



Dubbo Regional Airport Australian Noise Exposure Forecast

Endorsement Document

Dubbo Regional Airport Noise Modelling

ANEF Endorsement Document

Version 0.1

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Terms and Acronyms

Term or Acronym	Definition
AEDT	Aviation Environmental Design Tool
ADS-B	Automatic Dependent Surveillance Broadcast
AIP	Aeronautical Information Package
ANEC	Australian Noise Exposure Concept
ANEF	Australian Noise Exposure Forecast
ARP	Aerodrome Reference Point
AWS	Automatic Weather Station
BITRE	Bureau of Infrastructure, Transport, Research Economics
BOM	Bureau of Meteorology
CAGR	Compound Annual Growth Rate
DAH	Designated Airspace Handbook
DEM	Digital Elevation Model
FIFO	Fly-In Fly-Out
HLS	Helicopter Landing Site
HN	Helipad North
HS	Helipad South
LA	Landings
NASF	National Airport Safeguarding Framework
N Contours	Number Above Contours
PA	Practice Approach
RFDS	Royal Flying Doctor Service
RNP	Required Navigation Performance
RPT	Regular Public Transport
RWY	Runway
SG	Stop-and-Go
SRTM	Shuttle Radar Topography Mission
TG	Touch-and-Go
TO	Take-Off
TWY	Taxiway

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1 Introduction

Dubbo Regional Council requested that To70 Aviation Australia (To70) develop a 20-year forecast Australian Noise Exposure Concept (ANEC) and number-above contours (N-contours) for the planned extended 2,200-metre runway at Dubbo Regional Airport and additional N-contours for current operations.

To70 produced the airport noise contours using Aviation Environmental Design Tool (AEDT) version 3e, the current version Airservices Australia (Airservices) uses for Australian Noise Exposure Forecast (ANEF) technical endorsement. AEDT is a computer noise prediction model developed by the U.S. Federal Aviation Administration for airport noise assessments worldwide and is used as standard in Australia.

This report outlines the methodology and key assumptions underpinning the Australian Noise Exposure Concept (ANEC).

1.1 ANEC Scenario

The draft ANEC developed for Dubbo Regional Airport is based on extending Runway 05/23 to 2,200 metres at the eastern end, with a 20-year forecast.

2 Inputs and Assumptions for ANEF Modelling

This section provides details of the general settings of the AEDT model as well as the input and assumptions used for the noise calculations.

Table 1 shows the provided inputs and Table 2 shows the person/persons responsible for the assumptions that formed the basis of this document, which is detailed below.

Table 1: Provided Inputs

Description	Received from	Date
Avdata 2010-2024.xlsx	Dubbo Regional Council	30/01/2025
Australian Aircraft Activity 2014-2023.xlsx Airport Traffic Data 1985-86 to 2023-24—XLSX	Bureau of Infrastructure and Transport Research Economics	10/02/2025
Avdata 2019-2024.xlsx	Avdata Australia	10/02/2025
Flight Radar tracks	Flight Radar 24	02/04/2025

Table 2: Person responsible for assumptions

Section	Developed By	Data Used	Approved By
Helipad Coordinates	Dubbo Regional Council and To70	Flight Radar tracks and helicopter coordinates provided by Council	Matthew Linsley-Noakes
Aircraft Types	To70	Avdata 2019-2024.xlsx	Matthew Linsley-Noakes
Forecast	To70	Avdata 2010-2024.xlsx Avdata 2019-2024.xlsx Australian Aircraft Activity 2014-2023	Matthew Linsley-Noakes
Runway Usage	To70	Avdata 2019-2024.xlsx BOM Wind Rose data	Matthew Linsley-Noakes
Modelled Tracks	To70	Flight Radar 24 & Airservices Circuit Diagram	Matthew Linsley-Noakes
Day/Night Split	To70	Avdata 2019-2024.xlsx	Matthew Linsley-Noakes

2.1 General Settings

2.1.1 Aerodrome Reference Point (ARP)

The Dubbo ARP was taken from the Airservices Aeronautical Information Package (AIP) and is shown below in Table 3.

Table 3: ARP

Description	Latitude	Longitude	Elevation (ft)
ARP	-32.216667	148.574722	935

2.1.2 Runway and Helipad Coordinates

Runway coordinates were taken from the AIP Designated Airspace Handbook (DAH). For the extended runway, the estimated coordinates were determined by extending the existing runway 23 by 492 metres to the north-east. The runway end coordinates for the 20-year forecast are shown in Table 4.

Table 4: Runway end coordinates for 20-year forecast

Description	Latitude	Longitude	Length x Width (m)	Elevation (ft)
Runway 05	-32.2228	148.56884	2200x 45	934
Runway 23 Extension	-32.2110735702	148.58767520		901
Runway 11	-32.21436	148.57344	1067 x 18	909
Runway 29	-32.21904	148.58335		925

Dubbo Regional Council identified five helicopter landing sites (HLS) around the airport, shown in Figure 1. However, flight tracks sourced from Flight Radar 24 showed a variation of HLS, as shown in Figure 2. To70 and the Council agreed to utilise two primary helipad locations: Helipad North (HN) and Helipad South (HS), shown in Figure 2, where flight track data is concentrated. HN is based on the concentration of flight radar tracks near HLS 1 and accounts for those who utilise HLS3 and HLS4. HS is on the northern side of TWY B, where all helicopters pass through to locations HLS 2 and HLS 5. These sites align with helicopter operations as helicopters predominantly utilise the runways for take-off and landings. The helipad coordinates for AEDT are shown below in Table 5.

