

ANCCG Meeting

February 2017 – April 2017

Meeting: 14 June 2017



Flight

Aircraft Operations

Figure 1: Number of Aircraft Operations per Month

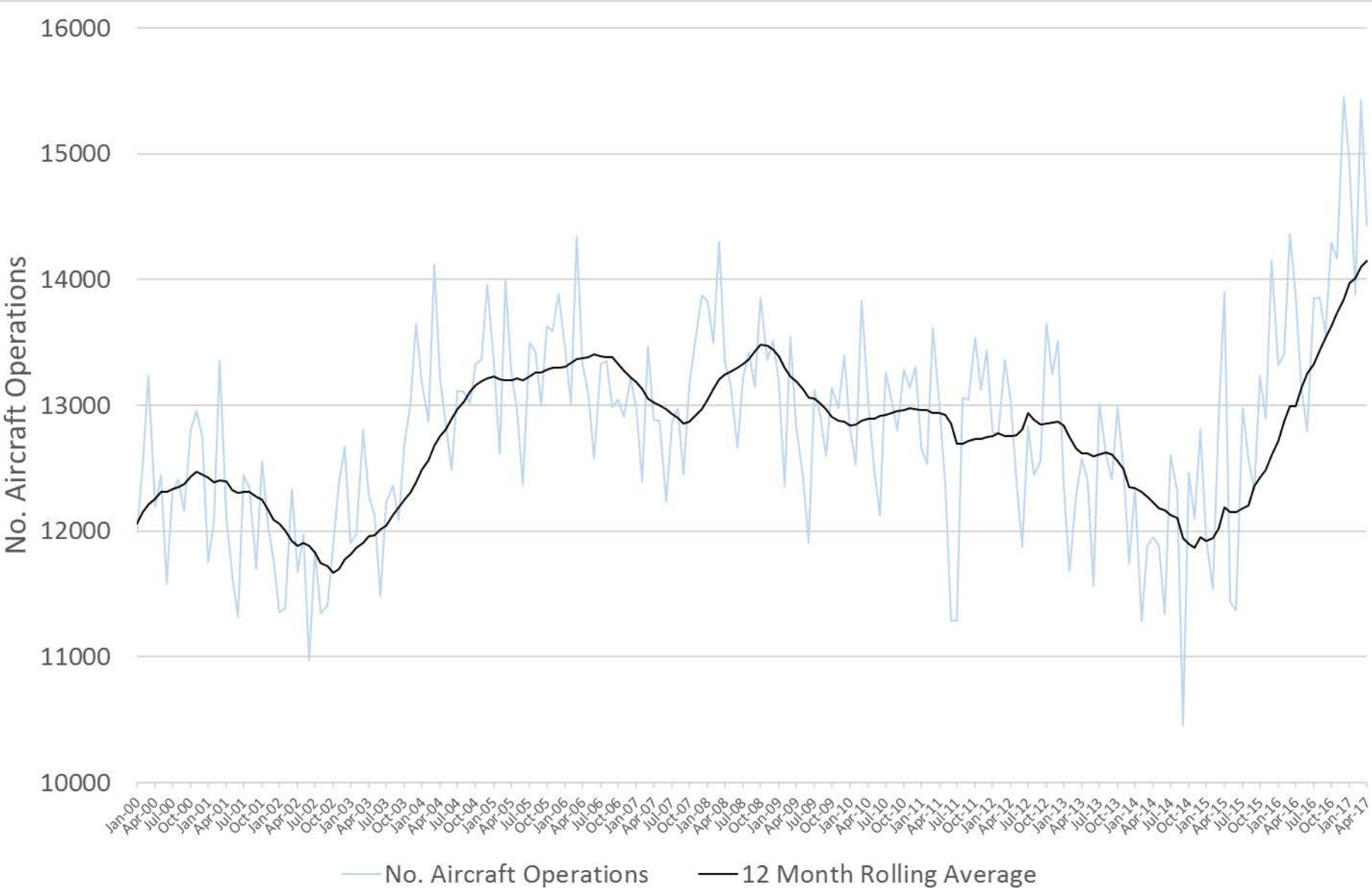


Table 1: Summary of Aircraft Operations

Operation	Total	Day	Night
Arrivals	21,832	18,875	2,957
Departures	21,830	19,978	1,852
Circuit	80	78	2
Total	43,742	38,931	4,811

Table 2: Average Daily Aircraft Operations

Total	Day	Night
492	437	54

Figure 2: Aircraft Operations by Time

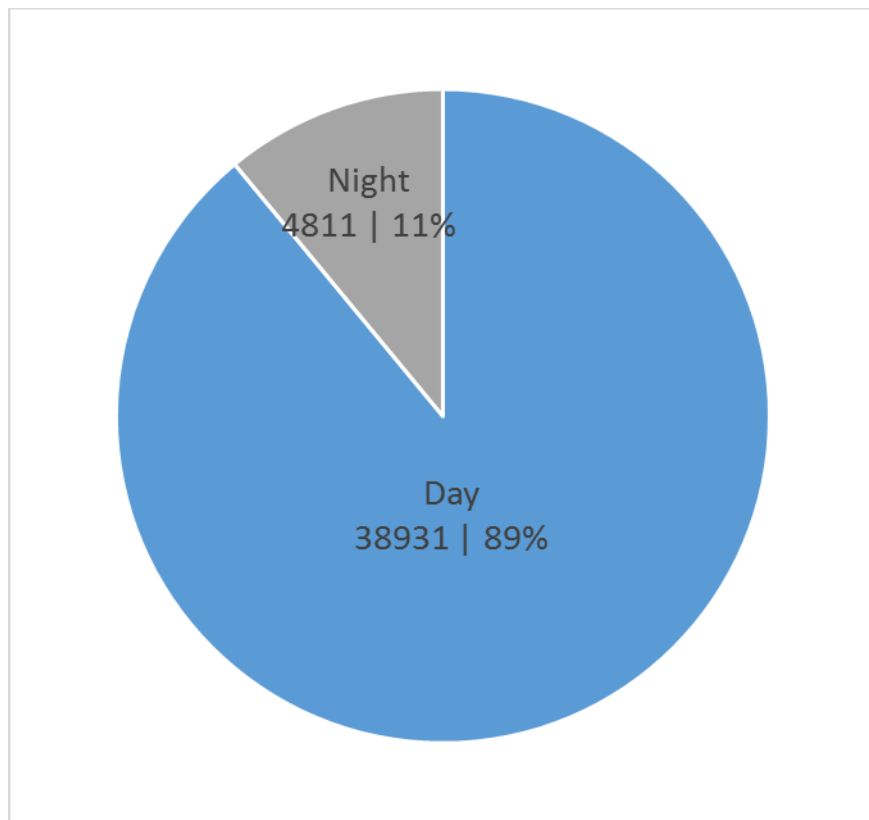


Figure 3: Aircraft Operations by Aircraft Type

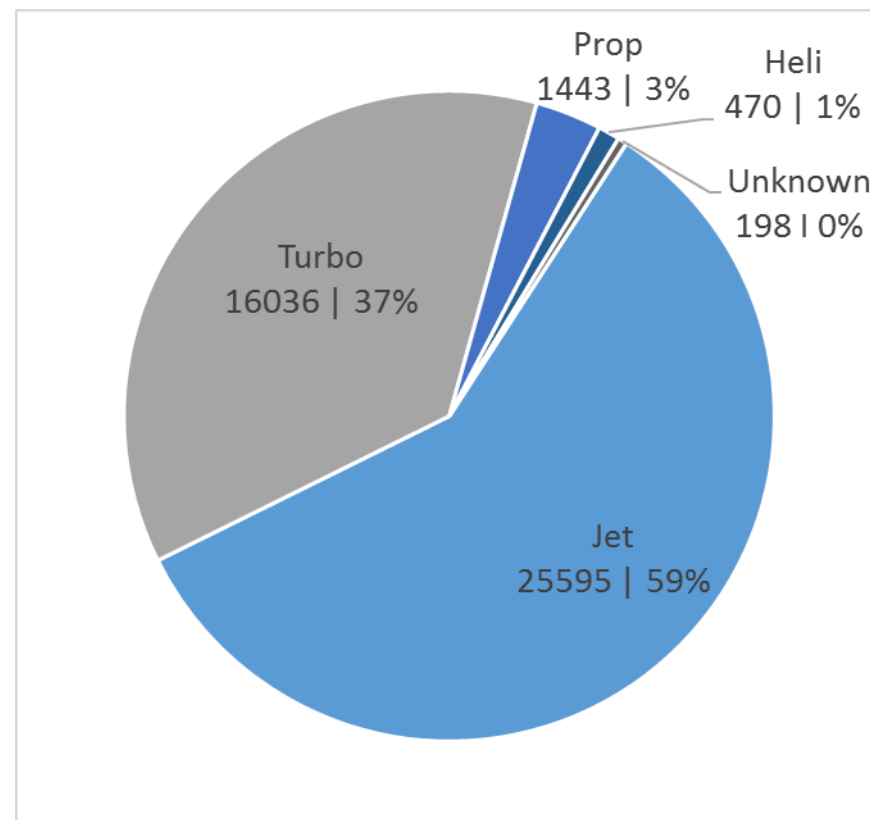
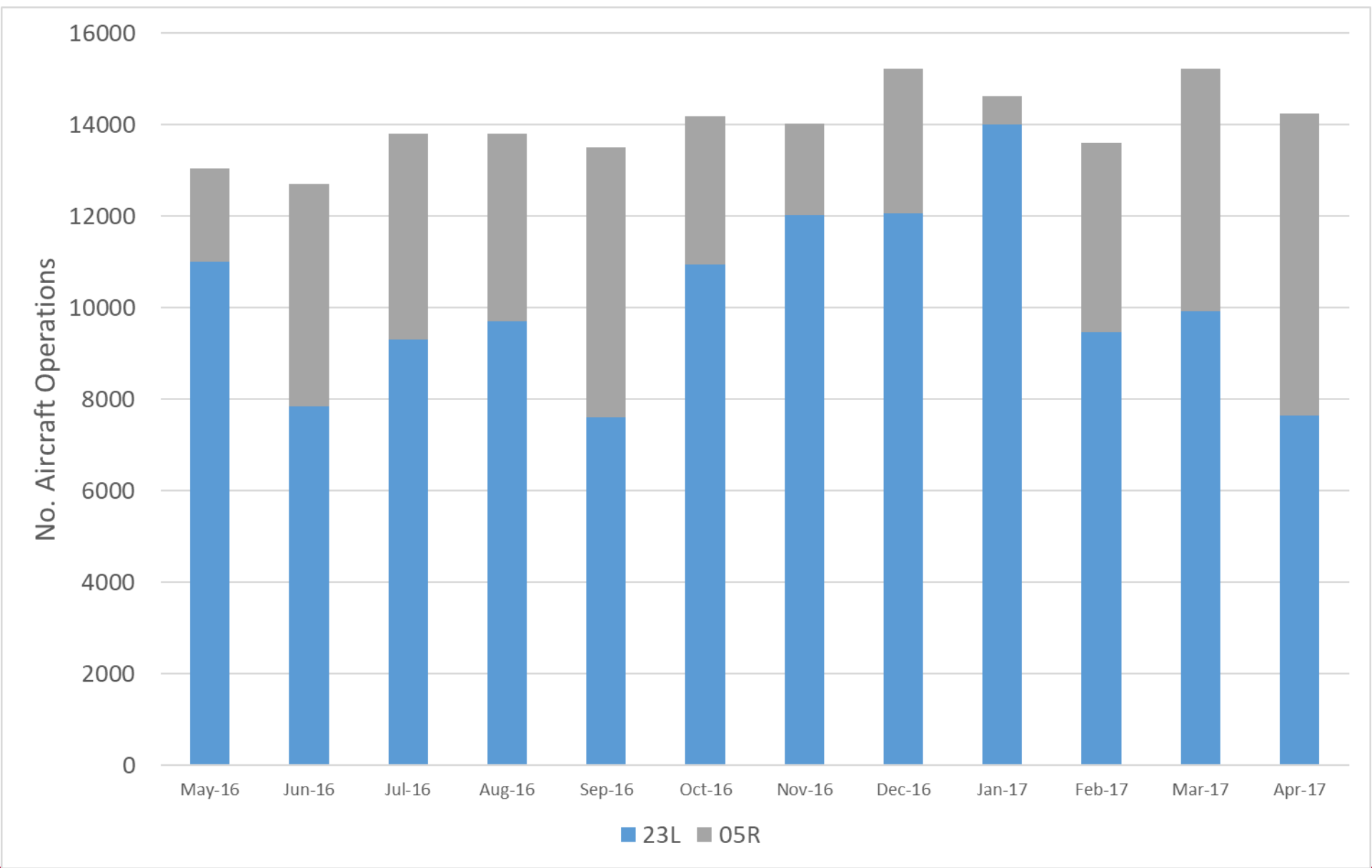


