BEFORE THE AUCKLAND UNITARY PLAN INDEPENDENT HEARINGS PANEL

IN THE MATTER The Resource Management Act 1991 and the Local Government (Auckland Transitional provisions) Act 2010 – proposed Auckland Unitary Plan

AND

IN THE MATTER of a Submission on the Proposed Auckland Unitary Plan.

Submitter: David Park

Topic/No: 016&017 RUB North/West and RIB South

STATEMENT OF EVIDENCE OF

David Stewart Park

(AVIATION ISSUES)

Dated 27 November 2015

INTRODUCTION

1 My full name is David Stewart Park.

2 I am a self-employed aviation consultant and Director of Astral Limited, an independent Aviation Consultancy established by me in 1997 which specialises in providing technical advice and services for a number of New Zealand and overseas Airport companies, airlines, military, consulting engineers and the Civil Aviation Authority of New Zealand (CAA).

3 My professional qualifications include a Bachelor of Engineering (Hons) (University of Canterbury), Master of Science (Aircraft Design) (Cranfield University, United Kingdom) and Master of Business Administration (University of Auckland). I am a member of the Royal Aeronautical Society, a Freeman member of the Guild of Air Pilots and Navigators and a Chartered Engineer in the United Kingdom.

4 I have had 25 years' experience in aircraft flight operations with major airlines in various technical and managerial roles, including 20 years' experience with Air New Zealand and three years with Qantas New Zealand in relation to flight operations and aircraft performance.

5 From 2009 until October 2015 I was a Director and more latterly Deputy Chairman of Airways Corporation, the Government owned entity that provides air traffic control and related services in New Zealand and internationally.

6 I have been extensively involved with airport planning issues for large and small airports in New Zealand. In particular I provide or have provided technical advice relating to aircraft operations and aerodrome requirements to Paraparaumu, Rotorua, Queenstown, Wanaka, Manapouri, Timaru, Omarama, Pukaki, Kaikoura, Nelson, Gisborne, Taupo, Tauranga, Hamilton, Whangarei, Whakatane, Wellington and Ardmore airports.

7 I have worked extensively with the CAA in relation to airport certification issues and have an in-depth knowledge of CAA aerodrome design requirements.

8 I was a member of the committee of experts that developed New Zealand Standard NZS6805 – Airport Noise Management and Land Use Planning (1992) (NZS6805) and have extensive experience in the prediction and management of aircraft noise at airports. In this context I have for the last 10 years chaired the Ardmore Airport Noise Consultative Committee which

manages the Ardmore Airport Noise Management Plan. I have been engaged as an expert on behalf of Queenstown, Wellington and Ardmore airports regarding reverse sensitivity effects arising from noise sensitive land uses being located close to those airports.

9 I am broadly familiar with the planning issues in the Auckland Unitary Plan that potentially affect North Shore Airport (the Airport). I have visited the Airport and discussed its operations with Mr Joe Smith, the North Shore Aero Club's (NSAC) President.

10 I have read the evidence of Mr Smith, Mr Gillett (NSAC), Ms Rosser (Haines Planning Ltd) and Mr Carlton Campbell of the Civil Aviation Authority of New Zealand (CAA). I support those statements of evidence where consistent with my evidence.

11 I have also read the parts of the evidence of David Paul (Council's planning witness) which relate to the Airport.

12 My evidence is given in accordance with the Environment Court’s Code of Conduct for Expert Witnesses. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

13 My evidence will provide the Hearings Panel with an appreciation of:

- The growing importance of the Airport to air transport links in top half of the North Island.
- The need to protect airports against reverse sensitivity effects of aircraft noise, disturbance and flight path safety.
- The near impossibility of building a new “green fields” airport in New Zealand.
- The Airport's expansion potential to service larger air transport aircraft.
- The looming world wide pilot shortage and the importance of pilot training facilities both as a source of pilots to New Zealand airlines and as a foreign exchange earner when training foreign pilots.

- The concerns I have over the proposals presented by Mr David Paul in his evidence on behalf of Auckland Council in relation to submissions on the Northern Rural Urban Boundary (RUB) Dairy Flat in the vicinity of the Airport which would bring the RUB much closer to the Airport.

Importance of the Airport

14 The Airport is an essential aviation resource for the wider Auckland region and is part of New Zealand's air transport infrastructure. In addition it provides an important recreational, emergency medical air services, aircraft manufacture and servicing and pilot training facility as described in Mr Smith's and Mr Gillett's evidence.