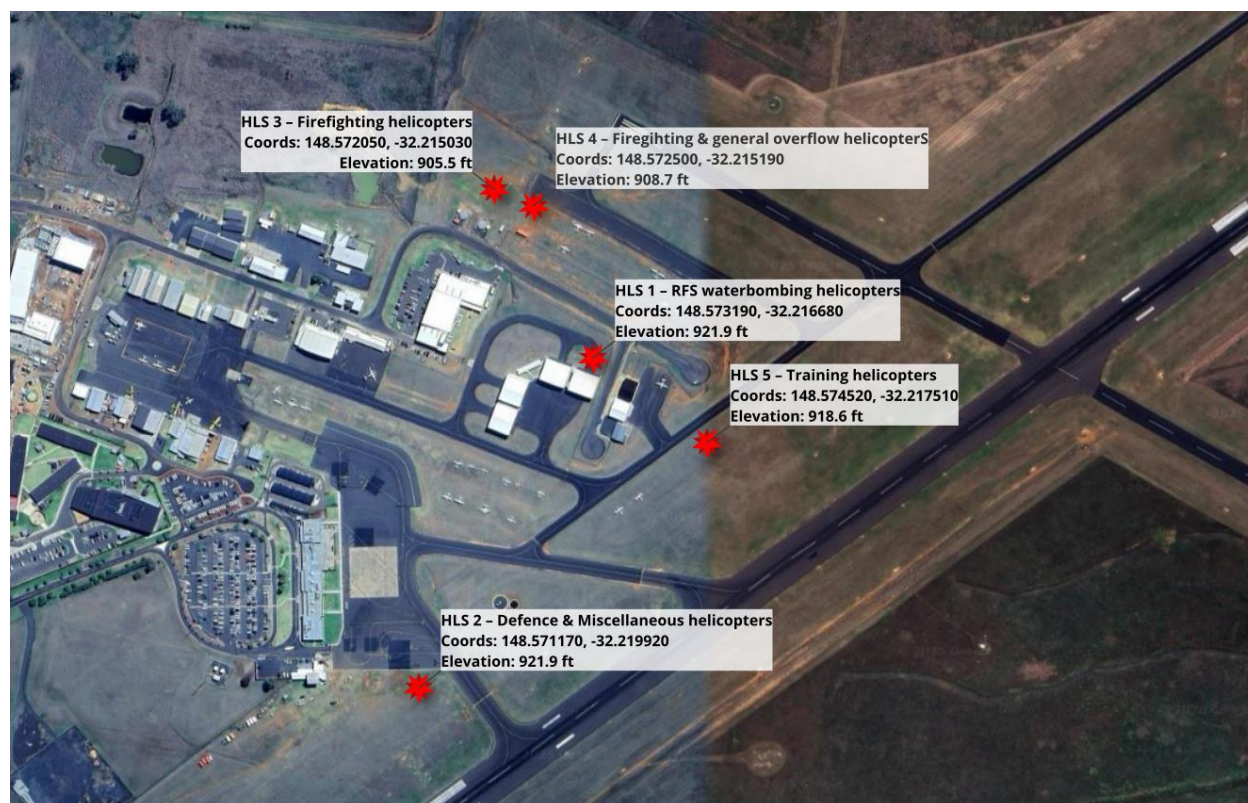


Figure 1: HLS from Dubbo Regional Airport

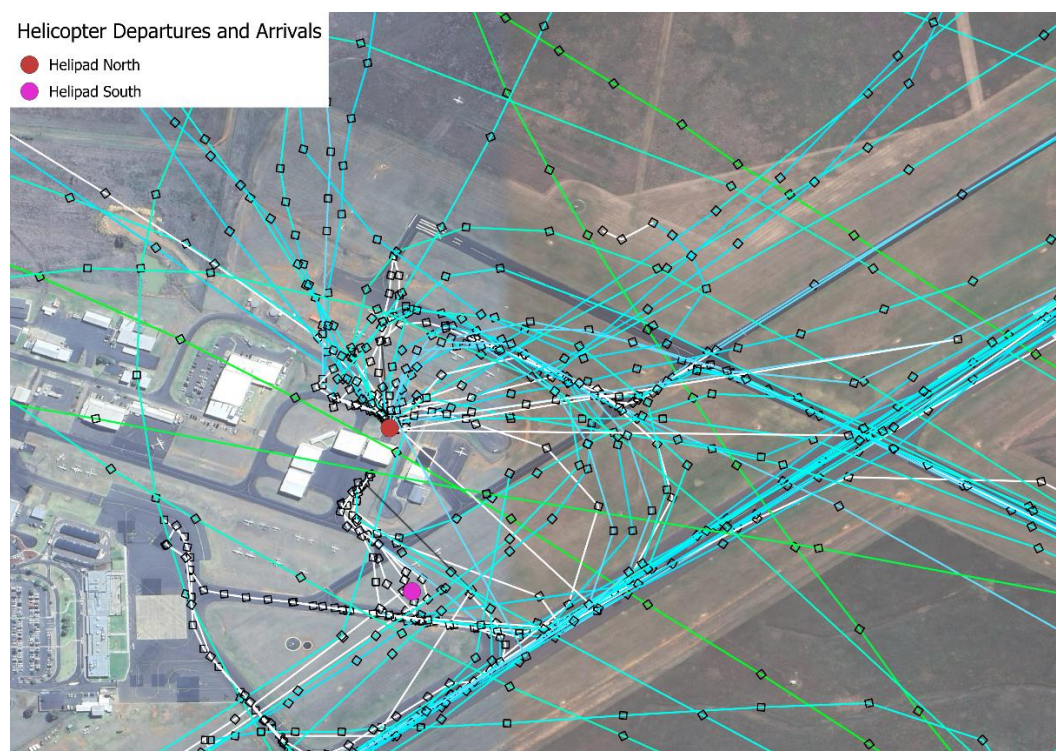


Figure 2: Helicopter departures and arrivals

Table 5: Modelled helipad coordinates

Description	Latitude	Longitude	Elevation (ft)
HN	-32.21667263	148.57319736	921.9
HS	-32.21849511	148.57344637	921.9

2.1.3 Airport layout

The airport layout of Dubbo Regional Airport is shown below in Figure 3, as taken from the AIP as of 21 March 2025. According to the 2020 Master Plan and Strategic Plan, as shown in Figure 4, the airport plans to extend runway 05/23 to the east, reaching a total length of 2,200 metres. Therefore, the airport has requested that the noise modelling account for the scenario where the extended runway is in place.

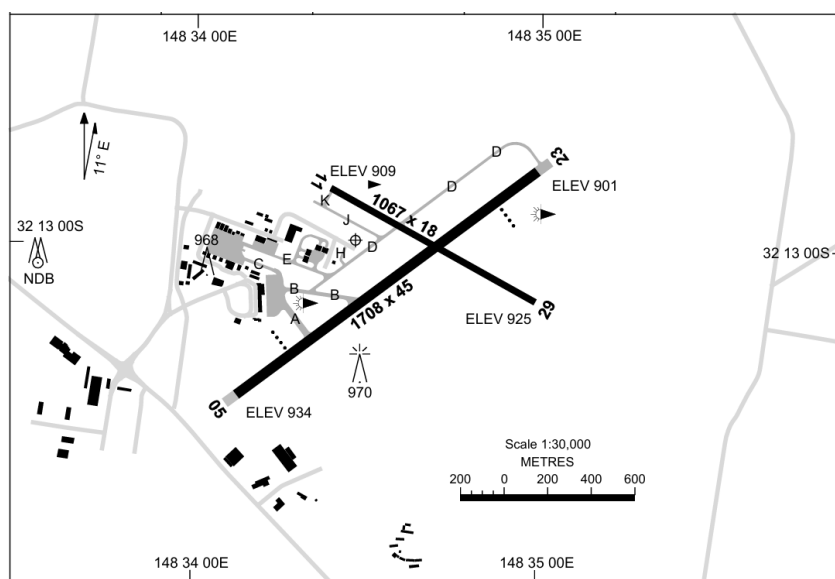


Figure 3: Dubbo Aerodrome Chart (Source: AIP, 21 March 2025)

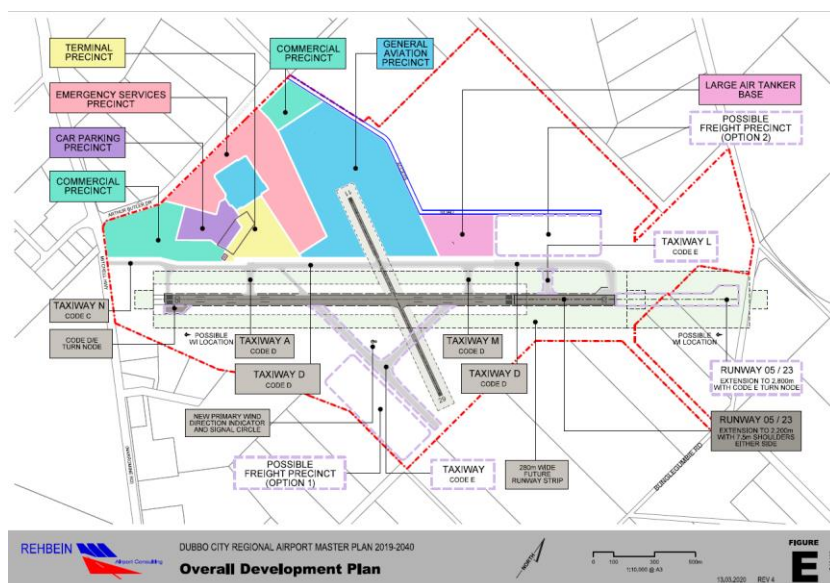


Figure 4: 05/23 Runway extension as per 2020 Master Plan

2.1.4 Weather

The weather parameters were sourced from the Bureau of Meteorology (BOM) Dubbo Regional Airport Automated Weather Station (AWS), station 065070. To70 gathered the monthly average 09:00 and 15:00 (local time) weather observations for temperature, pressure, humidity, and wind from March 2024 to February 2025. The weather data collected was averaged over the twelve-month period to determine the weather setting input for AEDT, as shown in Table 6.