Figure 5: Aircraft Operations by Runway





Flight Path Diagrams

Figure 6: Jet Flight Paths for a Busy Runway 23L Day
97% Westerly Winds/Runway 23L

The map displays the Auckland region with various flight paths overlaid. Red lines represent landing paths, which are predominantly oriented towards the airport from the east and south. Blue lines represent takeoff paths, which radiate outwards from the airport towards the west and north. The density of lines is highest near the airport, indicating a high volume of traffic. Key locations labeled include Waiheke Island, Waiheke Island Aerodrome, Auckland, Beachlands, Auckland Heliport, Auckland International Airport, Clevedon, Ardmore Aerodrome, Papakura, Pukekohe, Buckland, Tuakau, Kelly Field, Waiuku, Muriwai, and Waimauku. Road labels include SH 1, SH 16, and SH 20. A scale bar at the bottom left shows distances of 0, 10, and 20 km. A legend at the bottom right identifies red lines as 'Landing' and blue lines as 'Takeoff'. The map is credited to OpenStreetMap contributors.

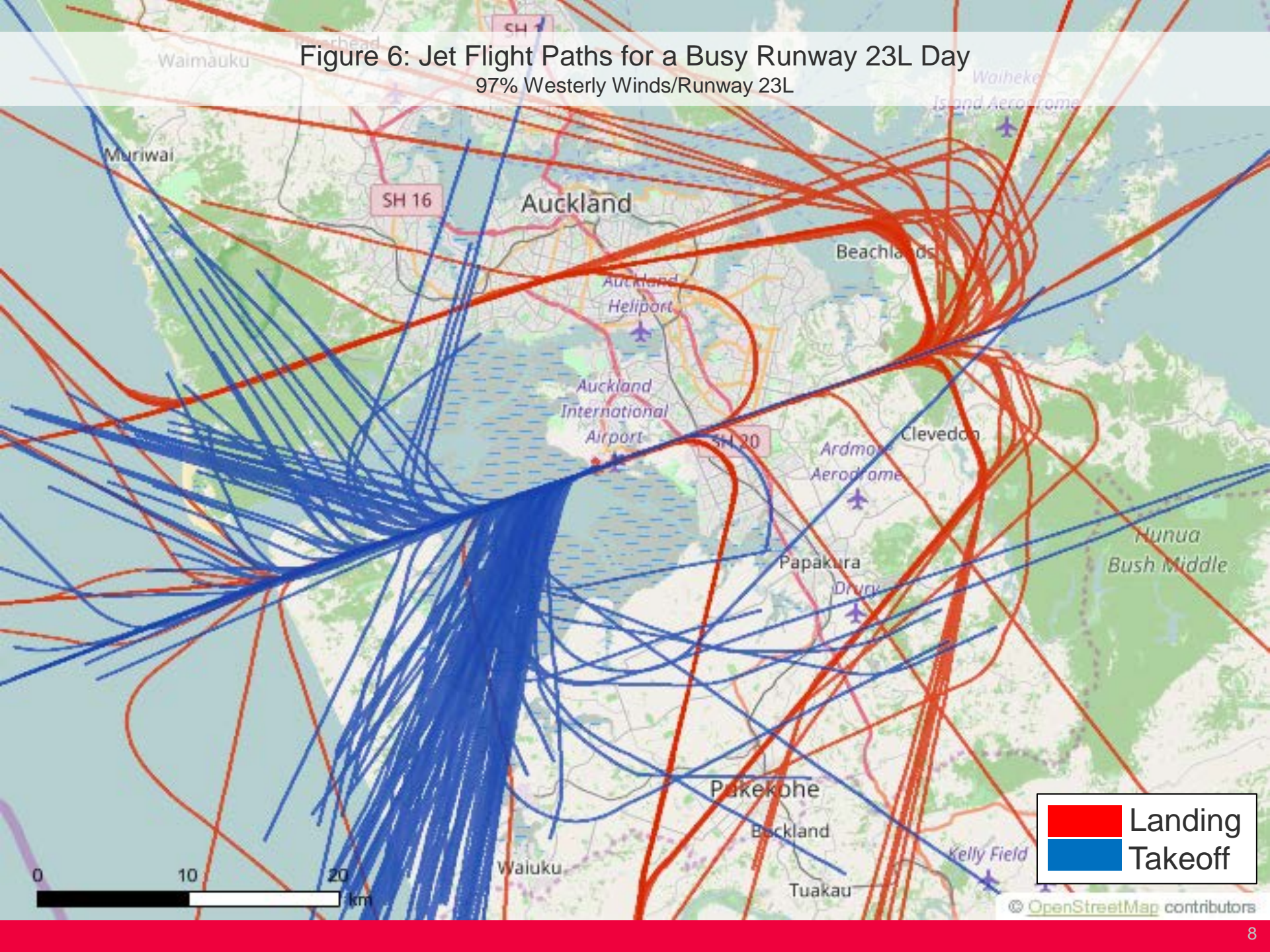


Figure 7: Turboprop Flight Paths for a Busy Runway 23L Day
97% Westerly Winds/Runway 23L

