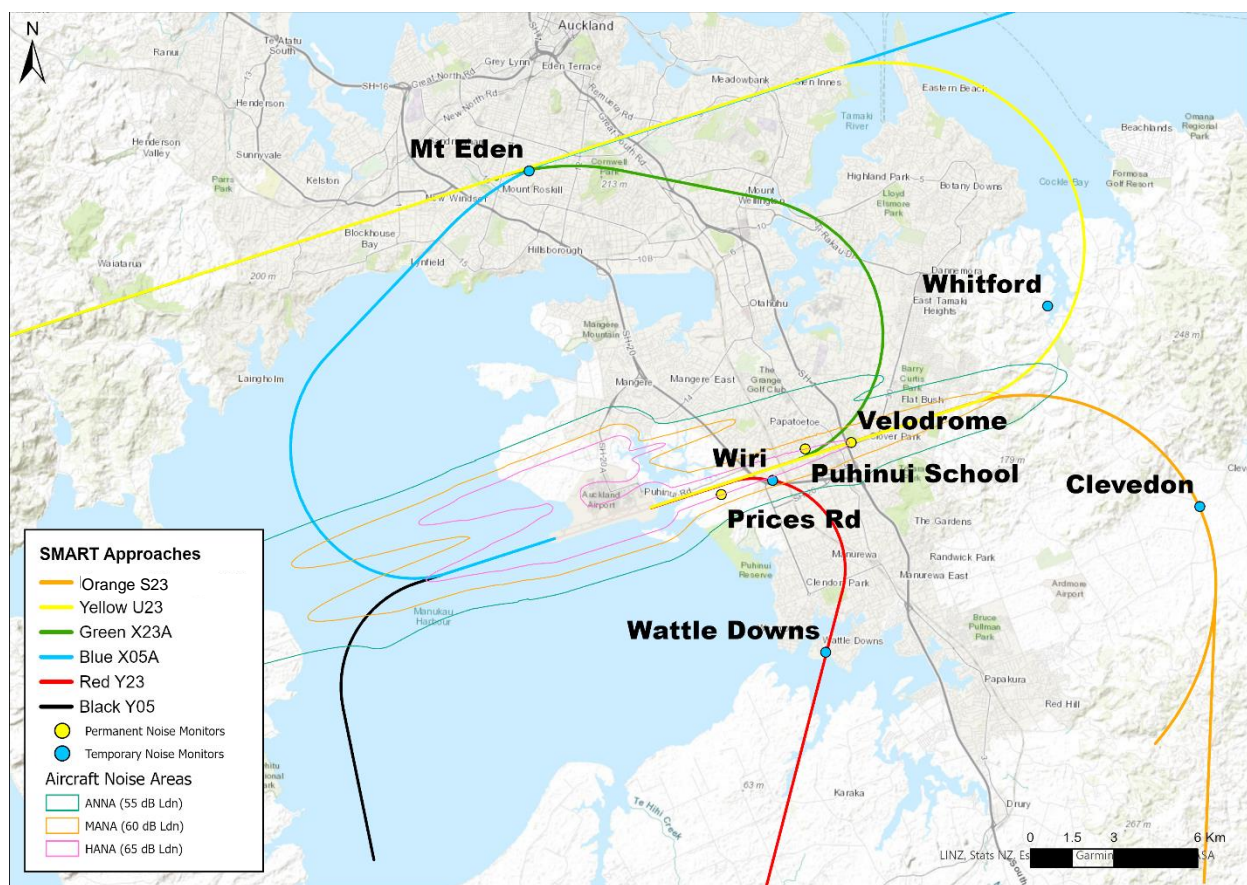


It is important to note that under Designation 1100, Auckland Airport is not required to install any additional monitors over and above the required three for the existing southern runway and two for the northern runway once it is operational. These additional monitors are voluntarily provided by the Airport. All noise monitoring is paid for by Auckland 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.