15 With regard to air transport, it is becoming increasingly apparent that the major international airports in New Zealand are reluctant to allow the operation of small aircraft (less than 50 seats). This is for economic reasons i.e. the return in terms of passenger numbers on their available landing "slots" and also for peak time air traffic control/congestion reasons.

16 At Auckland International Airport small aircraft are increasingly being displaced to the "satellite" Auckland airports of Ardmore and North Shore. Both these airports now receive scheduled flights from small regional airlines including Barrier airlines, which operates 30-40 flights a week at the Airport and Sun Air which operates services at Ardmore. I fully expect this trend to continue. These small airlines provide vital links to destinations such as Great Barrier Island, the Coromandel, Northland and the Bay of Plenty.

17 Due to changes in aircraft design technology, as described by Mr Smith in his evidence, and/or if the runway is extended as described later in my evidence, I expect this "catchment area" to increase in size as larger and more cost effective aircraft are able to be used. This will enable the rapidly growing North Shore area to be connected directly with other nearby regions thereby facilitating business links, leisure travel and tourism.

18 North Shore Airport is particularly important as it is the only aerodrome between Auckland International and Whangarei that is developed for all weather day/night commercial air transport services. Whangarei Airport itself has restrictions which have been documented in the media and possible alternative sites are currently being investigated.

19 This area is very fast growing in both population and business activity. The extension of the northern motorway past Puhoi will result in more development and population in the wider Auckland area further from Auckland International.

20 For these reasons I believe an airport on the North Shore providing an alternative to an increasingly long commute to Auckland International is an essential part of the regional infrastructure.

21 I note that the Auckland Regional Council (ARC) when it existed had the same view. From the mid 1980's it commissioned several reports from consultants on capacity of the secondary airports in the Auckland region, the theme of which was to ensure adequate capacity protected at the region's airports because of their regional significance.[1]

22 I also note Auckland Plan at Chapter 13, Auckland Transport, Directive 13.7 Point 769 states:

> *" Additionally, we will protect the operations of our smaller airports such as Ardmore and Dairy Flat, (currently used for recreation), as they can provide a flexible alternative for future freight movements. Whenuapai Airbase is expected to continue its defence operations. "*

In addition Part 1 Chapter B Regional Policy Statement Section 3.3 Transport includes airports (and airfields) as part of the Region's transport system and sets out objectives and policies that intended to protect these facilities.

23 This underscores but actually understates the importance of the Airport to the region as the airport is used for much more than simply recreational flying. It's value lies in flight training, air transport services and the employment and value creation generated by aircraft design and servicing activities occurring there.

Reverse sensitivity effects

24 As mentioned earlier I have been involved with reverse sensitivity effects at Queenstown, Wellington and Ardmore airports. Each of these airports has been faced with restrictions on use due to nearby residents' complaints about aircraft noise. This is despite the fact that the airports existed well before most residents moved to their proximity.

25 Two underlying principles apply in avoiding or mitigating reverse sensitivity. Together these principles are the foundation of both NZS6805 and airport noise management world wide as laid down by both the International Civil Aviation Organisation (ICAO) and the United States Federal Aviation Authority.

1 The most recent of these reports was entitled *Auckland Regional General Aviation Study Review 2009-Draft*, 19 August 2009, Beca Carter Hollings and Ferner.

26 These two principles are:

- The implementation of effective land use controls to avoid noise sensitive land uses, in particular residential housing, encroaching on an airport; and
- The management of aircraft operations to limit noise emissions to within agreed noise contours and to mitigate disturbance, for example through the adoption of a noise management plan.

27 These principles have been applied at all three airports mentioned above and have together enabled the airport and it's local community to co-exist in relative harmony.

28 It is essential to understand that reducing noise at source, or mitigations such as acoustic insulation, cannot alone solve current and future reverse sensitivity issues. Sensible land use planning is essential. In this context I fully support the outcome of the Expert Conference for the Airport Noise Topic (Topic 045) as described at paragraph 6.1 of Ms Rosser's evidence in agreeing the rezoning from Rural Zone to Future Urban Zone should be avoided inside the 55 dB Ldn [airport noise contour].

29 I also fully endorse Mr Peakall's view, as described at paragraph 6.2 of Ms Rosser's evidence, that noise insulation alone will not address noise issues, and Ms Rosser's conclusion that providing an adequate area of rural zoned land around the airport is the best means of controlling reverse sensitivity effects.