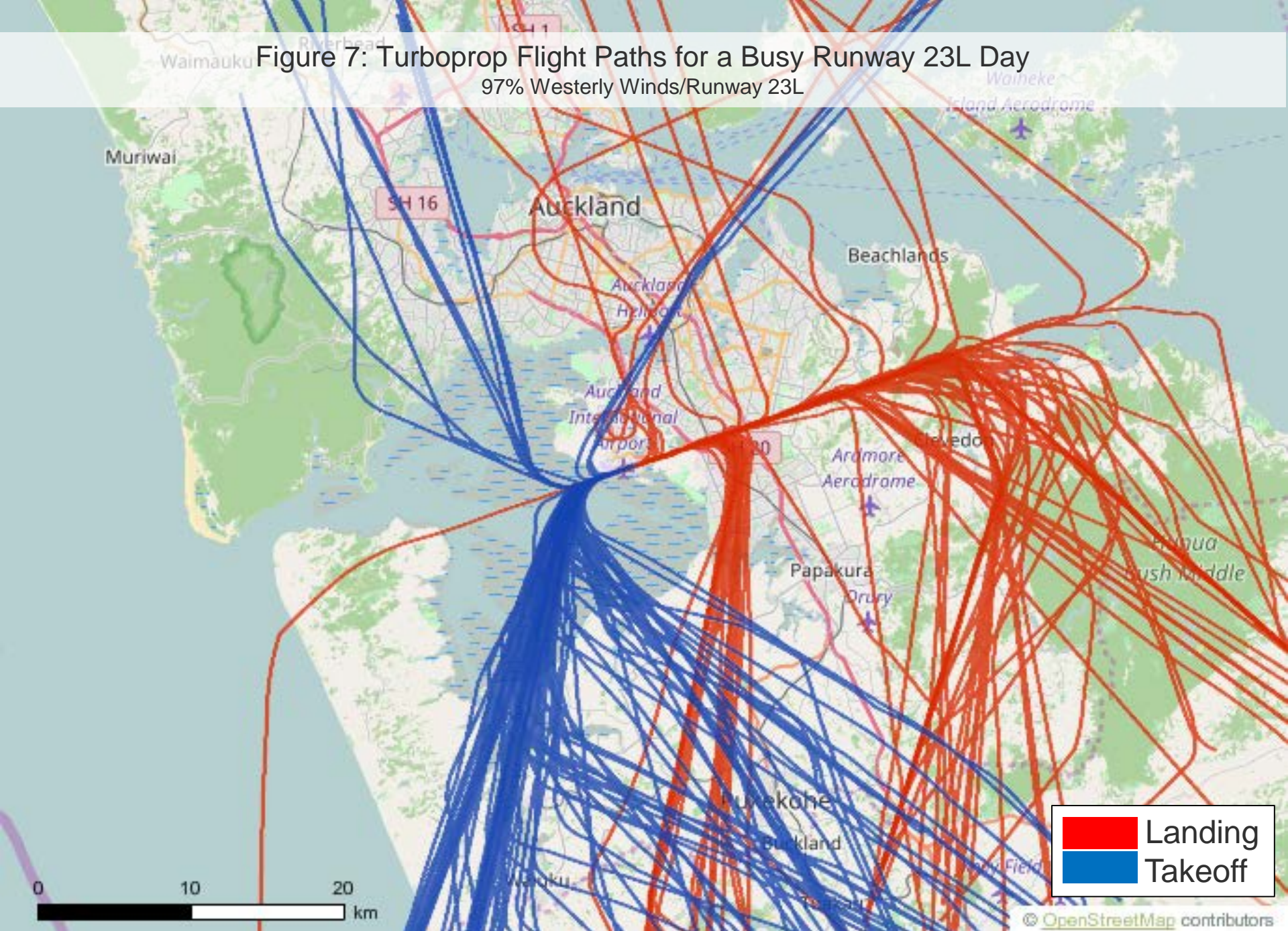


Figure 8: Jet Flight Paths for A Busy Runway 05R Day
100% Easterly Winds/Runway 05R

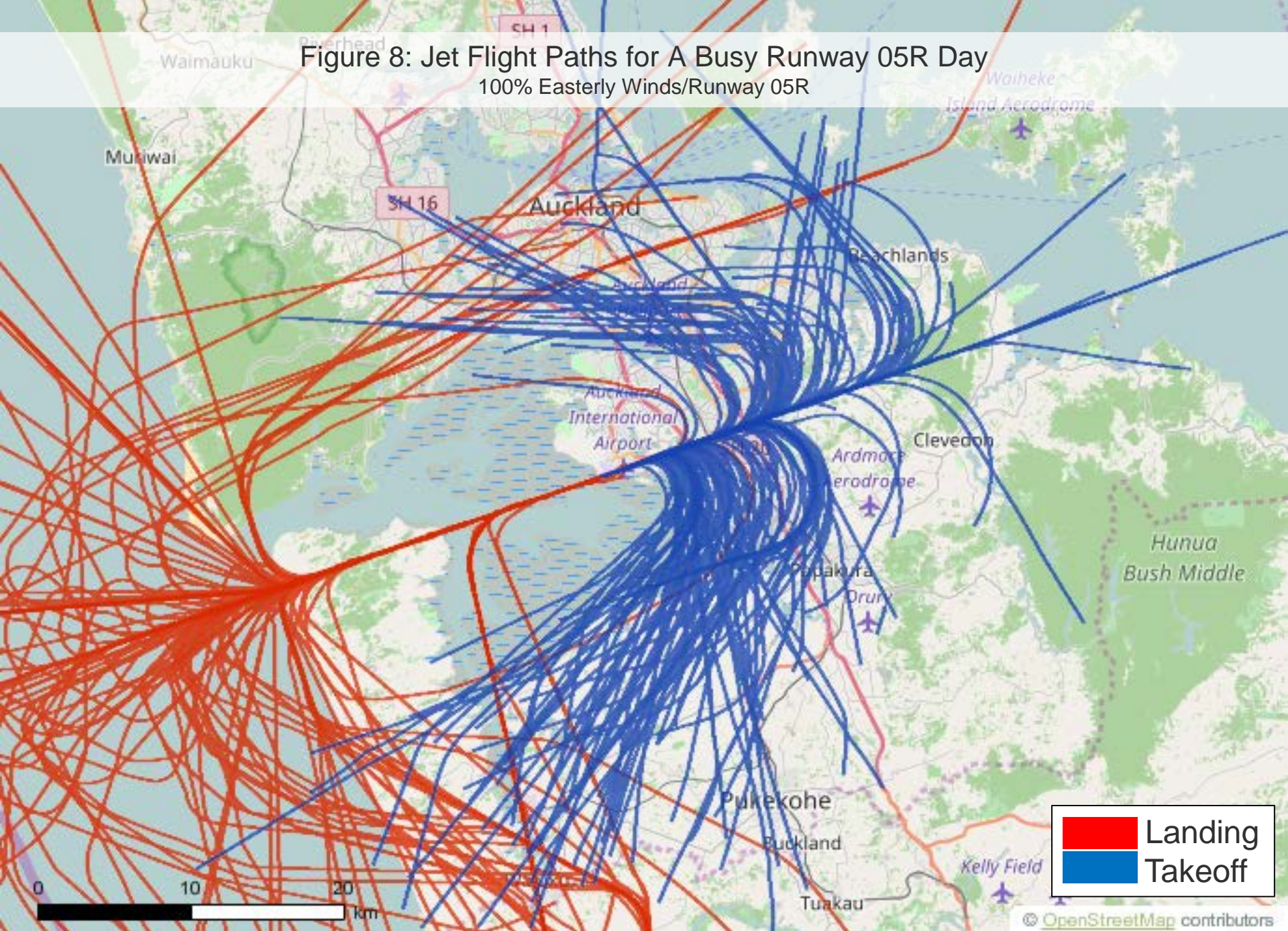
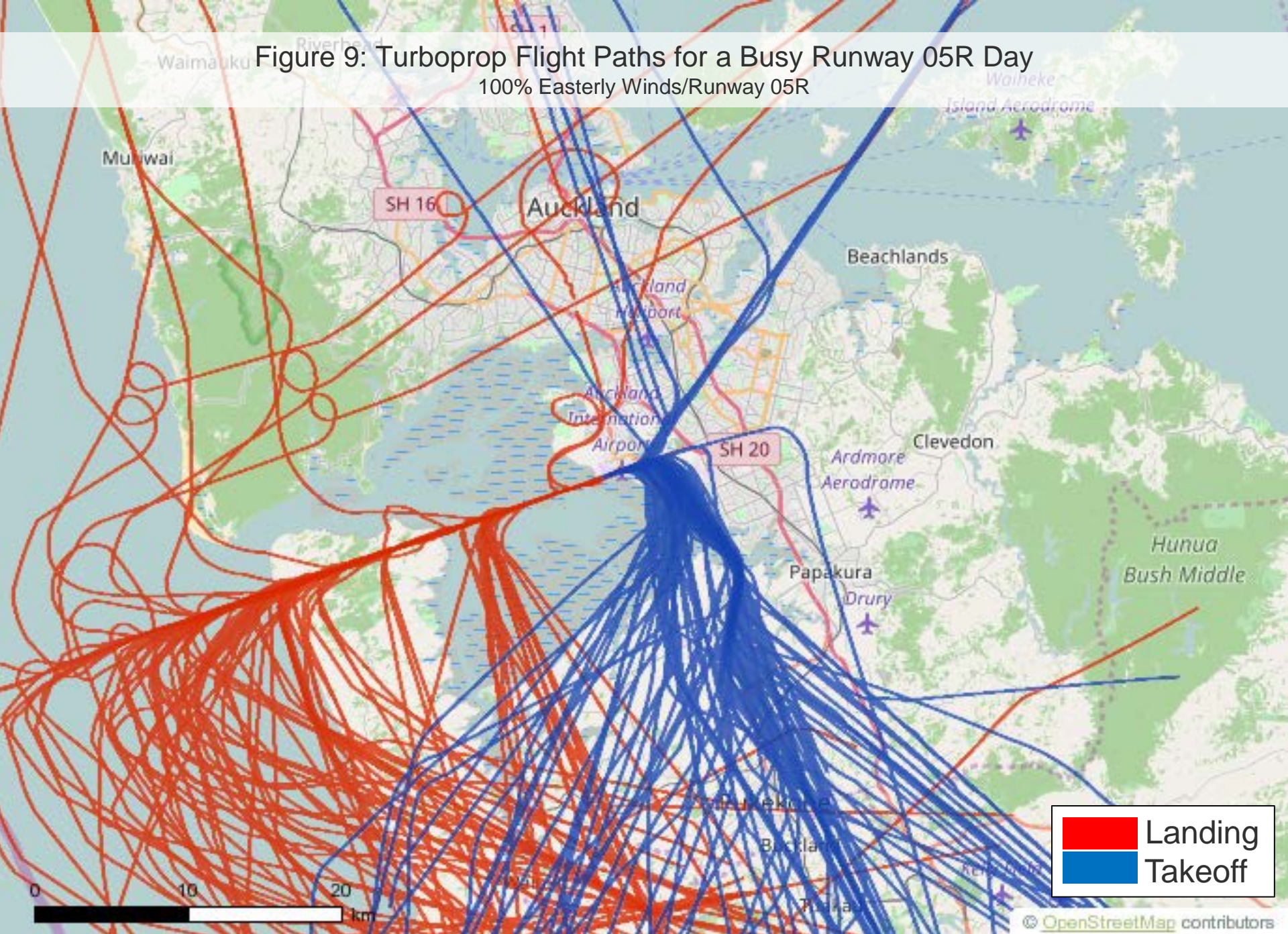


Figure 9: Turboprop Flight Paths for a Busy Runway 05R Day
100% Easterly Winds/Runway 05R