The noise monitoring results are publicly available for individual flights on line using the Casper system available at [Auckland - flight tracker \(casper.aero\)](https://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 Auckland Airport’s website.

Summary of Current Noise Monitoring

The locations of current noise monitors are set out in the map below, with Smart Tracks also being shown on the same map for ease of reference.



The table below summarises the installation date, rationale for the monitor being installed and the noise recorded at each monitor as per the 2022 March Quarterly Noise Report prepared by Marshall Day and presented to the ANCCG.

Location	Installed	Rationale	dB L _{dn} (average)	L _{max} (average)	# noise events >70dB (daily average)
Prices Rd	Circa 2000	Designation requirement	57.9		56
Velodrome	Circa 2000	Designation requirement	56.5		35

Puhinui Rd	Circa 2000	Designation requirement	56.4		30
Mt Eden	2015	Installed originally for Green SMART trial. Continued as it captures Yellow/Green/Blue SMART flights as well as conventional arrivals.	39	62	<1
Wiri	2017	Installed as area receives noise above the NZS6805 guidance of 55 dB L _{dn} . Captures Red SMART track flights.	58	74	7
Wattle Downs	2017	Installed to measure noise under the Red SMART track	46	67	9
Clevedon	2018	Installed in anticipation for the Orange Track trial (trial is still in progress)	31	58	0
Whitford	2019	Installed to measure noise from the modified Yellow SMART track post trial.	42	60	0

Assessment of Current Noise Monitor Locations

The Prices Road, Velodrome and Puhinui noise monitors are all required under Designation 1100 and need to remain in their current locations.

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 Wiri and Wattle Downs noise monitors both monitor 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 Clevedon monitor was installed to measure aircraft noise associated with the Orange SMART Track trial. The trial was completed October 2021 with the Track confirmed in December 2021. There have been no noise complaints received in relation to aircraft noise while flights were flying the Orange Track, either during the trial period or since then. In Auckland Airport's view the Clevedon monitor has therefore served its purpose in its current location and it is proposed this monitor be relocated.

The Whitford monitor was installed to monitor the impact of the modified Yellow SMART Track route. This track is now confirmed and in use, albeit at relatively low levels. There have not been any noise complaints received regarding the Yellow Track or in the vicinity of the Whitford monitor for several years. For both of these reasons, Auckland Airport considers that the Whitford monitor has served its purpose in its current location, is not providing any additional new information regarding aircraft noise and it is proposed this monitor be relocated.

There was previously a noise monitor at Mt Wellington. At its meeting on 8 March 2021 the ANCCG approved that monitor being withdrawn for a period of 15 months and the money saved repurposed to fund the development of a night-time North American/Pacific arrivals route on the 05 Runway that avoided overflying residential areas of the city. That work was completed and the North American Night Star was developed and started to be used by flights December 2021. The future use of the monitor previously located at Mt Wellington was committed to be reconsidered and redeployed, either to Mt Wellington or elsewhere, in September 2022.

Proposed Noise Monitor Relocations

1. A Noise Monitor on the outer MANA contour is proposed

There is not presently any noise monitor located at the eastern outer boundary of the MANA (where the maximum permissible noise level specified under the Unitary Plan is 60 dB L_{dn}). Given that a property receiving actual noise of 60 dB L_{dn} becomes eligible for the Auckland Airport Noise Mitigation Package, this is a significant noise boundary from the point of view of residents. The absence of a noise monitor within the MANA is an issue previously raised at the ANCCG meeting by one of the community noise representatives.

Auckland Airport agrees that the absence of a noise monitor at the edge of the MANA seems to be a missing element in the current noise monitor strategy. The Airport feels it would be useful for there to be a publicly available record of the noise experienced at the boundary of the MANA and for changes in noise from aircraft operations at this boundary to be monitored over time.