Table 6: AEDT weather settings

Parameter	Value
Temperature	20.63°C
Pressure	1017.92 hPa
Relative Humidity	56.41%
Headwind	16.08 km/h

2.1.5 Terrain

Local terrain data (bare-earth digital elevation model or DEM) has been sourced from NASA's Shuttle Radar Topography Mission (SRTM) and was obtained through Geoscience Australia. The 1-second SRTM DEM-S data is then imported into AEDT as part of the modelling process.

2.1.6 Receptor set

To70 ran the ANEF with a receptor set that had a spacing of 25m and a grid size of 10km by 10km.

2.2 Input and assumptions

2.2.1 Traffic forecast

Dubbo Regional Council provided To70 with aggregated flight information data for the period 2010-2024 and more detailed flight data for the period 2019-2024, both sourced from Avdata. To70 also utilised Bureau of Infrastructure, Transport, Research Economics (BITRE) Airport Traffic Data 1985–86 to 2023–24. The following analysis formulated the baseline of the forecast:

- The 2024 Avdata data contained 6,620 landings (LA) excl. regular passenger transport (RPT), which was doubled to account for take-off (TO) to a total of 13,240 operations.
- The 2024 Avdata data showed 2,297 circuit operations for Dubbo Regional Airport.
- BITRE data showed 7,745 RPT operations for FY24.

Based on this data, Dubbo Regional Airport recorded 23,282 operations in 2024. Circuit operations were doubled to determine the number of movements; thus, the total number of movements for Dubbo Regional Airport in 2024 was 25,579. It is important to note that circuit operations include touch-and-go (TG), stop and go (SG), and practice approach (PA).

To meet the requirement for a 20-year forecast, To70 conducted an analysis approved by Dubbo Regional Council. This analysis utilised BITRE trends to determine compound annual growth rates. Due to differences between BITRE categories and those used for this noise model, Table 7 provides a detailed breakdown of the BITRE categories.

Table 7: BITRE operation category

Aviation Sector	Operation Category	Specific Operation Activity
Commercial air transport	Scheduled	International
		Domestic
		Scheduled freight only
	Non-scheduled	Passenger transport charters
		Air ambulance
		Non-Scheduled freight only
		Other commercial air transport
General Aviation	Aerial work	Agricultural spreading/spraying
		Agricultural mustering
		Agriculture - other
		Construction - sling loads
		Construction - other
		Photography
		Pipeline or powerline surveying
		Other surveying
		Observation and patrol
		Search and rescue
		Policing
		Firefighting
		Advertising

		Other aerial work
	Own Use Business	Own business travel
	Instructional flying	Instructional flying - commercial
		Instructional flying - non-commercial
	Sport & pleasure flying	Glider towing
		Parachute dropping
		Aerobatics
		Joy flights/sightseeing charters
		Sport & pleasure flying
		Community service flights
		Other sport and pleasure flying
	Other flying	Test flights
		Ferry flights
		Other flights

The below assumptions were agreed to determine the CAGR shown in Table 8 to generate the 2045 forecast.

- **RPT:** To70 determined a CAGR of 2.5% for Dubbo Regional Airport based on the BITRE Airport traffic data from FY1985–86 to FY2023–24, using total movements from RPT only. To maintain consistency, the BITRE total movements figure for FY2024 was used as the baseline for the RPT forecast instead of Avdata figures.
- **General Aviation and Circuits:** Analysis of the BITRE Australian Aircraft Activity 2014–2023 data for landings in Australia within the General Aviation sector indicated a CAGR of 1.1%.
- **Military:** Due to limited data and the absence of discernible trends from Dubbo Regional Airport's Avdata, the 1.1% CAGR for General Aviation was applied to Military operations.
- **Aerial firefighting:** BITRE Australian Aircraft Activity 2014–2023 recorded a CAGR of 1.2% in landings for the Aerial Work category. Data on flying activity by VH-registered aircraft showed a CAGR of 4.3% for hours flown and 5.1% for landings specific to firefighting operations. Given the unpredictable nature of fire operations reflected in Dubbo Regional Airport Avdata, a CAGR of 1.8% was agreed upon to account for variable data.
- **Police:** BITRE Australian Aircraft Activity 2014–2023 recorded a CAGR of 1.2% for landings within the Aerial Work category. Fluctuations in flying activity by VH-registered aircraft and a lack of discernible trends in Dubbo Regional Airport Avdata resulted in applying the same 1.2% growth rate.
- **Medical:** BITRE Australian Aircraft Activity 2014–2023 recorded a CAGR of 1.7% for landings within the Non-Scheduled category. Data on flying activity by VH-registered aircraft indicated a CAGR of 0.9% for hours flown and 1.9% for landings specific to medical activities. A growth rate of 1.7% was agreed upon.

Table 8: Operation Forecast CAGR

Operation Category	CAGR Applied
RPT	2.5%
General aviation	1.1%
Military	1.1%
Circuits	1.1%

Fire	1.8%
Police	1.2%
Medical	1.7%

Figure 5 shows the total aircraft movement forecast and Table 9 provides the breakdown of the traffic forecast for current operations and 20-year forecast.

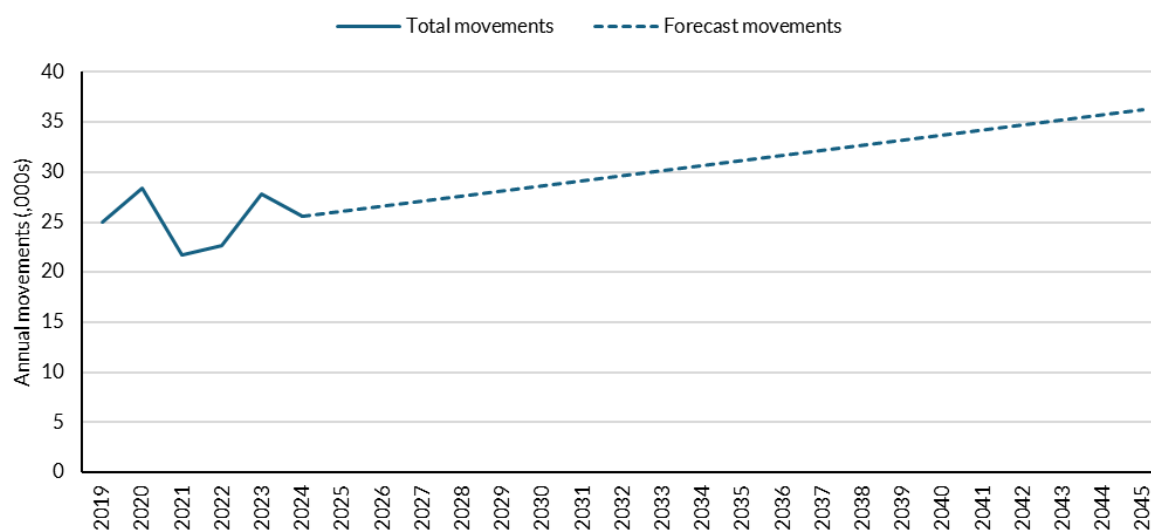


Figure 5: Graphical representation of forecasted aircraft movements at Dubbo Regional Airport

