



## **RUNWAY EXTENSION Q & A**

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### **Q. What types of planning approvals are being sought?**

The runway extension and associated airport developments require changes to the rules of the Waipa District, Hamilton City and Waikato District Plans. In Waipa District this will be done through a 'private plan change' while in Hamilton City and Waikato District it will be by 'variations' to their District Plans (subject to the Councils agreeing). This is because a private plan change is able to be made to 'operative' District Plans, while District Plans that remain 'proposed' (i.e. have not been formally adopted) may only be varied by the local authority. The Waipa District Plan is operative while the Hamilton City and Waikato District Plans are proposed.

Alterations to designations, and new designations are also sought. A designation is like a resource consent in relation to a site which authorises subsequent works and/or activities in accordance with the designation without the need for a resource consent. Designations can only be obtained by an organisation approved as a 'Requiring Authority' under the Resource Management Act 1991. Waikato Regional Airport Limited (WRAL) is a Requiring Authority and holds existing designations in relation to the airport site.

### **Q. What are noise boundaries?**

Noise boundaries are a method of managing the noise effects of airport operations and land use planning around airports, recommended in NZ Standard 6805 "Airport Noise Management and Land Use Planning". It involves identifying boundaries (sometimes also called contours or footprints) to identify areas which are predicted to receive certain levels of airport noise and to use them as a basis for land use planning. The standard also requires airports to operate so as to not exceed the relevant noise levels specified by the boundaries.

### **Q. What are the different types of noise boundaries and what do they mean?**

#### *Air Noise Boundary (ANB):*

The ANB defines an area where aircraft noise may reach a level of 65 dBA  $L_{dn}$  or more and within which residential activities, travellers' accommodation and educational activities are recommended to be prohibited.

#### *Outer Control Boundary (OCB):*

The OCB is an area where aircraft noise may reach a level between 55 dBA  $L_{dn}$  and 65 dBA  $L_{dn}$  and within which a number of specific rules apply for land use and subdivision activities, including a requirement for acoustic treatment of residential buildings to achieve an internal noise level of 40 dBA  $L_{dn}$  or less.

#### *Night Noise Boundary (NNB):*

The NNB is a new noise boundary within which one-off noise events may reach a level of 95 dBA SEL (Sound Exposure Level). It is proposed that higher standards of acoustic insulation be required for buildings accommodating activities sensitive to airport noise within the NNB area, including residential buildings. This higher standard of acoustic insulation is required to ensure that suitable internal noise levels are maintained to minimize sleep disturbance from single event noise sources (i.e. individual large aircraft movements at night).

### **Q. What is a dBA?**

A dBA is a measurement of sound level which has its frequency characteristics modified by a filter (A-weighted) so as to more closely approximate the frequency bias of the human ear.



**Q. What is meant by  $L_{dn}$ ?**

$L_{dn}$  is the day-night sound level which is calculated from the 24 hour time averaged sound level (on a logarithmic/energy basis) with a 10 dBA penalty applied to the night-time (2200-0700 hours)  $L_{eq}$  (normally A-weighted).

**Q. What are the main changes to the noise boundaries?**

*Waipa District:*

The existing noise boundaries in the Waipa District are based on 1992 modeling and cover a far greater extent than the newly modelled noise boundaries. Therefore, the new OCB and ANB within Waipa District will be substantially smaller than the existing noise boundaries. However they will be lengthened slightly to the south towards Ohaupo so some additional properties will be affected by the new OCB.

*Waikato District:*

In the Waikato District the existing noise boundaries are based on 2004 modelling so the changes are not major.

In general, the new OCB will widen slightly compared with the existing OCB boundaries, particularly to the north around the Newell Road area. However, the new OCB will also shorten to the north, removing properties to the north of Matangi Road from the boundary. The OCB will also be shorter off the ends of the subsidiary runway strip meaning properties around Te Awa Road will also be removed.

*Hamilton City:*

The OCB will be removed completely from within the Hamilton City area meaning that the noise footprint will no longer extend into Hamilton City.

**Q. Approximately how many properties will be affected by this change in noise boundaries?**

*Waipa District:*

16 additional properties included.  
270 existing properties removed.

*Waikato District:*

56 additional properties included.  
40 existing properties removed.

*Hamilton City:*

19 properties removed.

**Q. What is the change in the area affected by the noise boundaries?**

Currently the noise boundaries affect an area of approximately 4,270ha. The revised boundaries will affect an area of approximately 1,630ha. In other words the area affected will decrease by 62%.