Noise Enquiries

Figure 10: Number of Aircraft Noise Enquiries per Month

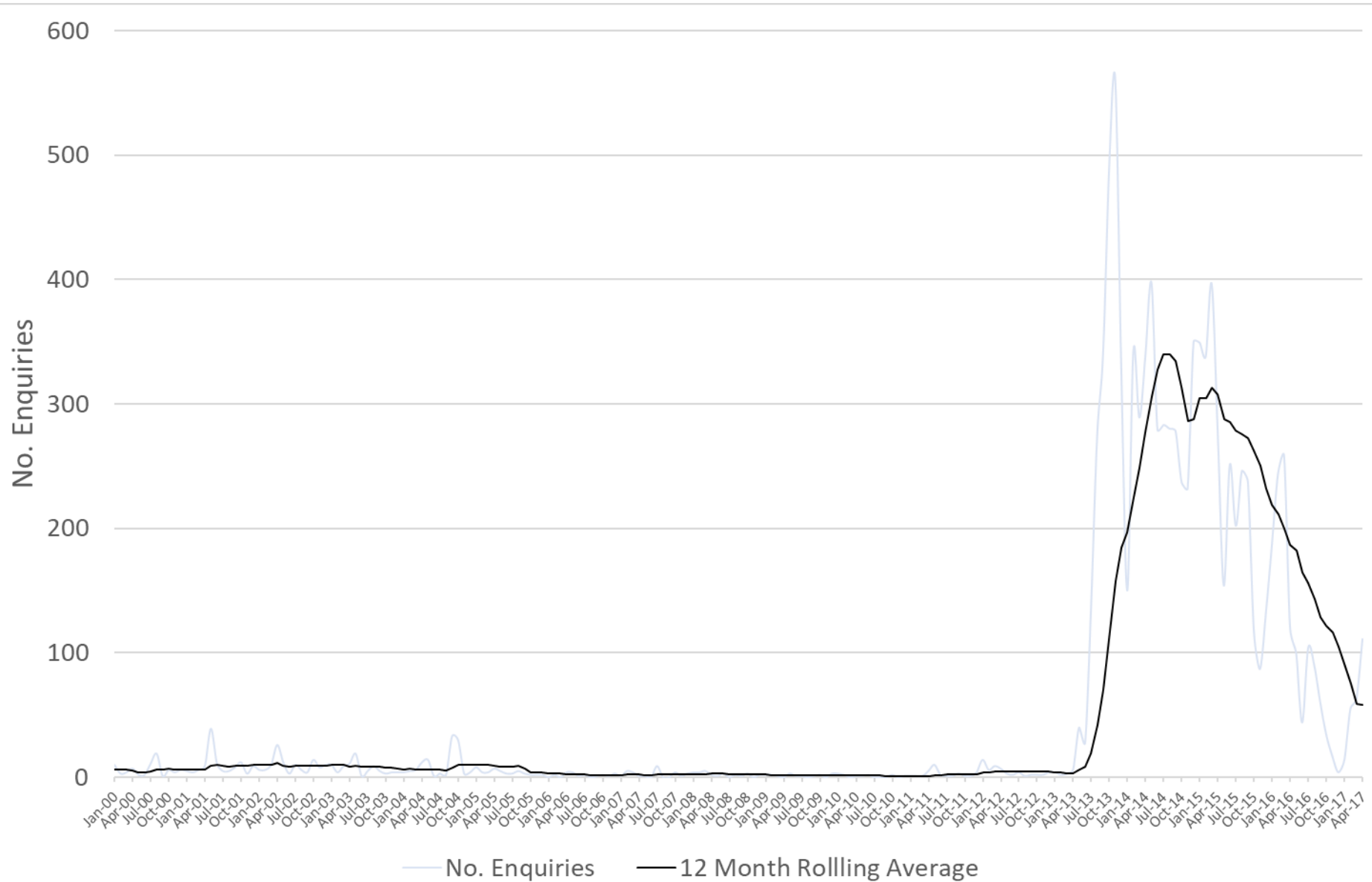


Table 3: Summary of Noise Enquiries

	Total	February	March	April
Number of Enquiries	229	55	63	111
<i>Specific</i>	198	52	46	100
<i>Generic</i>	25	3	13	9
<i>Question</i>	6	0	4	2
Number of People Enquiring	29	29	3	4