Table 9: 2045 Traffic forecast

Operation Category	2045
RPT	13,008
General aviation	9,476
Military	580
Circuits	2,860
Fire	620
Police	116
Medical	6,740
Total operations	33,400
Total movements	36,260

2.2.2 Aircraft selection

To70 analysed the Avdata data and established the aircraft count for Dubbo Regional Airport in 2024, as presented in Table 10. Using this data, To70 identified the most frequently occurring aircraft within each category based on percentage distributions. Adjustments were made to reflect anticipated changes in fleet composition for companies with publicly available plans. In cases with an extensive range of aircraft for a specific category, similar aircraft types have been grouped to simplify the forecasting.

Table 10: Raw 2024 aircraft type and count

Aircraft	2024 Count	Aircraft	2024 Count
SF34	2396	COL4	4
P28A	1447	RV10	4
BE20	1338	BE30	4
DH8D	1247	P28T	4
ULAC	802	C152	4
PA31	464	DH8	4
B350	446	DHC2	4
G115	375	JAB4	3
C510	357	UH1	3
C172	353	TB20	3
C182	340	R66	3
AC50	294	C402	3
PC21	267	P28S	3
BE58	175	PA38	3
C310	121	EC30	3
SR22	121	TBM8	3
E50P	105	P46T	3
C180	98	PA22	3
P28B	97	SW4	2
PC24	96	AC11	2
C82R	91	C30J	2
A139	90	RV14	2
B412	88	M5	2
C525	74	XL2	2
PA32	73	C404	2
AT8T	73	COL3	2

C208	70
BE33	64
S22T	62
PA24	62
BE36	61
P68	57
C150	56
P32R	49
C210	48
C82S	48
PA30	47
DH8C	46
AT5T	45
PC12	44
DA40	43
R44	42
AS50	41
CJ6	38
RJ85	35
HROC	31
SAAB	29
P28R	29
R22	26
T210	26
C337	25
(blank)	24
B06	24
BE55	20
M20P	18
C303	16
C560	15
SS2T	15
RV7	14

C25A	2
C340	2
GLAS	2
RV4	2
BE9L	2
C441	2
GLF6	2
CL60	2
SLG4	2
PA25	2
EC35	2
B214	1
P210	1
LNCE	1
C27J	1
C72R	1
P51	1
K100	1
DHC6	1
C140	1
DV20	1
BE50	1
B190	1
HELI	1
C175	1
JS32	1
EC20	1
LNC2	1
C82T	1
B505	1
A109	1
P180	1
EC45	1

C206	13
RV6	12
B105	12
LNC4	12
AEST	10
TRF1	10
DA42	10
T206	9
AA5	9
PA18	9
AA1	8
FA7X	8
C185	8
BE76	7
SM19	7
RV8	7
PA34	7
SR20	7
B407	6
MUS2	6
C414	6
CT4	6
TBM7	6
PA46	6
CH7B	6
BL8	6
ZZZZ	6
C77R	5
B429	5
E55P	5
H60	5
D6SL	5
BE35	5

DA62	1
F406	1
DH87	1
F7X	1
BE95	1
F900	1
RV9	1
CC11	1
C195	1
CH30	1
SF50	1
G200	1
L39	1
PTS2	1
C205	1
GA6C	1
C421	1
GL7T	1
M7	1
C177	1
MXS	1
GLEX	1
TOUR	1
ROK	1
TWEN	1
B212	1
DG1T	1
RV12	1
YK55	1
GLST	1
A119	1
H25B	1
H47	1

- Vans RV-7 has been used to represent general ultralight aircraft,
- No PC-21 is available in AEDT therefore a PC-12 has been substituted,
- High utilisation of the B200 and B300 has been assumed for medical flights, following fleet planning information shared by the RFDS, and
- The introduction of large firefighting aircraft, including the C130 and 737-300, with the provision of the runway extension.

RPT aircraft were selected based on current and future fleet plans for Qantas, Link Airways, Rex, and fly-in fly-out (FIFO) operations and developed in consultation with the Airport. This includes the following assumptions:

- Qantas retiring all Dash-8 models except the Dash 8- 400 series and the introduction of the Airbus A220,
- Rex Airlines Memorandum of Understanding to cooperate in studying optimised solutions for the replacement and modernisation of its fleet with ATR, and
- The Fokker 70 has been introduced for the potential of FIFO operations following the completion of the runway extension.

AEDT has limited helicopters with P-weighted noise data, which is required for the ANEF. Thus, the following substitutions have been made:

- Bell 427 substitute of the Airbus Helicopters Bo 105,
- Bell 430 substitute of the Bell 412, Chinooks, SIKORSKY UH-60 Black Hawk, Bell 412, AW139, and
- Eurocopter EC130 substitute of the AEROSPATIALE AS-350 Ecureuil.

Table 11 shows the aircraft and helicopters selected for the AEDT model for each operation category and the associated operation count for the 2045 ANEC. There have been some specific assumptions made for aircraft selection and split, including:

- Vans RV-7 has been used to represent general ultralight aircraft,
- No PC-21 is available in AEDT therefore a PC-12 has been substituted,
- High utilisation of the B200 and B300 has been assumed for medical flights, following fleet planning information shared by the RFDS, and
- The introduction of large firefighting aircraft, including the C130 and 737-300, with the provision of the runway extension.

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- Bell 430 substitute of the Bell 412, Chinooks, SIKORSKY UH-60 Black Hawk, Bell 412, AW139, and
- Eurocopter EC130 substitute of the AEROSPATIALE AS-350 Ecureuil.

Table 11: 2045 AEDT model aircraft types and operations breakdown

Type of operation	Aircraft	Aircraft share within type of operations	Number of operations
RPT (38.9%)	Airbus A220-100	2%	208
	Bombardier de Havilland Dash 8 Q400	28%	3,642
	Saab 340-B-Plus	29%	3,772
	ATR 42-600	29%	3,772
	Cessna 310	3%	390
	Piper PA-31 Navajo	7%	912
	Fokker F70	2%	312
Fire (1.9%)	Lockheed C-130 Hercules	4%	26
	Boeing 737-300 Series Freighter	4%	26
	BAE 146-RJ85	18%	112
	Cessna CitationJet CJ/CJ1 (Cessna 525)	16%	100
	ATI AT-802	20%	124
	Rockwell Twin Commander 690	2%	12
	Raytheon Super King Air 300	3%	18
	Bell 427	2%	12
	Bell 430	18%	111
	Eurocopter EC130	7%	43
	Bell 206B-3	2%	12
	Bell 407	4%	24
Medical (20.2%)	Raytheon Super King Air 300	25%	1,685
	Raytheon Super King Air 200	55%	3,707
	CESSNA CITATION 510	10%	674
	Pilatus PC-24	2%	135
	Piper PA-31 Navajo	2%	135
	Bell 430	6%	404
Military (1.7%)	Pilatus PC-12	77%	446
	Raytheon Super King Air 200	4%	23
	Raytheon Super King Air 300	2%	12
	Alenia C-27J	6%	35
	Falcon 7X	7%	40
	Lockheed C-130 Hercules	2%	12
	Bell 430	2%	12
Police (0.3%)	Cessna Caravan 208	87%	101
	Bell 429	13%	15
General Aviation (28.4%)	Beechcraft Bonanza 33 (FAS)	4%	378
	Cirrus SR22 Turbo (FAS)	5%	474