**Q. Why are the noise boundaries changing?**

Like any public infrastructure company the airport must plan prudently for the long term future. The airport has recently adopted a 20-year aeronautical masterplan to guide the development of the airport, providing for continued growth of the general aviation and commercial aviation markets, as well as the region's population and economic growth. It identifies a possible future



runway extension that would provide capability for wide body jets serving long haul routes to use the airport. Changes to the noise boundaries are required to protect this possible future use of the airport and to more accurately reflect the types and frequency of aircraft use utilising the latest noise modelling software.

**Q. What is the Obstacle Limitation Surface (OLS)?**

The Obstacle Limitation Surface ('OLS') is a defined surface in the airspace above an airport that is required by the Civil Aviation Authority of New Zealand ('CAA') to be free of obstacles in order to enable aircraft to maintain a satisfactory level of safety during arrivals and departures. The OLS comprises 'approach surfaces', a 'horizontal surface', and a 'conical surface'. The horizontal surface comprises a flat plane at 95 metres above mean sea level based on the Moturiki Datum, while the conical surface rises at a 1 in 40 slope outward from the edge of the horizontal surface. The approach surfaces rise at a gradient of 1:62.5 from the main runway ends and protect the airspace required for safe landing and taking off of aircraft, and the horizontal surface and the conical surface both protect the operational airspace immediately surrounding the airport.

**Q. How will the Obstacle Limitation Surface (OLS) change?**

The OLS is already identified in the District Plans but will need to be adjusted to take into account the runway extension and the realignment of the grass cross runway.

The main runway approach OLS rises at a grade of 1 in 62.5 and extends for a distance of 15 kilometres past the ends of the main runway. There will be a lengthening of the OLS boundaries at the northern end of the runway as a result of the runway extension. The changes result from the northwards shift in the commencement point of the OLS to the end of the extended runway and essentially mean that the OLS will be lower than it currently is, where it crosses land to the north of the runway. While that will have some effects on land adjacent to the airport it should not have any effect on buildings on properties further away, such as across the Waikato River to the north. In Waikato District the OLS will be about 1.7m lower than at present. The approach OLS at the southern end of the runway will change slightly as a result of the runway threshold being shifted a small distance to the north to accommodate a 240m Runway End Safety Area (RESA) in compliance with CAA standards.

The approach surface OLS from the subsidiary grass cross runways will change to better reflect the true alignment of the existing runways and to show a new OLS for the possible future realignment of the grass runways. The gradient of the OLS for the subsidiary runways will also change from 1 in 62.5 in the current District Plan to a steeper gradient of 1 in 20. Each subsidiary runway OLS will extend for a distance of approximately 900m to meet the horizontal OLS for the main runway at a level of 45m above the runway level. The shorter distance and the steeper gradient reflect the use of the grass runways by smaller aircraft which are able to gain height more rapidly than larger, heavier aircraft.

**Q. Why do the subsidiary grass cross-runways require realignment?**

The subsidiary grass cross runways require realigning to avoid aircraft taking off and landing over an extended apron area to be constructed to the north of the existing terminal. The new apron is required to park the large aircraft that will utilise the extended main runway. These parked aircraft would conflict with the OLS for the existing grass cross-runway. The realignment is also necessary to ensure the approach to the grass runway minimises areas containing new buildings that may be established as part of the development of Titanium Park. The proposed realigned runway will ensure that the approach is generally over areas used for open space and roading.



**Q. What standards are required to be met in terms of the development of the airport?**

Hamilton International Airport is required to be designed and operated in accordance with various rules and regulations specified by regulatory agencies, including the Civil Aviation Authority of New Zealand ('CAA') [see [www.caa.govt.nz](http://www.caa.govt.nz) for further information]. The CAA establishes civil aviation safety and security standards for airports and operation of aircraft in New Zealand and monitors adherence to those standards.

These rules are constantly under review and are regularly amended to reflect best international practice. Many of the rules and regulations are sourced from the International Civil Aviation Organisation (ICAO). This is an international aviation organisation under the umbrella of the United Nations. New Zealand is a contracting State to ICAO and ICAO standards are binding on it.

The proposal has been developed taking into account the requirements and constraints set out by the CAA in relation to the development and operation of the airport. The runway extension and associated proposed changes to planning mechanisms associated with the airport have therefore been developed in accordance with current regulations and best practice for airport development planning.

**Q. What will the benefit be to the region?**

A runway of 2500m in length and the associated new services that would be feasible with the extension is estimated by the Waikato University to bring \$50m worth of benefits to the region each year, and \$1 billion over 20 years. The economic benefits will be generated from the enhancement of both passenger and freight services at the airport.