Figure 11: Map of Enquiries

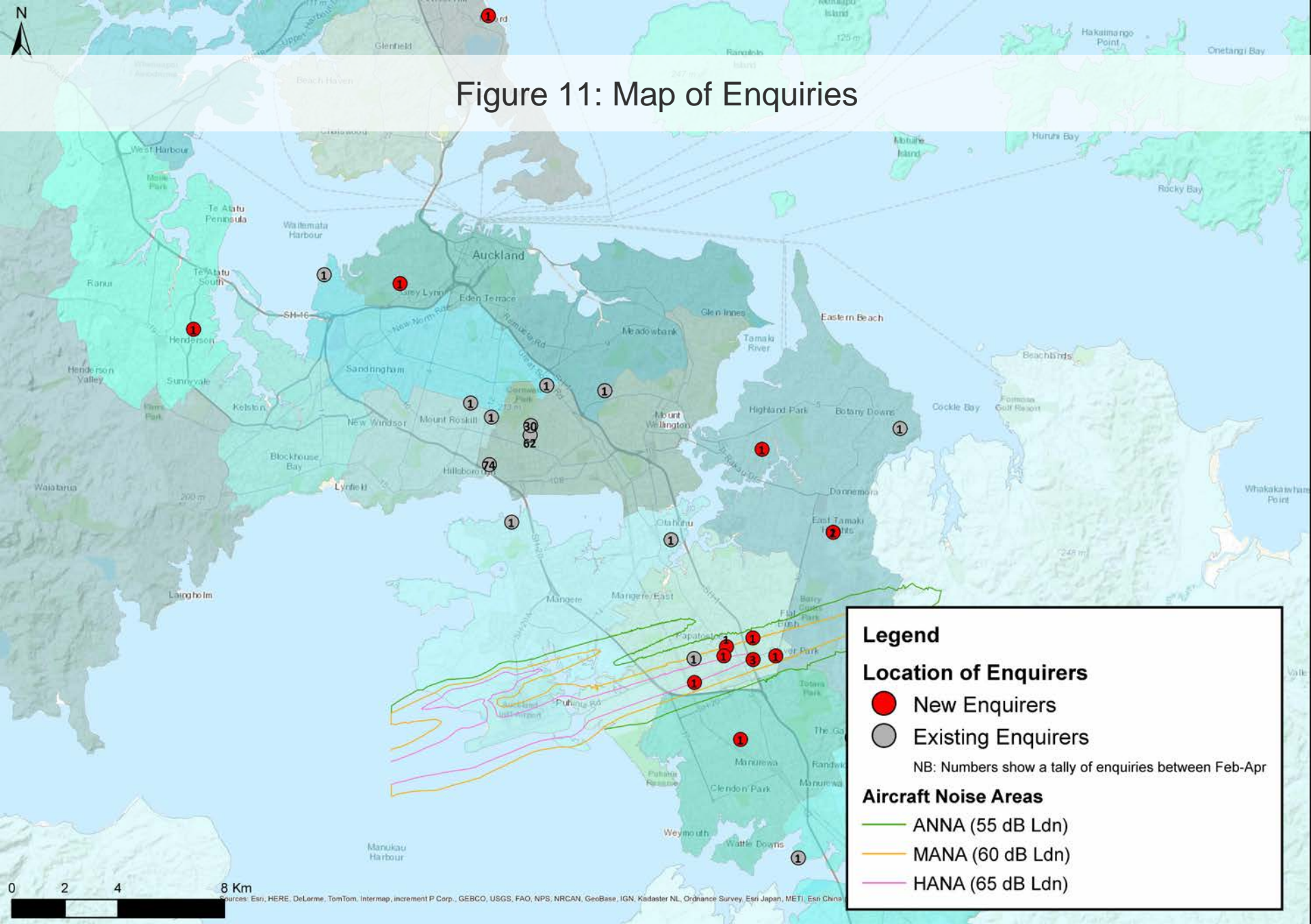


Figure 12: Number of Enquiries by Area

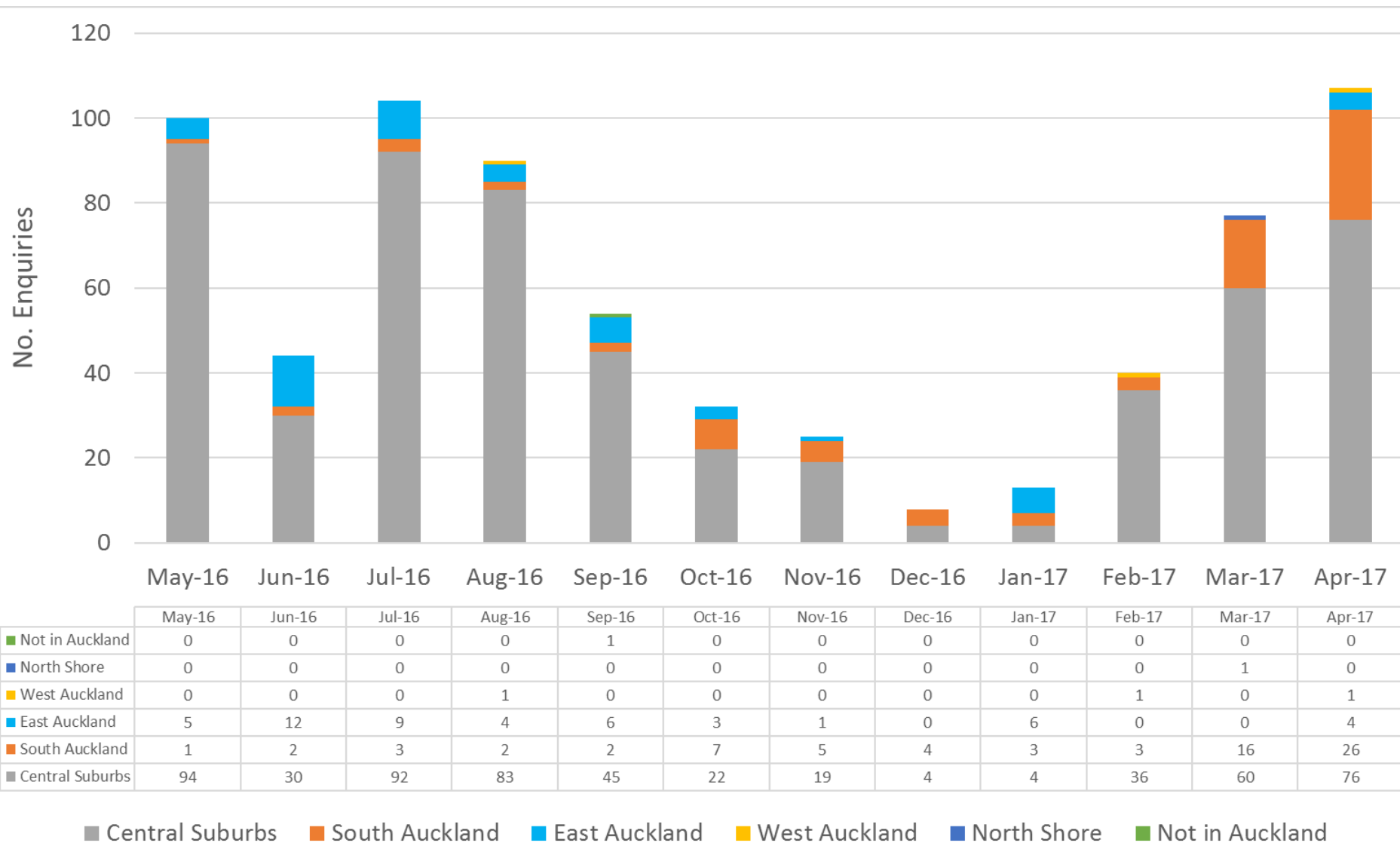


Figure 13: Noise Enquiries by Time

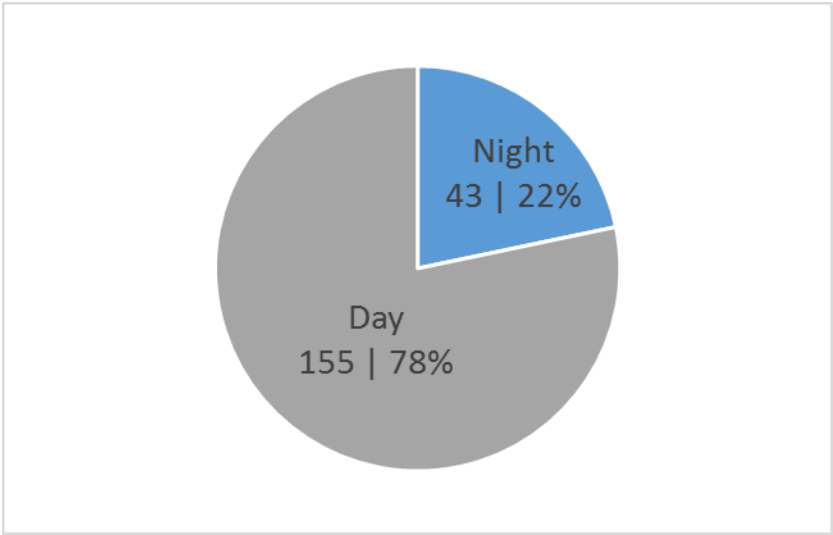


Figure 14: Noise Enquiries by Runway

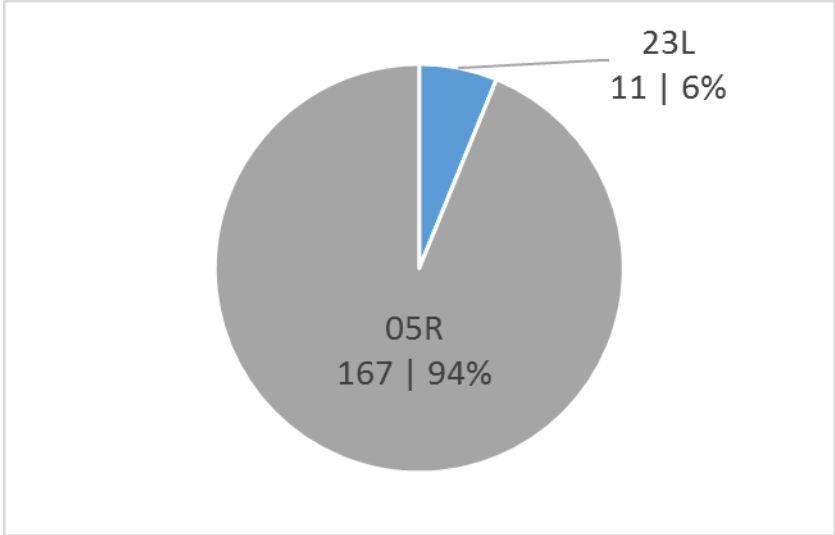


Figure 15: Noise Enquiries by Aircraft