	Cessna 182	12%	1,136
	Cessna 210 Centurion	3%	284
	Cessna 172 Skyhawk	10%	948
	Piper PA-28 Cherokee Series	26%	2,462
	Piper PA-32 Cherokee Six	3%	284
	Rockwell Twin Commander 500	8%	758
	Raytheon Beech Baron 58	5%	474
	Cessna 421 Piston	2%	190
	Vulcanair P.68	2%	190
	Piper PA-31 Navajo	3%	284
	Vans RV-7	3%	284
	Cessna Caravan 208	2%	190
	Pilatus PC-12	2%	190
	ATI AT-502	2%	190
	Embraer Phenom 300 (EMB-505)	2%	190
	Cessna CitationJet CJ/CJ1 (Cessna 525)	2%	190
	Robinson R44 Raven / Lycoming O-540-F1B5	2%	190
	Eurocopter EC-130	2%	190
Circuits (8.6%)	Piper PA-28 Cherokee Series	39%	1,115
	Cessna 172 Skyhawk	23%	658
	Cessna 182	3%	86
	Beechcraft Bonanza 33 (FAS)	3%	86
	Piper PA-32 Cherokee Six	2%	57
	Vans RV-7	27%	772
	Raytheon Beech Baron 58	3%	86
Total			33,400

Table 12 show the average daily flight operations by aircraft type for current operations and 2045 forecast, respectively. The average daily flight operations are determined by dividing the number of operations by 365 days for each aircraft type.

Table 12: 2045 Aircraft daily operations count

Aircraft	Daily Operations
Airbus A220-100	0.56986
Alenia C-27J	0.09589
ATI AT-502	0.52055
ATI AT-802	0.33973
ATR 42-600	10.33425

BAE 146-RJ85	0.30685
Beechcraft Bonanza 33 (FAS)	1.27123
Bell 407	0.06575
Bell 427	0.03288
Bell 429	0.04110
Bell 430	1.44384
Bell B-206 JetRanger (B206-3)	0.03288
Boeing 737-300 Series Freighter	0.07123
Bombardier de Havilland Dash 8 Q400	9.97808
Cessna 172 Skyhawk	4.40000
Cessna 182	3.34795
Cessna 210 Centurion	0.77808
Cessna 310	1.06849
Cessna 421 Piston	0.52055
Cessna Caravan 208	0.79726
CESSNA CITATION 510	1.84657
Cessna CitationJet CJ/CJ1 (Cessna 525)	0.79452
Cirrus SR22 Turbo (FAS)	1.29863
Embraer Phenom 300 (EMB-505)	0.52055
Eurocopter EC-130	0.63836
Falcon 7X	0.10959
Fokker F70	0.85479
Lockheed C-130 Hercules	0.10411
Pilatus PC-12	1.74247
Pilatus PC-24	0.36986
Piper PA-28 Cherokee Series	9.80000
Piper PA-31 Navajo	3.64658
Piper PA-32 Cherokee Six	0.93425

Raytheon Beech Baron 58	1.53425
Raytheon Super King Air 200	10.21918
Raytheon Super King Air 300	4.69863
Robinson R44 Raven / Lycoming O-540-F1B5	0.52055
Rockwell Twin Commander 500	2.07671
Rockwell Twin Commander 690	0.03288
Saab 340-B-Plus	10.33425
Vans RV-7	2.89315
Vulcanair P.68	0.52055
Grand Total	91.50685

Not all the specified aircraft types have their noise data within AEDT. As a result, AEDT made substitutions for the Aircraft Noise and Performance (ANP) data with a comparable aircraft. The substitutions that were made for each of the types are shown in Table 13.

Table 13: AEDT aircraft ANP profiles

Aircraft	ANP Profile
Airbus A220-100	737700
Alenia C-27J	DHC8
ATI AT-502	GASEPV
ATI AT-802	GASEPV
ATR 42-600	DHC8
BAE 146-RJ85	BAE146
Beechcraft Bonanza 33 (FAS)	GASEPV
Bell 206B-3	B206B3
Bell 407 / Rolls-Royce 250-C47B	B407
Bell 427	B427
Bell 429	B429
Bell 430	B430
Boeing 737-300 Series Freighter	737300

Bombardier de Havilland Dash 8 Q400	DHC830
Cessna 172 Skyhawk	CNA172
Cessna 182	CNA182
Cessna 210 Centurion	GASEPV
Cessna 310	BEC58P
Cessna 421 Piston	BEC58P
Cessna Caravan 208	CNA208
CESSNA CITATION 510	CNA510
Cessna CitationJet CJ/CJ1 (Cessna 525)	CNA525C
Cirrus SR22 Turbo (FAS)	COMSEP
Embraer Phenom 300 (EMB-505)	CNA55B
Eurocopter EC-130	EC130
Falcon 7X	GIV
Fokker F70	F10062
Lockheed C-130 Hercules	C130AD
Pilatus PC-12	CNA208
Pilatus PC-24	CNA55B
Piper PA-28 Cherokee Series	GASEPF
Piper PA-31 Navajo	BEC58P
Piper PA-32 Cherokee Six	GASEPV
Raytheon Beech Baron 58	BEC58P
Raytheon Super King Air 200	DHC6
Raytheon Super King Air 300	DHC6
Robinson R44 Raven / Lycoming O-540-F1B5	R44
Rockwell Twin Commander 500	BEC58P
Rockwell Twin Commander 690	DHC6
Saab 340-B-Plus	SF340
Vans RV-7	GASEPV

Vulcanair P.68	PA30
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2.2.3 Airport capacity

The forecast total of 33,400 flight operations for 2045 is well within the airport's capacity. The FAA Advisory Circular AC 150/5060-5, updated January 1995, notes in Figure 2-1 that the Annual Service Volume of a cross runways is between 200,000 and 265,000 ops/year, depending on the mix of aircraft. Given the recognised level of available capacity at Dubbo Regional Airport, further refinement of the FAA estimates has not been undertaken.

Dubbo Regional Airport has a shortened parallel taxiway for runway 05/23 and operates 24 hours daily, 365 days per year, with no curfew. Given that the airport is situated in class G airspace, there is no control tower. These considerations would limit the airport's capacity to some degree when compared to the annual services volumes referred to above. However, further refinement of the FAA estimates regarding the local airport conditions is not considered necessary, given the recognised level of available capacity at Dubbo Regional Airport.

2.2.4 Stage length

In AEDT, the stage length parameter represents the trip distance for departing aircraft. The longer the trip distance, the more fuel is required, and therefore, the heavier the departing aircraft. The departure noise profile for each aircraft varies based on its total weight, and the Stage length is used as a proxy for this. Table 14 This shows the AEDT lookup table with stage numbers and trip distance. Stage length "M" is the maximum range with maximum fuel and no additional cargo other than what is already included in the payload assumption.