30 In addition to cumulative noise exposure, single event noise levels can cause reverse sensitivity due to disturbance and 'startle" effects. This is particularly so at airports where flight training occurs due to the nature of some training manoeuvres, which are mandatory for the issue of a pilot's licence, such as engine failure after take-off and poor weather (low level) circuits. Night take-off and landing ("circuits") can also cause disturbance especially in the summer months where nightfall is later in the evening.

31 The 55 Ldn contour alone may not provide enough protection for these activities and for that reason, as well as for safety of persons on the ground, I believe it is unwise and inappropriate to allow residential development under the circuit path. In that regard I endorse Mr Gillett's evidence, which identifies at attachment 2 the circuit area for the Airport.

32 Ardmore Airport, which has extensive flight training operations, had reverse sensitivity arising out of engine failure after take-off practice and night circuit training despite the

surrounding area being rural. These have been largely resolved by implementing a curfew on night circuit training and minimum height limits on engine failure practice (which can be detrimental to the usefulness of the training). However had the area beneath the flight path been zoned residential with a consequent large increase in affected population, I very much doubt flight training could occur at Ardmore today.

33 Flight path safety is of paramount importance to aircraft operations. Allowing people intensive uses of land beneath flight paths in the take-off and landing areas outside the airport's boundary is contrary to international best practice.

34 The CAA guidance material for land use at or near aerodromes states:

> *"Zoning solely to obstacle limiting surfaces is insufficient to prevent the construction of incompatible uses such as housing or uses that attracts congregations of people into the approach areas".*[2]

35 The CAA guidance material notes that a runway protection zone (RPZ) such as used in the United States (US) is used by many local authorities for the protection of people and property on the ground.

36 The US RPZ standards which in my opinion should be provided for at the Airport would require a clear area approximately 300m long by 200m wide (being 100m either side of runway extended centreline) extending from the ends of the main runway and 300m long by 135m wide from each end of the cross runway.[3] Within the RPZ area activities that result in congregation of people are prohibited e.g. churches, schools, offices, and shopping centres. Fuel storage is not permitted and car parking is discouraged.

37 In locating the RPZ, provision should be made for the main runway to be extended as described later in my evidence.

38 Referring to Mr Paul's Figure 1 "Dairy Flat Group" these areas will extend into the RUB from the runway ends north east into Dairy Flat and Silverdale/Weiti, to the east into Dairy Flat, to the south west into Postman Rd and Dairy Flat and to the west into Postman Rd.

39 In my view it is totally inappropriate for safety of persons on the ground to have the RUB

2 *Guidance material for land use at or near aerodromes,* Civil Aviation Authority of New Zealand June 2008

3 *Advisory Circular AC150/5300-13 Airport Design*, United States Federal Aviation Administration, 9/29/89, paragraph 212

inside these areas as it potentially allows such uses. Instead a zoning which prohibits activities where people congregate should be enacted.

40 In summary for the avoidance of reverse sensitivity issues I believe the RUB should not extend into the circuit area as depicted in Attachment 2 Diagram 1 of my evidence as this protects both noise disturbance and the safety of persons on the ground beneath the flight paths.[4] I believe rural zoning is appropriate and should be retained to provide this protection.

"Greenfields" airport

41 Reverse sensitivity effects frequently result in calls for an airport to be "moved" which of course means its activities to be moved somewhere else. As I described earlier in my evidence there is no existing facility on the North Shore that can accommodate the current or future flying activities at the Airport.

42 The alternative of building a new "green fields" facility somewhere else does not in my view exist in relation to the Airport because:

- There is a lack of suitable flat land
- The cost of development is prohibitive and can't be funded from landing charges or hangar leases.

43 No matter where an airport is proposed to be located local residents will almost certainly oppose it on noise and disturbance grounds. In my 35 years of involvement with aviation in New Zealand I am not aware of a facility the scale of the Airport that has been developed from "green fields". The airports that exist in New Zealand now were mostly developed as a result of WW2, or the far sightedness of central government in the 1960's. I believe these are probably the only airports New Zealand will have in the foreseeable future. They are an irreplaceable asset.

The Airport's expansion potential

44 An airport's capacity generally relates directly to its runway length. The layout of the airport is shown in Attachment 1.

45 Currently the sealed main runway is 791m long by 9m wide. It is contained within a runway strip 811m long by 60m wide. There is a smaller cross runway.

4 This diagram is sourced from Mr Gillett's evidence Attachment 2.

46 Ideally the sealed runway would be able to be extended to 1100m long and widened to 30m and sit within a 1220m by 150m strip with 90m long runway end safety areas beyond each end. This sealed runway length would be adequate for the operation of larger aircraft such as the 50 seat Bombardier Q300.