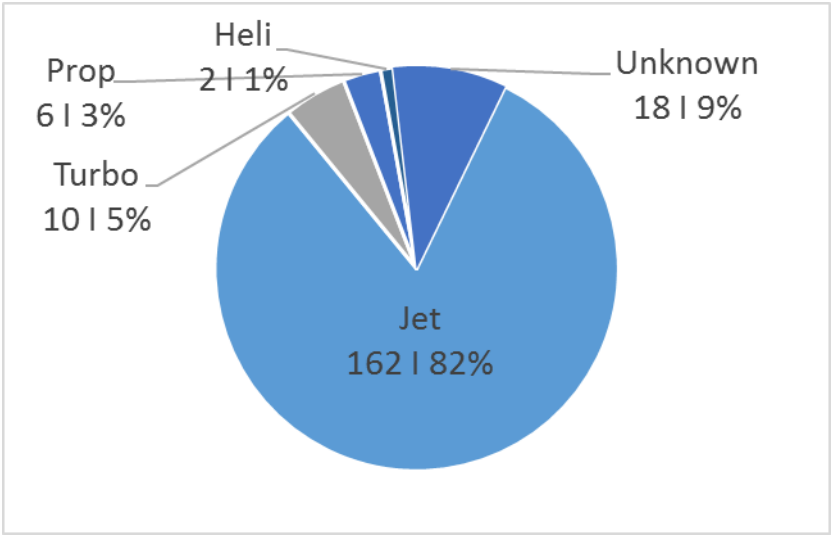


Figure 16: Noise Enquiries by Operation

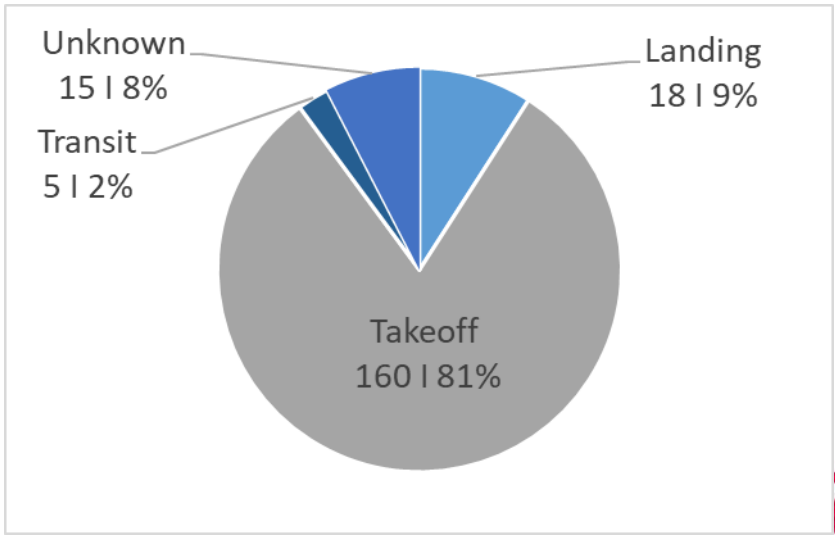


Figure 17: Noise Enquiries vs Usage of Runway 05R

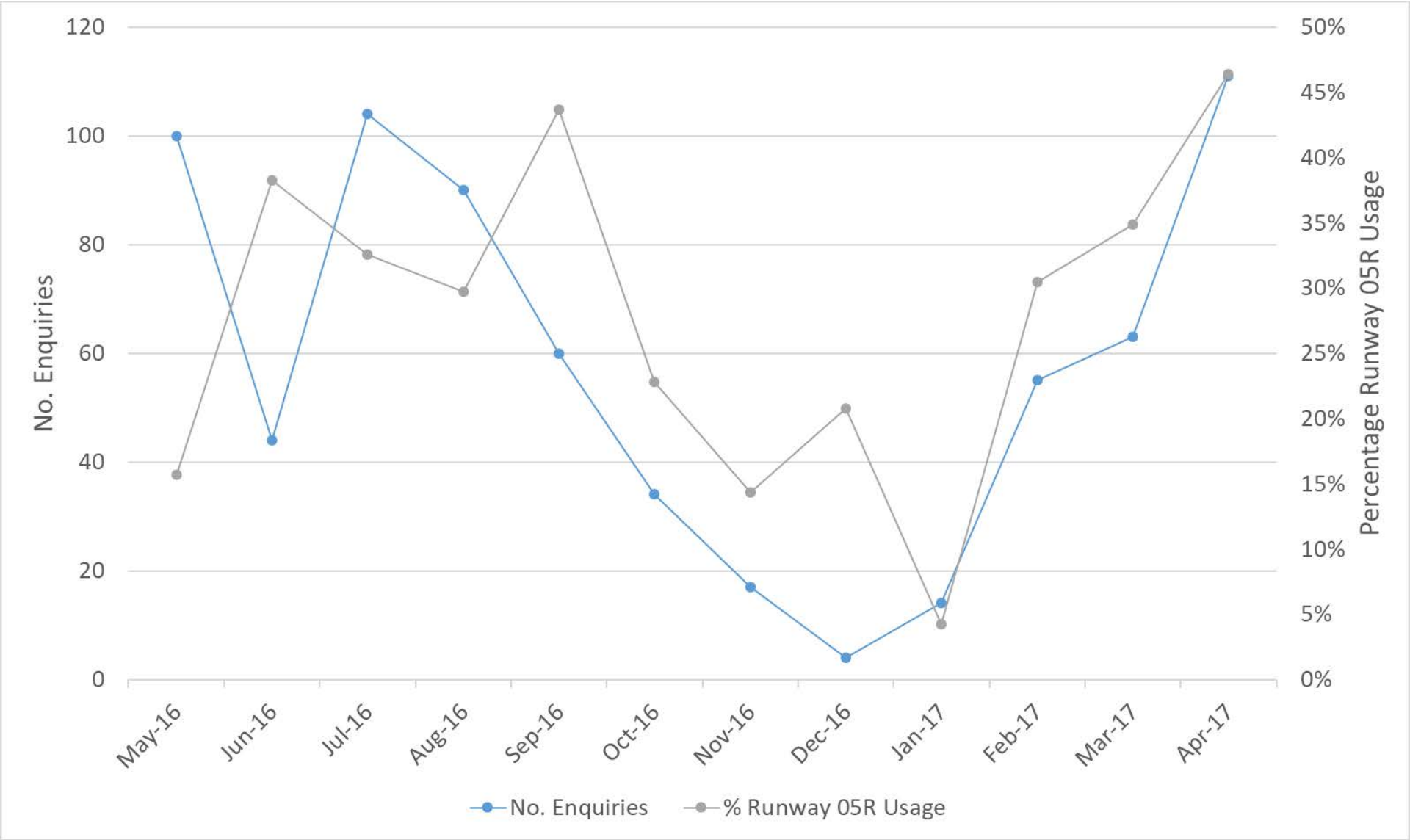


Figure 18: Noise Enquiries by Hour vs Aircraft Operations by Hour

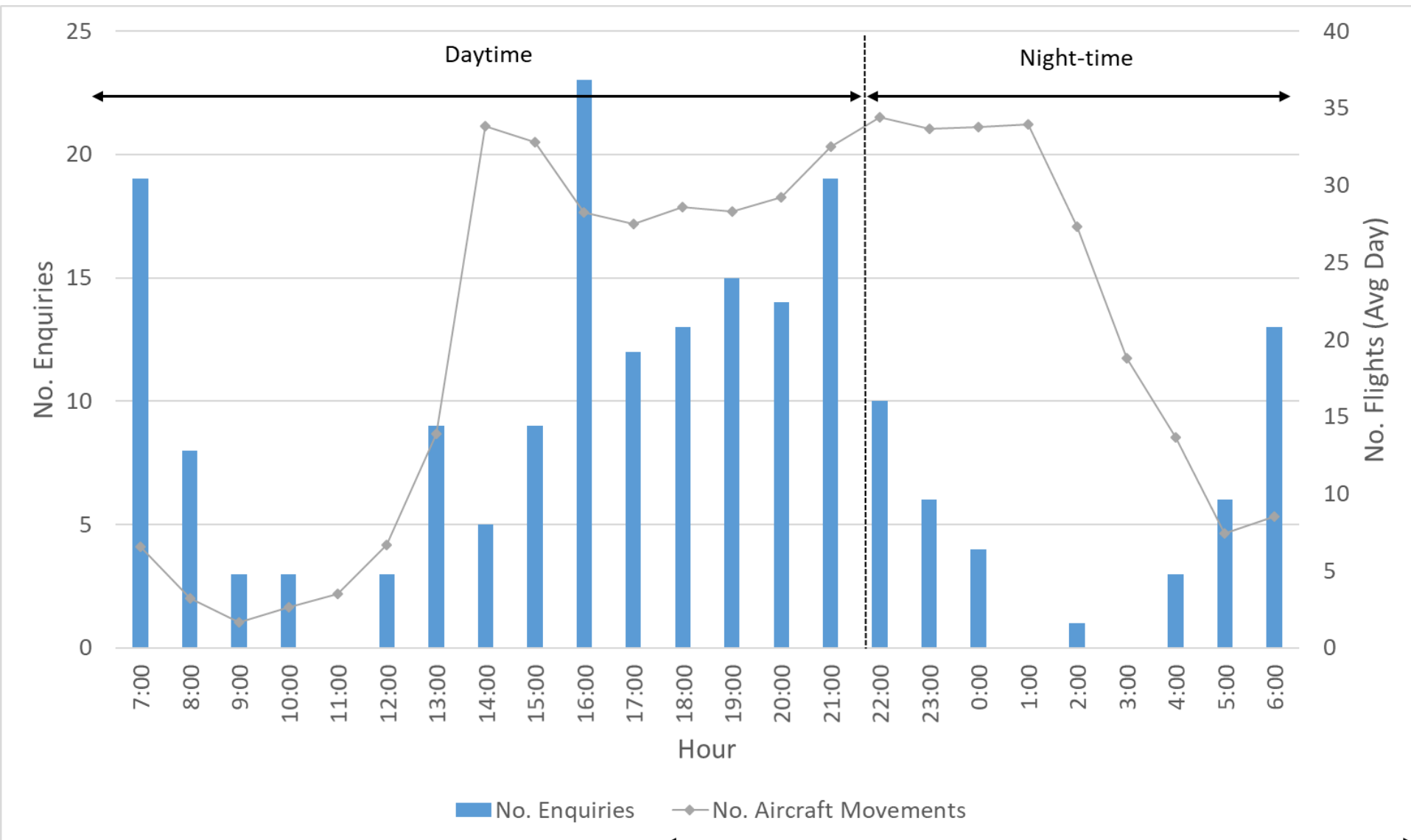
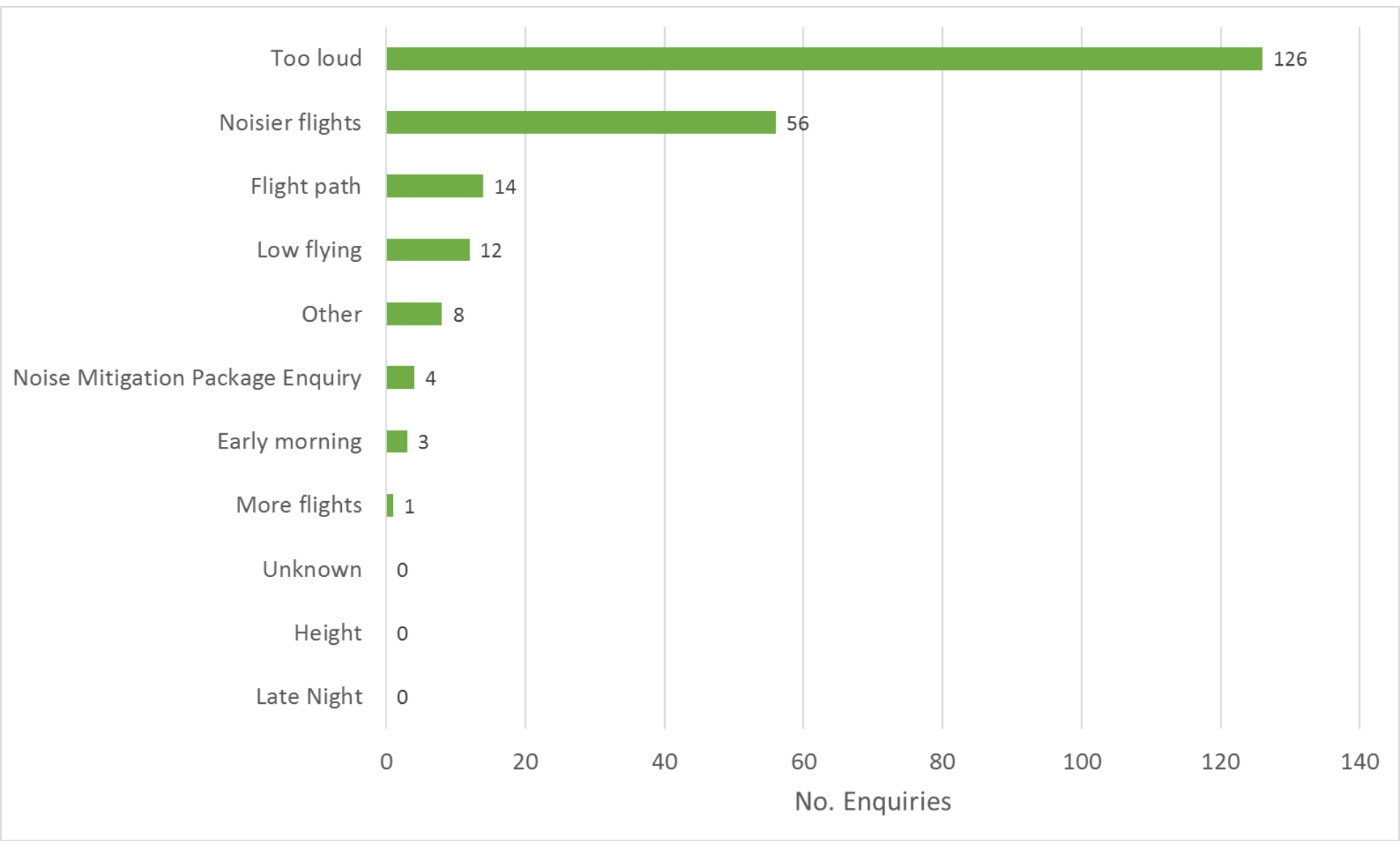