Table 14: Departure take-off weights from AEDT

Stage length	Trip distance (NM)	Representative range (NM)
1	0-500	350
2	500-1,000	850
3	1,000-1,500	1,350
4	1,500-2,500	2,200
5	2,500-3,500	3,200
6	3,500-4,500	4,200
7	4,500-5,500	5,200
8	5,500-6,500	6,200
9	6,500-7,500	7,200
10	7,500-8,500	8,200
11	>8,500	
M	M Maximum range at MTOW	

Table 15 shows the most frequent destinations flown from Dubbo Regional Airport in 2024 from the Avdata data and the representative stage lengths considered for the modelling process in AEDT.

Table 15: Flight destinations and associated stage lengths

Airport code	Airport	Nautical miles from Dubbo	Stage length
YBAF	Archerfield Airport	362	1
YBBN	Brisbane Airport	374	1
YBHI	Broken Hill Airport	362	1
YBKE	Bourke Airport	189	1
YCBA	Cobar Airport	148	1
YGLB	Goulburn Airport	166	1
YLRD	Lighting Ridge Airport	168	1
YMML	Melbourne Airport	375	1
YMOR	Moree Airport	175	1
YNBR	Narrabri Airport	131	1
YORG	Orange Airport	75	1
YPKS	Parks Airport	57	1
YSBK	Bankstown Airport	159	1
YSCB	Canberra Airport	188	1
YSRI	Richmond RAAF Base	139	1
YSSY	Sydney Airport	167	1
YSTW	Tamworth Airport	135	1
YWLK	Walgett Airport	133	1
YWWL	West Wyalong Airport	124	1

Although all stage lengths for the destinations at Dubbo Regional Airport are 1 as per Table 15, To70 and the council adjusted the stage lengths for RPT and Fire aircraft to account for additional fuel supply and load for firefighting operations. Not all aircraft have a stage length greater than 1 in AEDT. Therefore in Table 16, aircraft not included will have 100% of their operations allocated to a stage length of 1. Furthermore, stage lengths are only considered for departures, as aircraft only have stage length 1 for their arrival profile.

Table 16: 2045 AEDT aircraft stage length selected

Type of operation	Aircraft	1	2	3
RPT (38.9%)	Airbus A220-100	25%	50%	25%
	Bombardier de Havilland Dash 8 Q400	25%	50%	25%
	ATR 42-600	50%	25%	25%
	Fokker F70	50%	25%	25%
Fire (1.9%)	Lockheed C-130 Hercules	25%	75%	
	Boeing 737-300 Series Freighter	25%	25%	50%
	BAE 146-RJ85	25%	25%	50%

2.2.5 Day/night operations

The day/night allocation was calculated based on the percentage split of operations from the 2024 Avdata data for each operation category, as represented in Table 17. The night allocation for ANEF represents the number of operations between 19:00 and 07:00 (local time).

Table 17: Day / night allocation

Operation Category	Percentage Split
RPT	Day – 85% ANEF Night – 15%
General aviation	Day – 95% ANEF Night – 5%
Military	Day – 97% ANEF Night – 3%
Circuits	Day – 96% ANEF Night – 4%
Fire	Day – 91% ANEF Night – 9%
Police / medical	Day – 69% ANEF Night – 31%

2.2.6 Runway usage

The runway allocation percentage is based on the runway selection from the 2024 Avdata data for each operational category. For any aircraft that operationally requires runway 05/23, the RPT split will be applied. The allocation of runway usage is shown in Table 18.

Table 18: Runway usage

Category	5	11	23	29
RPT Any aircraft that operationally requires runway 05/23	42%	0%	58%	0%
Fire	34%	12%	45%	9%
GA	40%	12%	40%	8%
Medical/military/police	43%	1%	53%	3%
Circuits	33%	23%	35%	9%

2.2.7 Helipad selection

To70 utilised the assumptions the council provided in Figure 1 regarding the type of operations that occur at the five helicopter landing sites. As To70 condensed into two, the helicopters will be allocated to the closest modelled helipad, as follows:

- HN - Firefighting and general overflow helicopters
- NS - RFS waterbombing, defence, miscellaneous and training helicopters

Table 19 shows the helipad usage for each operational category.

Table 19: Helipad usage

Category	HN	HS
Fire	66%	34%
GA	40%	60%
Medical/police	50%	50%
Military	0%	100%

2.2.8 Flight paths

Flight tracks were created with regard to the published procedures (AIP) and per the typical operations at a regional aerodrome, shown in Figure 6. For the published procedures, flight tracks were created for RNP (required navigation performance) approaches for runway 05 and runway 23.

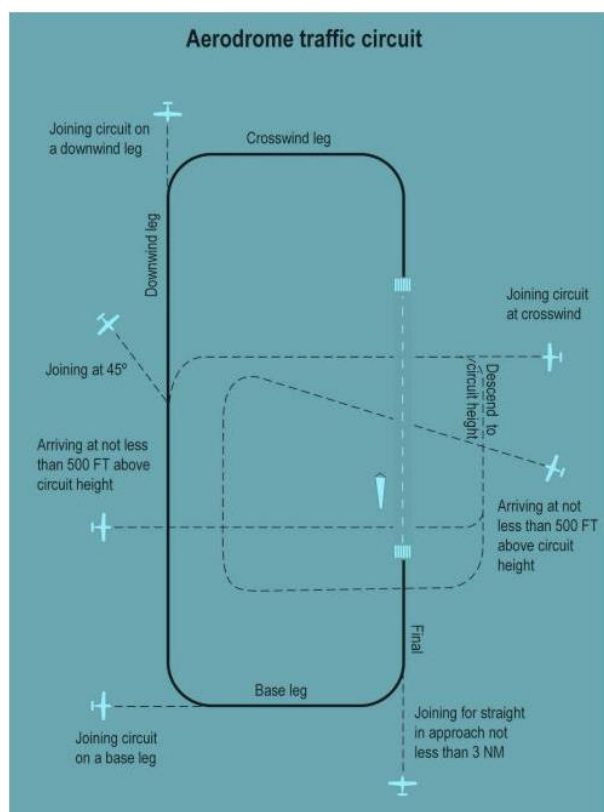


Figure 6: Aerodrome standard traffic circuit, showing arrival and joining procedures (Source: CASA advisory circular AC 91-10 v1.3)

Flight Radar 24 data was reviewed and downloaded to confirm actual traffic behaviour to determine the traffic circuit patterns utilised at Dubbo Regional Airport. Avdata data was used to guide the search within Flight Radar 24, helping to identify a range of aircraft movements from the various categories. Cross-referencing with Avdata data allowed for a more targeted and complete extraction of relevant flight data, ensuring a representative sample was captured for the analysis. The number of ADS-B (automatic dependent surveillance broadcast) tracks obtained for each runway end is provided in Table 20, and the track visualisation is contained in Appendix 1.

The data was imported into QGIS geographic visualisation software to visualise aircraft trajectories, allowing for the identification of common routing patterns and the creation of representative tracks for each runway. Typical flight tracks were derived from the available data for each runway and direction of operation. These tracks represent the observed flight paths during the monitoring period and were used as the basis for noise modelling inputs. The generated flight tracks are presented in Appendix 2.