Marshall Day advise that they consider a noise monitor of the MANA boundary at the centre line would be a good fit as there has never been a monitor there so it would provide new data and confirm there are not any noise exceedance risks in relation to the MANA.

Auckland Airport therefore proposes relocating a noise monitor to a suitable location near the Eastern most boundary of the MANA close to where the Yellow and Orange Tracks join the centre approach path (the precise location to be determined by Marshall Day taking into account acoustic requirements).

2. A Noise Monitor at Beachlands is proposed

The standard arrivals route for aircraft coming from Australia, Singapore and Kuala Lumpur landing on Runway 23 is to cross Auckland over LOSGA (where the Mt Eden noise monitor is located) continuing via Point England, Eastern Beaches and on to Beachlands where it turns to join the centre approach path. Flights coming down the East Coast of New Zealand also join the main approach at this point, as do flights crossing to the North of Auckland at Stillwater (including the North Australia Night Star).

Marshall Day advise that they consider a noise monitor at Beachlands would be a good fit as a number of flight paths intersect at that point. Flights have reduced in height to approximately 4000 feet at this point, as well as turning.

3. Re-deployment of Mt Wellington Monitor

A noise monitor was located in Mt Wellington for approximately six years from April 2015 to July 2021. It was removed in June 2021 for 15 months to fund the development of the North American Night Star, with a commitment to consider its location and redeployment with the ANCCG in September 2022.

The measured noise was from the Mt Wellington monitor was 39 dB L_{dn} with an average 65 L_{Amax} , very similar to the noise levels recorded by the noise monitor at Mt Eden. There is not considered to be any benefit or new information to be gained from or need to reinstall a noise monitor in Mt Wellington.

Auckland Airport asked Marshall Day whether Eastern Beaches or Point England were other locations where it would be useful to measure aircraft noise. Marshall Day advised that a noise monitor was deployed at Eastern Beach in July 2015 and was there for around 5 years, which provided a good understanding of noise in the Eastern Beaches/Point England area and how it was changing pre-pandemic. Marshall Day considers Beachlands is a more important location given the approach intersection.

The Orakei Local Board has previously requested that a noise monitor be reinstalled at Ridings Road Remuera (or similar vicinity). There was a noise monitor installed at Ridings Road, Remuera for one year eight months. The measured L_{dn} noise level from aircraft was 38 dB L_{dn} on average, thus again, very similar noise levels to those recorded at Mt Eden and Mt Wellington. For reasons outlined in the papers provided to the ANCCG at its December 2020 meeting, Auckland Airport does not consider there is any additional information to be gained by reinstalling the Ridings Road noise monitor, or by placing a noise monitor in a different location within Remuera.

Instead, Auckland Airport intends to use the Mt Wellington monitor in a yet to-be-confirmed location so it can monitor any changes associated with the Sydney Night Tracks. This reflects one of the core purposes of the temporary noise monitors being to monitor noise under areas of future/proposed approach/departure paths. As options for any Sydney Night Track are still being considered, any new flight paths and affected locations are not yet known. The ANCCG will be updated further on this at its September 2022 ANCCG meeting which aligns with Auckland Airport's commitment made in June 2021 to reconsider use and redeployment of this monitor in September 2022.

Feedback Requested

The ANCCG is asked to:

- Note that the Prices Rd, Velodrome and Puhinui Rd noise monitors are required under the Unitary Plan and cannot be changed in location
- Endorse the Mt Eden, Wiri and Wattle Downs monitors continuing to remain in their current locations
- Provide feedback on the proposal to relocate the Whitford Monitor due to the Yellow Track trial concluding and the Clevedon Monitor due to the Orange Track trial concluding (with use of both these Tracks having been confirmed) , and instead install a noise monitor at Beachlands and a noise monitor at the eastern edge of the MANA in Flatbush.
- Provide feedback on the proposal to re-deploy the Mt Wellington monitor in line with any changes made to the Sydney Night Star with consideration at the September ANCCG when such changes (if any) will be known.