Figure 19: Noise Enquiries by Type





Noise Monitoring

Figure 21: Measured 365 Day Rolling Noise Exposure (L_{dn}) – Permanent Monitors

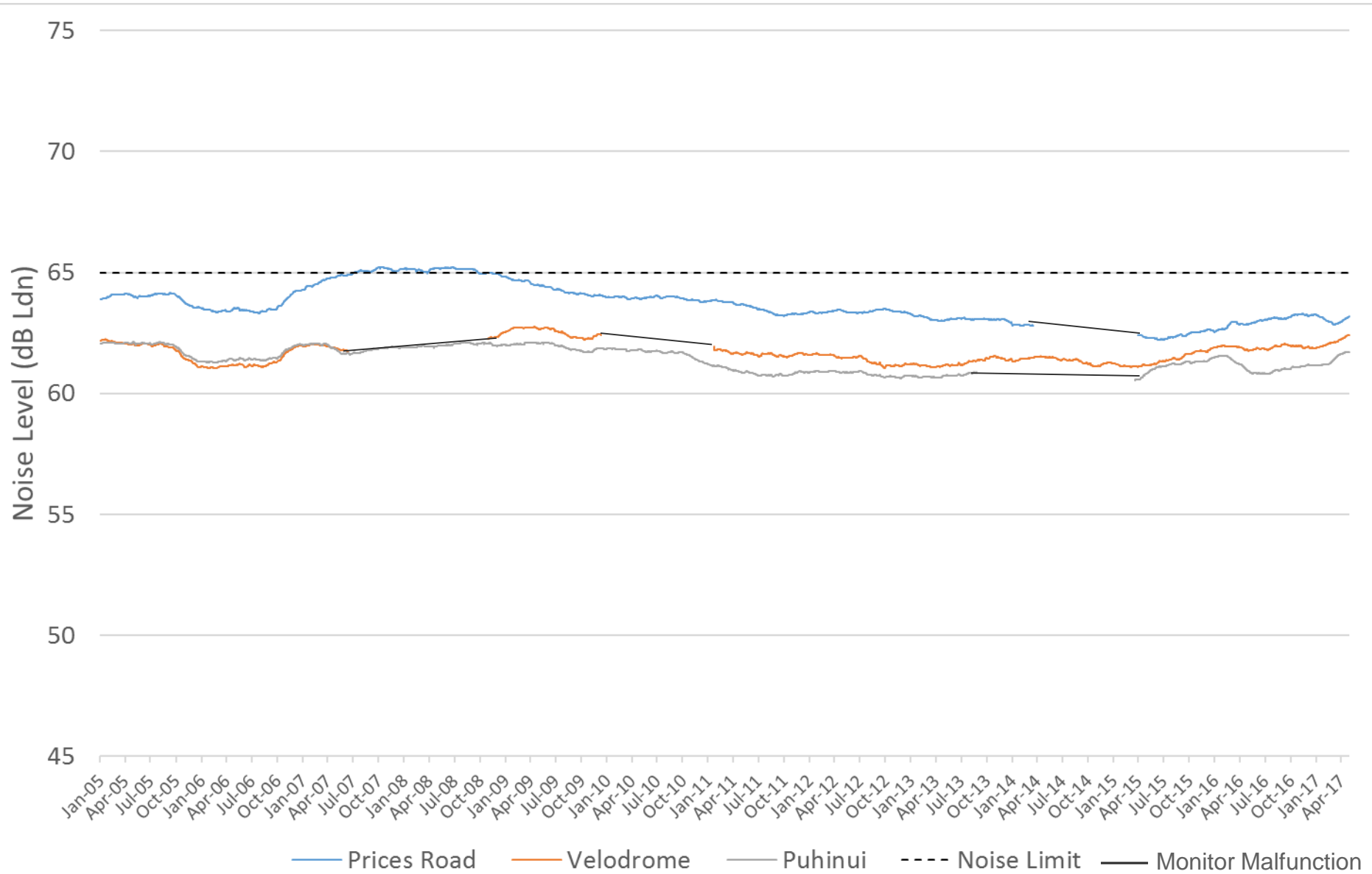


Figure 22: Number of Aircraft Noise Events in Each Noise Band - Permanent Monitors
(Lmax – Maximum Noise Level)

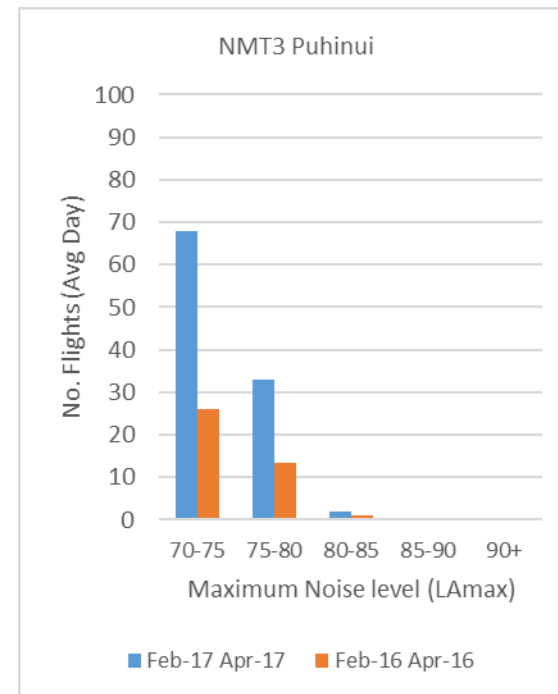
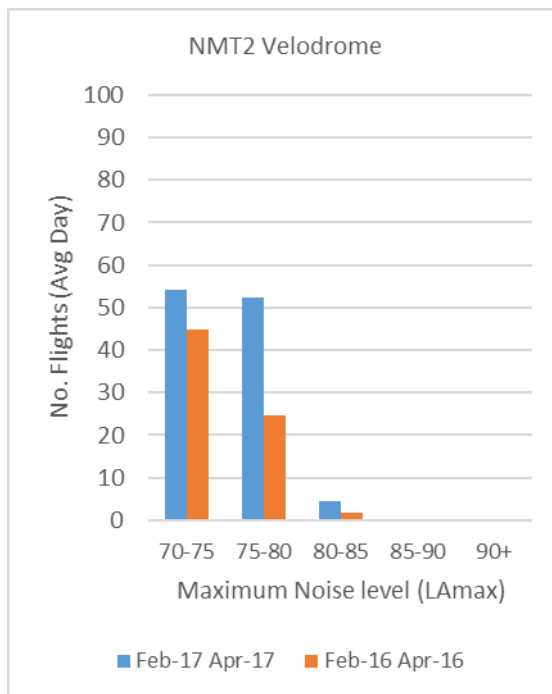
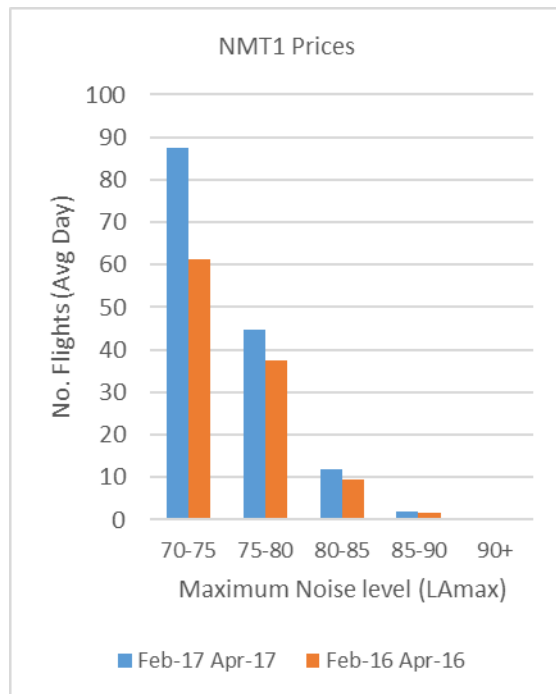


Table 4: Correlation of Aircraft Operations with Noise Events – Permanent Monitors

	NMT1 Prices	NMT2 Velodrome	NMT3 Puhinui
No. Aircraft Operations	19,653	11,955	13,307
No. Noise Events	17,355	10,305	12,701
Correlation	88%	86%	95%

Table 5: Temporary Noise Monitor Summary

	Date Deployed	Days in Field	Measured L_{dn}	Average L_{Amax}
Epsom	1-Apr-15	760	40	62
Lynfield	2-Apr-15	759	36	59
Pakuranga	9-Apr-15	752	41	65
Mt Wellington	17-Apr-15	744	40	65
Whitford	10-Jun-15	690	40	60
Eastern Beach	11-Jun-15	689	42	61
Remuera	19-Apr-16	376	34	59