Table 20: Number of flight tracks downloaded

RWY end	Arrivals	Departures
05	61	59
23	56	80

11*	23	7
29*	30	37
Helipads	32	44
Circuits	59	

*Limited data due to more infrequent use of this runway

2.2.9 Track allocation

To determine track allocation, To70 analysed approximately 500 historical flight radar tracks to identify typical flight patterns at Dubbo Regional Airport. For runway 05/23, five fixed-wing arrival and departure tracks were identified, along with one touch-and-go circuit. For runway 11, four fixed-wing arrival and departure tracks and one touch-and-go were identified. For runway 29, four arrival tracks, three departure tracks, and one touch-and-go were observed for fixed-wing aircraft. There is an even distribution of arrivals and departures for helicopter operations across all helicopter tracks.

Track allocation percentages for general aviation and helicopter operations are provided in Appendix 3. For RPT operations, track allocation has been modified to reflect the use of RNP approaches. Specifically, for runway 05, arrivals are split 50/50 between the dead side join (DSJ) and the straight-in (SI) RNP approach paths. For runway 23, all RPT arrivals (100%) follow the SI track. These allocations are shown in Table 21 and Table 22.

Table 21: RPT Arrival Track Allocation for runway 05

RPT arrival tracks	Runway 05
05_ARR_DSJ	50%
05_ARR_SI	50%

Table 22: RPT arrival track allocation for runway 23

RPT arrival tracks	Runway 23
23_ARR_SI	100%

To account for the variability in track location, the tracks shown in Appendix 2 were dispersed laterally by 0.2 NM, resulting in a total track spread width of 0.4 NM. The dispersion of operations helps avoid unrealistic aircraft concentrations along a single narrow flight corridor, thereby correctly showing the extent of the noise impacts. Each track was divided into five sub-tracks, with the weightings for fixed wings and helicopters shown in Table 23 and Table 24, respectively. The dispersed tracks diverge/converge just after the runway strip to realistically model take-off/landing operations.

Table 23: Dispersed sub-track weighting fixed wing

Sub-track	Weighting
1	6.3%
2	24.4%

Centre track	38.6%
4	24.4%
5	6.3%

Table 24: Dispersed sub-track weighting helicopters

Sub-track	Weighting
1	20%
2	20%
Centre track	20%
4	20%
5	20%

2.2.10 Profile ID

For noise modelling, To70 use AEDT's predefined "STANDARD" aircraft profiles. However, it is important to note that some aircraft do not have standard profiles available. For those specific aircraft, To70 will use the predefined "NOISEMAP" profile, as it is the only option available.

3 Consultation

This ANEF has been completed in consultation with Dubbo Regional Council, which is the owner and operator of Dubbo Regional Airport. Jazmin Tweddle-O'Donnell, Trent Kneebush and Elvira Marques from To70 held an inception meeting on Thursday, the 30th January 2025, with Matthew Linsley-Noakes, the Airport Strategy and Operations Manager. The meeting discussed the information required to conduct the ANEF and understand Dubbo Regional Airport's operations. To70 also held weekly check-in meetings with Matthew Linsley-Noakes throughout the project, where To70 provided updates on the progress, discussed any feedback, and addressed ongoing matters as needed. Further consultation occurred with Matthew Linsley-Noakes throughout the process and is highlighted in Table 25. Appendix 6 provides email evidence of consultation with Dubbo Regional Council.

Table 25: Timeline of consultation

Document	Submitted to	Submitted date	Approved date
Draft Input and Assumption Document	Matthew Linsley-Noakes – Manager, Airport Strategy and Operations	14 th of April 2025	22 nd of April 2025
Draft AEDT Results	Matthew Linsley-Noakes – Manager Airport Strategy and Operations	5 th of May 2025	
Draft ANEF Report for Submission to Airservices	Matthew Linsley-Noakes – Manager Airport Strategy and Operations		
Draft ANEF Report v0.2	Matthew Linsley-Noakes – Manager Airport Strategy and Operations		
Council and State Government Consultation	Matthew Linsley-Noakes – Manager Airport Strategy and Operations	Tbc	Tbc
ANEF Endorsement Submission	Airservices	Tbc	Tbc

4 Results

This section details the results and process for the standard 20-year ANEC to be endorsed by Airservices. The ANEF chart is attached in Appendix A.7.

4.1 ANEC results

ANEC contours quantify the noise impact of airport operation or development scenarios. These maps are based on assumptions about the size, shape, and demand of aircraft and airport operations and can relate to the distant future. The ANEC uses the Effective Perceived Noise Level (EPNL), which applies a weighting to account for the fact that the human ear is less sensitive to low audio frequencies.