47 NSAC has studied the possibility of extending the sealed runway and its strip in both directions. I understand NSAC already has a long term lease(s) on some of the required land which would enable this to be done.

48 I have briefly reviewed the proposal and confirm that in concept it appears to be feasible. However it would be precluded if the proposed Dairy Flat and Postman Rd RUB, as depicted in Figure 1 of Mr Paul's evidence, extended up to Postman Road at the south west end of the runway.

49 The existing runway length is only suitable for small aircraft seating up to 10-15 seats. These aircraft are not suitable for flights beyond approximately 1-1.5hr due to both passenger comfort and the operating cost on a “per seat” basis which is typically 25-30% more than the per seat cost of aircraft over 20 seats capacity.

50 This cost difference translates into a similar difference in ticket prices meaning the larger aircraft are much more attractive to the travelling public and can provide a more economically efficient option for the North Shore's air transport requirements.

51 By way of comparison, Whangarei Airport has a sealed runway length of 1097m and has scheduled air services to Auckland by 50 seat Bombardier Q300 aircraft operated by Air New Zealand. Lord Howe airport, some 600km from the New South Wales coast has an 886m long runway and has scheduled services to and from Sydney, a flight time of about 1.5hrs. A similar flight distance around North Shore Airport would cover all the North Island, allowing a very substantial improvement in the ability to link the North Shore directly with other main centres in New Zealand.

Pilot training

52 A world wide shortage of professional pilots is rapidly becoming a serious concern in the development of air transport.

53 The Boeing Company projects a world wide demand for 558,000 new commercial pilots over

the next 20 years of which 226,000 will be in the Asia Pacific region[5]. Without an adequate supply of trained pilots air transport world wide, which generates an estimated 8% of global GDP, will be significantly constrained.

54 New Zealand itself requires an on-going supply of trained pilots for it's domestic and international air transport fleets, and in addition pilots from overseas train here. New Zealand is an ideal place to train because of uncrowded skies, good weather, varied terrain and flight conditions, and high training standards.

55 In his evidence Mr Smith notes the quality of the pilot training provided by NSAC, and Mr Gillett notes in his that there are currently three pilot training organisations based at the Airport. Pilot training organisations attract money and jobs to the local community and, if the trainees are from different cultures, add diversity to the communities they reside in.

56 As I stated earlier in my evidence flight training is particularly prone to reverse sensitivity issues due to the flight training exercises used and the requirement for repetitive circuit training particularly at night. I believe it would be very detrimental to ongoing training activity at the Airport if the RUB was moved to the location envisaged in the Unitary Plan.

57 For these reasons I believe a reduction in, or constraints on, training activity at the Airport would be detrimental to the local community and against the long term interests of New Zealand aviation and commerce.

EVIDENCE OF DAVID PAUL

58 I have read the statement of evidence of David Paul insofar as it relates to the Airport and proposed relocation of the RUB. I understand Mr Paul proposes that the RUB be located closer to the Airport than the Section 32 report recommended. In effect the RUB would almost totally surround the airport to its boundaries.

59 I note at his paragraph 1.4 Mr Paul states that in his opinion the reverse sensitivity effects on the Airport can be addressed through the structure plan process and staging. It seems to me this offers little certainty that the airport would be protected and, as noted by Ms Rosser in her evidence, would allow a piecemeal approach to land use consents around the Airport. In my opinion this is very weak protection for the Airport and, as far as I am aware, is contrary to the clear-cut approach taken to land use controls around other New Zealand airports.

5 2015 Pilot Training and Technician Outlook, Boeing Edge Flight Services.

60 I am particularly concerned at Mr Paul's sweeping inclusion of the Postman Rd area into the RUB, right to the Airport's common boundary with Postman Rd when this area is crossed by both the west and south west take-off and approach paths. I see no justification at all for changing the existing zoning in this area as any intensification of use is a public safety concern.