Engine Testing

Figure 23: Engine Testing Monitoring Locations

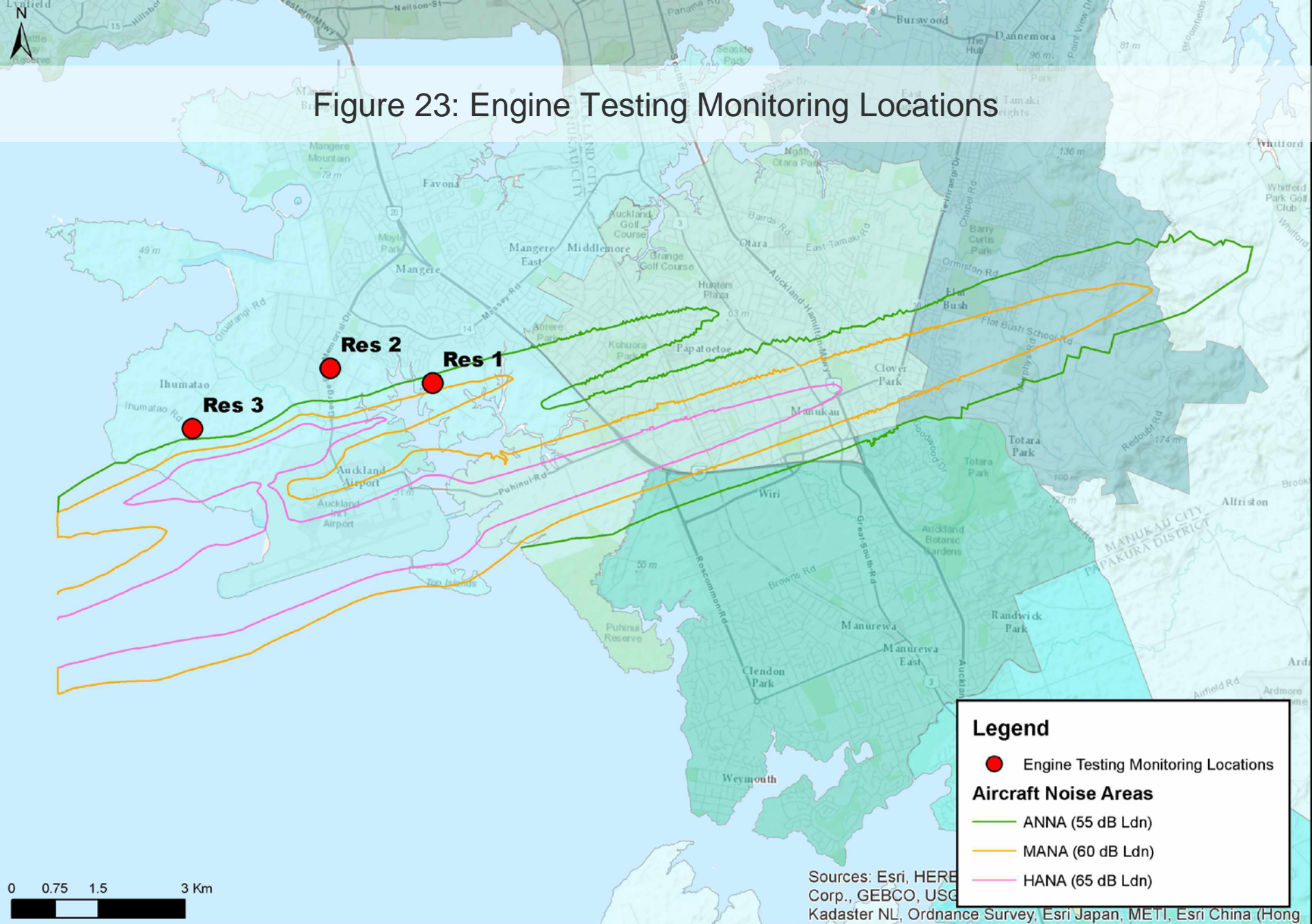
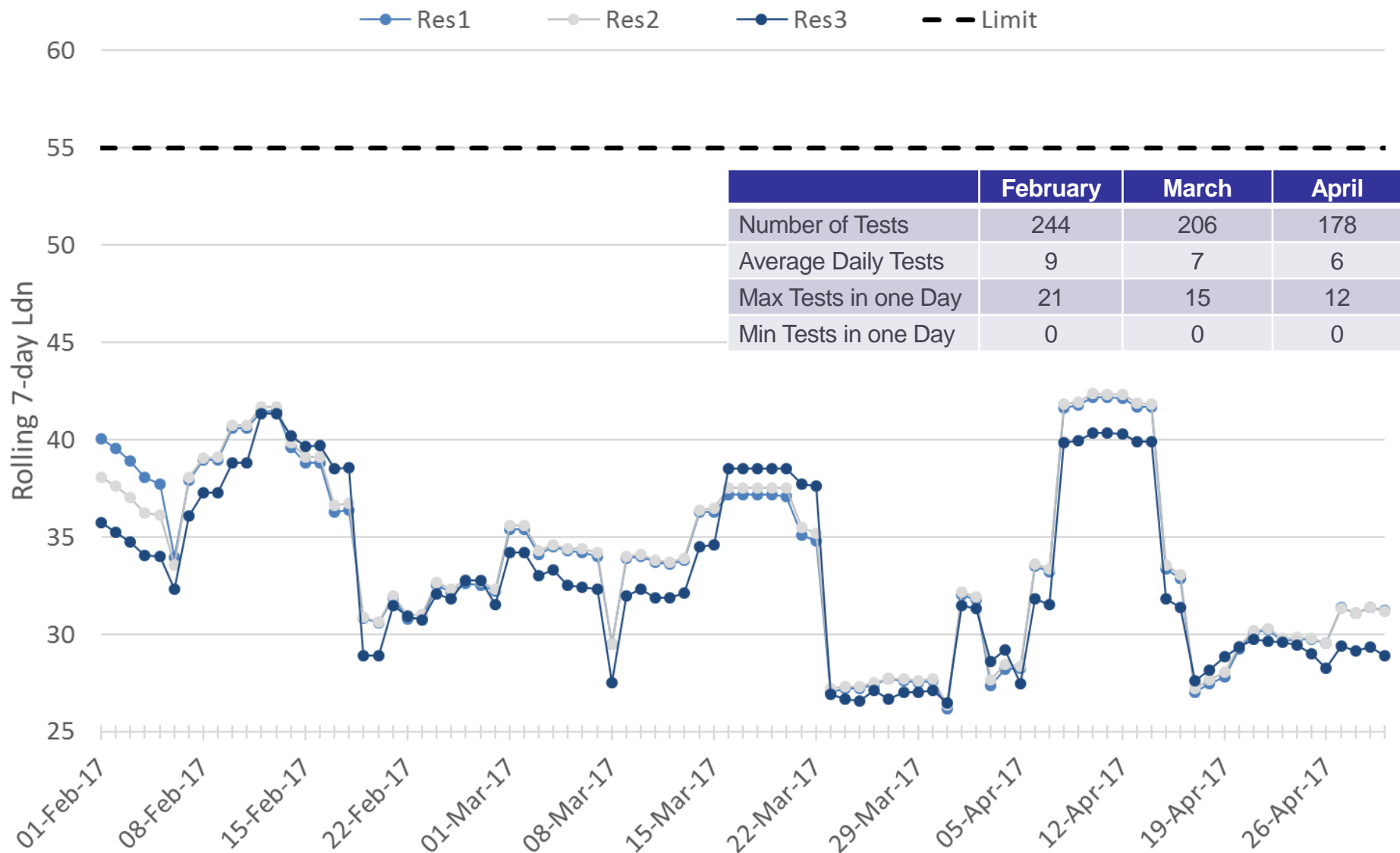


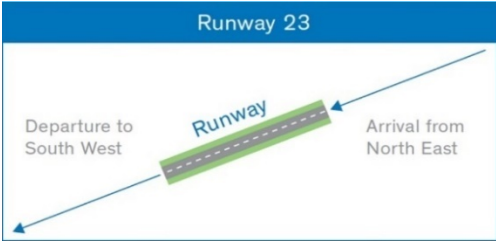
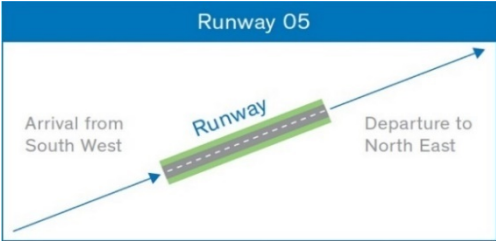
Figure 24: Engine Testing Summary



General Information



Appendix A: Glossary of Terminology

Term	Definition
Daytime	The period from 7:00am to 10:00pm
Night-time	The Period from 10:00pm to 7:00am
Runway 23L/Runway 05R	<div>Occurs in Westerly Wind Conditions</div> <div>Occurs in Easterly Wind Conditions</div>
	<div></div> <div></div>
“Terrain” Flights	Aircraft departing and arriving at Auckland Airport on the same day. Usually consists of aircraft performing scenic flights over the city.
“Transit” Flights	Aircraft overflights not associated with Auckland Airport (i.e. they do not take off or land at the Airport. Generally, aircraft associated with regional aerodromes or helicopter flights.
Enquiry Type	
“Specific” enquiry	enquiries relating to a specific aircraft overflight.
“Generic enquiry”	enquiries that don’t relate to a specific aircraft overflight but relate to noise in general.
“Question” enquiry	Not a enquiry, an enquiry to find out more information about noise related topics.
“Aircraft” Noise	Noise that is from aircraft operations only.
“Ambient Noise”	Noise that is from general ambient noise sources (cars, wind etc.). Excludes noise from aircraft operations.
L _{dn} – Noise Exposure	The average A-weighted noise level over a day/month/year with a 10 dB penalty applied to the night-time (10pm – 7am).
L _{Amax} – Maximum Noise Level	The highest A-weighted noise level which occurs during an aircraft overflight.
ANNA	Aircraft Noise Notification Area – Set at 55 dB Ldn
MANA	Moderate Aircraft Noise Area – Set at 60 dB Ldn
HANA	High Aircraft Noise Area – Set at 65 dB Ldn

Appendix B: Noise Enquiry Type

Cause	Description
Low flying	Aircraft flying at a low altitude
Too loud	Aircraft making too much noise
Early morning	Aircraft flying in the early morning
Late night	Aircraft flying late at night or overnight
Height	Aircraft flying higher or lower than usual
More flights	More aircraft overflights than usual
Noisier flights	Aircraft are noisier than usual
Flight path	Aircraft flying on a different flight path than usual
Other	The disturbance is different from those listed
Unknown	Cause not stated
Noise Mitigation Package Enquiry	Enquiry relating to the Noise Mitigation Packages

Appendix C: Suburbs by Area

Suburb	Area	Suburb	Area	Suburb	Area
Ellerslie	Central Suburbs	Clover Park	South Auckland	Beachlands	East Auckland
Epsom	Central Suburbs	Karaka	South Auckland	Bucklands Beach	East Auckland
Glendowie	Central Suburbs	Mangere	South Auckland	Cockle Bay	East Auckland
Greenlane	Central Suburbs	Mangere Bridge	South Auckland	East Tamaki Heights	East Auckland
Herne Bay	Central Suburbs	Manukau	South Auckland	Flat Bush	East Auckland
Meadowbank	Central Suburbs	Northpark	South Auckland	Howick	East Auckland
Mount Eden	Central Suburbs	Otahuhu	South Auckland	Pakuranga Heights	East Auckland
Mount Roskill	Central Suburbs	Papatoetoe	South Auckland	Whitford	East Auckland
Mount Wellington	Central Suburbs	Randwick Park	South Auckland	Anawhata	West Auckland
One Tree Hill	Central Suburbs	Shelly Park	South Auckland	Cornwallis	West Auckland
Onehunga	Central Suburbs	Somerville	South Auckland	Muriwai	West Auckland
Panmure	Central Suburbs	The Gardens	South Auckland	Takanini	West Auckland
Point Chevalier	Central Suburbs	Totara Heights	South Auckland	Titirangi	West Auckland
Remuera	Central Suburbs	Totara Vale	South Auckland	Waitakere	West Auckland
Royal Oak	Central Suburbs	Waiuku	South Auckland	Whangaparaoa	North Shore
Saint Heliers	Central Suburbs	Wattle Downs	South Auckland	Whanganui	Not in Auckland
Sandringham	Central Suburbs	Weymouth	South Auckland		
Westmere	Central Suburbs				