The extension will enable the airport to accommodate wide-bodied aircraft and will enable direct services from Hamilton to the likes of Singapore, India, China and the west coast of the US. The current runway length restricts the size and type of aircraft that can come into HIA, but the extension would greatly increase the number of potential carriers.

The aviation market is very changeable and history shows that international flights from Hamilton are sustainable if the economic conditions are right.

The extension will also mean that HIA's runway would become the third largest commercial runway in the country and only the third commercial airport to be able to handle wide-bodied aircraft and direct flights beyond Australia. This capability would provide an alternative landing site for diversions from Auckland or Christchurch airports when they are closed.

**Q. Why is the airport doing this planning work now when Air New Zealand have just suspended international flights?**

Pacific Blue Airlines has entered the Trans-Tasman market left by Air New Zealand. They will commence flights in September 2009 and are expected to capture most of the 100,000 per annum passenger market built up by Freedom Air over the last 14 years of international operations from Hamilton.

Furthermore, as the third busiest commercial airport for flight movements in New Zealand (due largely to the Waikato aviation cluster and the CTC pilot training schoolbased at the airport) HIA must continue to ensure it is equipped for growth from commercial and general aviation.

This planning approval work is part of the airport's 20-year aeronautical master planning and is also an update on the noise boundary update undertaken by the airport in 2003. Because the



Resource Management Act planning procedures can take many months to complete the airport needs to initiate the planning now to ensure that the land required is identified and protected so a runway extension and other associated infrastructure can be built when they are needed. If no action is taken now, further subdivision and development is likely to take place around the airport in locations that would make it increasingly difficult, if not impossible to build the infrastructure when future opportunities come to fruition.

**Q. How many night flights are expected to take place in the future?**

An average of 12 movements per night is included in the forecast, with an additional 19 movements per night related to light aircraft training circuits. An arrival is one movement and a departure is another movement. Of those movements an average of 2.5 movements would be jets. Note that night time is defined as the hours between 10pm and 7am.

**Q. How loud is 55, 65 and 95 decibels?**

55 decibels can be likened to the noise level in a busy office. 65 decibels can be likened to standing next to a busy road. A one-off noise event of 95 decibels (SEL) would be similar to a large truck driving by, experienced from the side of the road.

**Q. How long will the runway end up being?**

The runway extension development is likely to take place in two stages. The first stage will see the runway extended to a length of 2,500m. The second stage will involve the extension of the runway to 2,984m total sealed length.

**Q. How much will the runway extension cost?**

The capital cost for a full runway to 2,984m, plus additional apron and taxiway infrastructure to handle wide body jets is estimated at approximately \$22 million. However, the airport may construct the runway extension in stages, with the runway lengthened to 2,500m estimated to cost \$13 million.

**Q. If I own an existing house which is now going to be within the noise boundary how will I be affected?**

The proposed noise boundaries will enable airport operations to generate greater noise levels at your property than the current boundaries permit. However in most cases the change in permitted noise levels is not significant and the increase in noise will occur gradually over time as the air traffic increases. For some properties, particularly those near the north of the airport, an extended runway would result in some increase in noise levels from individual aircraft operations as the aircraft are taking off and landing closer (by the length of the extension) to their properties.

Alterations and extensions to your existing house will be subject to sound insulation design standards administered by the Councils through their District Plans.

**Q. If I own an existing house which is now going to be within the noise boundary what do I need to do?**

Existing buildings will not be subject to the new requirements as they will have existing use rights. However, alterations or extensions to existing buildings will need to be designed to meet the new noise standards.

**Q. What impact will the change in noise boundaries have on my piece of land which I want to develop at a later stage?**

In terms of building a house on the land if you are within the OCB future houses will have to be designed to meet the acoustic standards. In terms of subdividing land within the OCB boundary,



the density of subdivision permitted is lower in the Waikato District area than outside the OCB. This density rule is already in place in the Waikato District Plan.

If you are looking to develop land within the Night Noise Boundary, a higher level of acoustic treatment will be needed to minimise the chance of sleep disturbance. In terms of subdividing land within the NNB there are no further restrictions to the normal Council rules within the OCB.

**Q. Who has modelled the new noise contours, and how do we know the contours and forecasts are correct?**

WRAL commissioned specialist acoustic consultants Marshall Day Acoustics Limited to analyse and project the noise boundaries for the locality as a consequence of the runway extension proposal. Marshall Day have experience in providing advice for various other airports in New Zealand, including Auckland, Rotorua and Christchurch.

Marshall Day has also used the forecasted aircraft movements provided by Airbiz Aviation Strategies Ltd, who are a leading international specialist aviation consultancy.