61 CHANGES RECOMMENDED TO RUB LOCATION

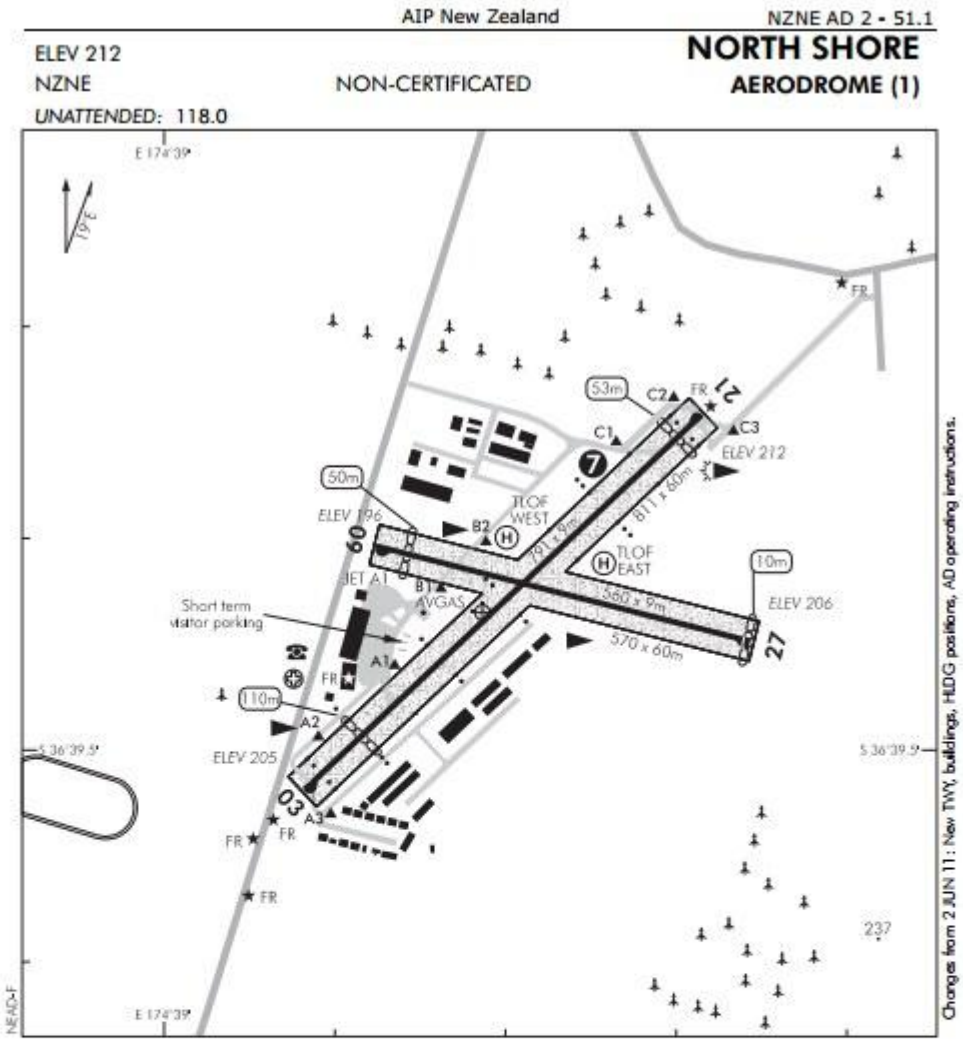
62 For the reasons stated in my evidence I recommend either:

- The RUB be moved outside of the circuit area shown in Attachment 2 Diagram 1 of my evidence; or
- As a minimum the RUB is moved outside the RPZ areas at each runway end (with provision for the main runway to be extended) as described in my evidence, and outside the 55Ldn noise contour.

63 I believe protection of the Airport in this way would be a far more satisfactory and certain approach than reliance on a later potentially piecemeal structure plan process.

Attachment 1: Plan of North Shore Airport

Source: New Zealand Civil Aviation Authority Aeronautical Information Publication



North Shore aerodrome is one of the busiest airfields in the country with a high level of fixed wing and helicopter traffic, both training and commercial operations. To facilitate the safe operation of all aircraft at North Shore aerodrome the following procedures should be complied with.

1. **Fixed wing aircraft shall only join the circuit in accordance with standard procedures and the detailed circuit direction, and due to traffic density are requested to use Standard Overhead Joining procedures.**

   Straight in approaches for any runway by fixed wing aircraft should not be conducted unless engaged on a GNSS approach.

   Helicopter traffic is prohibited from joining straight in for RWY 03 or RWY 21 and right base for RWY 03 or RWY 21.

   Helicopters should join at not above 800ft AMSL, clear of active runways and the fixed wing circuit.

   Helicopters joining the circuit should join straight in for RWY 09 or RWY 27 and should be at or below 800ft AMSL within 2NM of the aerodrome. TLOF East for RWY 27 and TLOF West for RWY 09 should be utilised.

S 36 39 24 E 174 39 19

(continued)

NORTH SHORE
AERODROME (1)

Effective: 14 NOV 13

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Attachment 2