In accordance with the Waipa District Plan WRAL will operate the airport so as to comply with the noise boundaries. WRAL will also continue to ensure that the noise boundaries are revised at appropriate times to reflect any updates in aircraft modelling software or changes in aircraft forecasts.

**Q. What will the High Intensity Approach Lights look like and where will they be located?**

The High Intensity Approach Lights (HIAL) will be located at both ends of the main runway, extending onto property to the north of Raynes Road at the northern end of the runway and to the south of Airport Road at the southern end of the runway. The HIAL will extend a total distance of 750m from the extended runway threshold at each end and will be contained within a secure fenced area of land in order to avoid interference with the lights.

The lighting structures are required to be constructed as close as possible to runway level, meaning that the lights may be situated on poles. The height of the lighting poles will depend on topography, and higher poles will be required in low lying areas. The lighting poles will be small in their diameter and will be shielded from below the horizontal plane in order to avoid glare effects for neighbours and users of nearby roads.

**Q. Why are High Intensity Approach Lights required?**

High Intensity Approach Lights (HIAL) are generally required and expected at international airports servicing wide body aircraft to enable the safe landing of large jets such as the Airbus A330 and Boeing 747. Furthermore, the HIALs will enable aircraft to land at the airport in some foggy weather conditions, not uncommon at the airport due to the surrounding topography and inland location of the airport.

The HIALs are therefore a critical aspect of securing agreement with an airline to use the airport as they will provide for enhanced safety and greater certainty to airlines in ensuring the ability for aircraft to land in inclement weather conditions.

**Q. When will the runway extension be built?**

The timing of the runway extension is dependent on whether and when the airport is able to secure an agreement with an airline using wide bodied aircraft for international passenger and/or freight services to HIA. The runway extension will only be constructed if a suitable business case is established. The runway will not be extended as a speculative venture, not knowing whether it



will be used. There is an expectation of it occurring within a 10 year period and WRAL is in the process of actively investigating and talking with various airlines.

The runway construction period is likely to be of short duration in order to minimise disturbance to the airport's regular flight schedule. The construction period will be determined in consultation with the eventual contractor following a call for tenders for the works.

**Q. What timeframes are in place for the consultation process?**

WRAL is currently undertaking consultation with a number of different stakeholders in relation to the runway extension proposal and the associated planning approvals sought. In some cases, this consultation has been underway for some time. The next step in the consultation process is to hold a public open day to provide a forum for further discussion and to ensure that affected parties are kept fully informed of the proposal. The open day will be held on Tuesday 16<sup>th</sup> June from 2pm to 8pm in the International Departure Lounge at Hamilton International Airport. Feedback from that open day will be taken into account in finalizing the application and it is likely that further discussions with interested people will take place during that time.

WRAL is targeting late July / August to lodge the plan change and notice of requirement applications with the various Councils. The applications will then be notified and a hearing held at a time jointly determined by the Councils. WRAL and all submitters will be notified of the decision of the Councils soon after the completion of the hearings.

**Q. Who will look after the submission process?**

As the local authorities are shareholders in the Airport an independent commissioner will be appointed by the Councils to ensure a fair and unbiased hearing process. Independent consultants will also be appointed by the Councils to advise the commissioner.

**Q. How do I make a submission if I wish to support or oppose the proposed changes to the District Plans?**

The process for notification of the applications and receipt of submissions is set out in the provisions of the Resource Management Act 1991. Councils must adhere to these provisions in the processing of the applications made under the Act.

The applications will likely be publicly notified by all three Councils late this year. Public notification involves a process whereby the Councils will call for submissions by advertising the receipt of the application in local newspapers, and by sending letters directly to people who live in the affected area. Other affected organisations will also be directly notified of the application.

Plan changes / variations to District Plans must go through two periods of notification. The first of these comprises a 20 working day period within which submissions are called for, either in support or opposition. Following this each Council will prepare a summary of submissions which will be circulated to all submitters. An opportunity is then provided for those who lodged submissions to lodge further submissions in support or opposition to original submissions made by others. The further submissions again must be made within a timeframe of a further 20 working days.

Notices of requirement to alter existing designations or to create a new designation require a single 20 working day notification period, and do not require further submissions.



Hamilton  
International Airport

**Q. When is the Open Day?**

The Open Day will be held on Tuesday 16<sup>th</sup> June from 2pm to 8pm in the International Departure Lounge at Hamilton International Airport. Attendees can use the terminal car park and will be provided with a free parking pass on the day.

**Q. Who do I call if I have questions?**

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