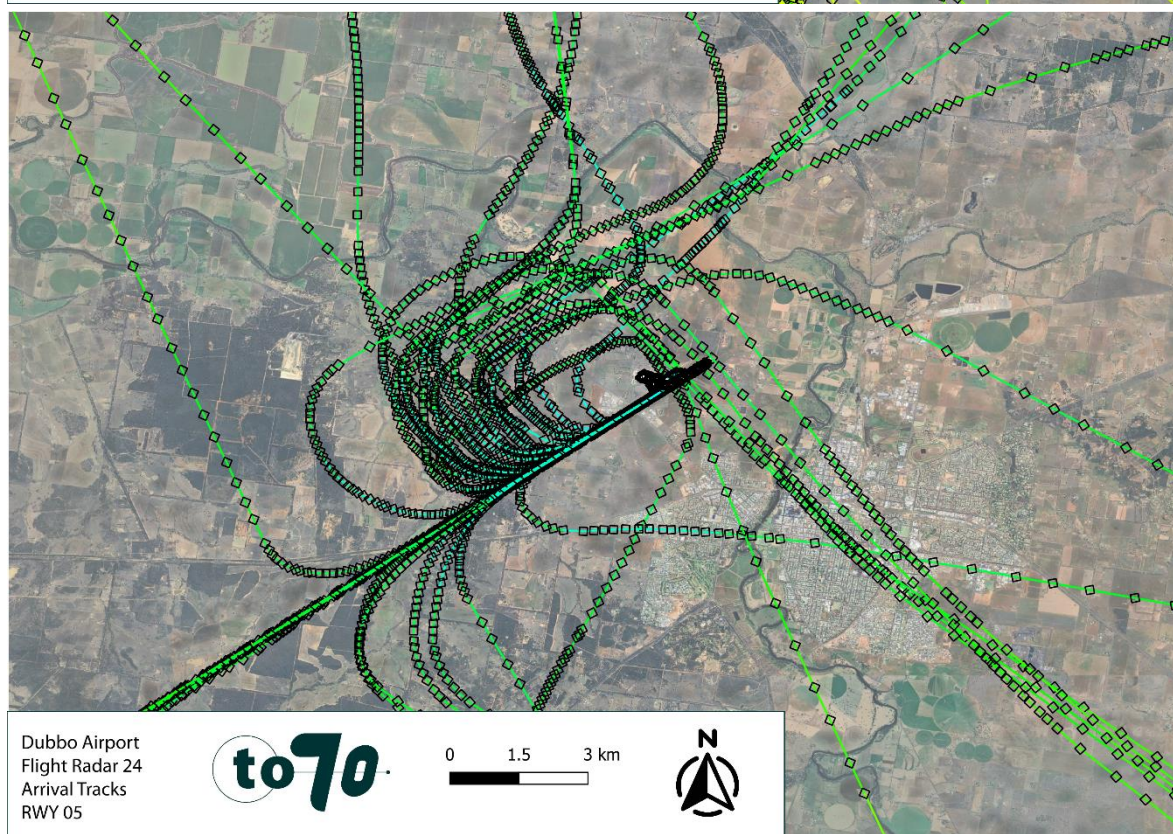
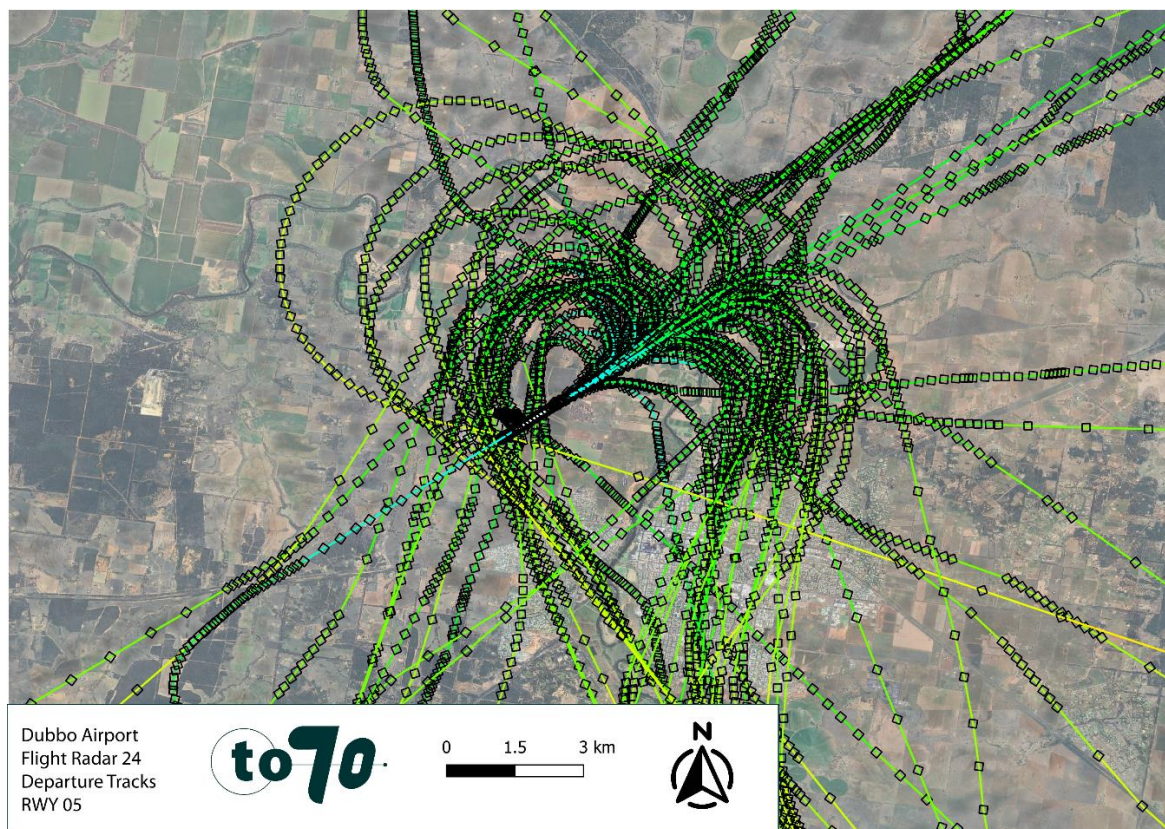
An ANEC has no official status for land-use planning purposes unless it becomes an ANEF endorsed by Airservices.

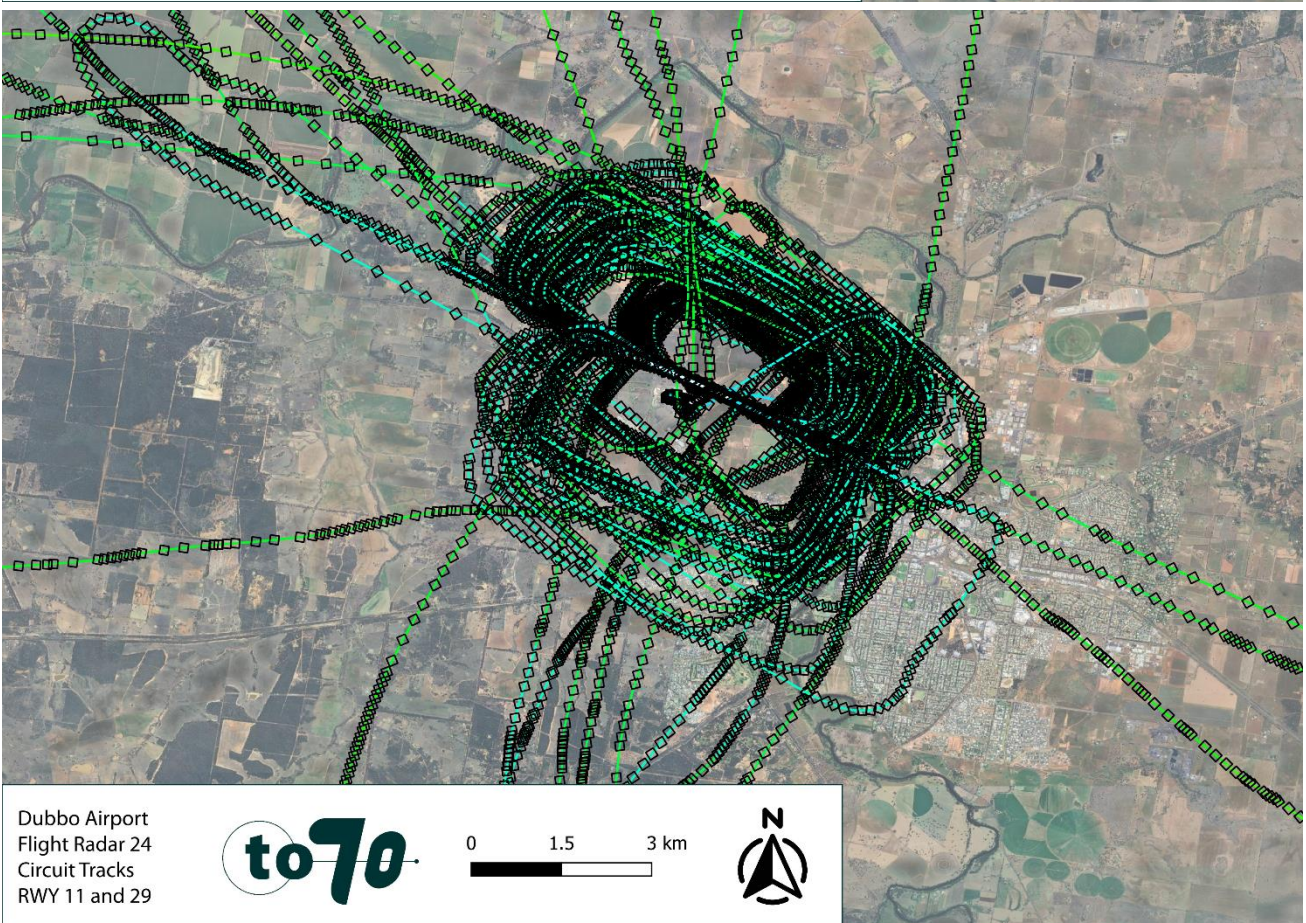
4.2 ANEF process

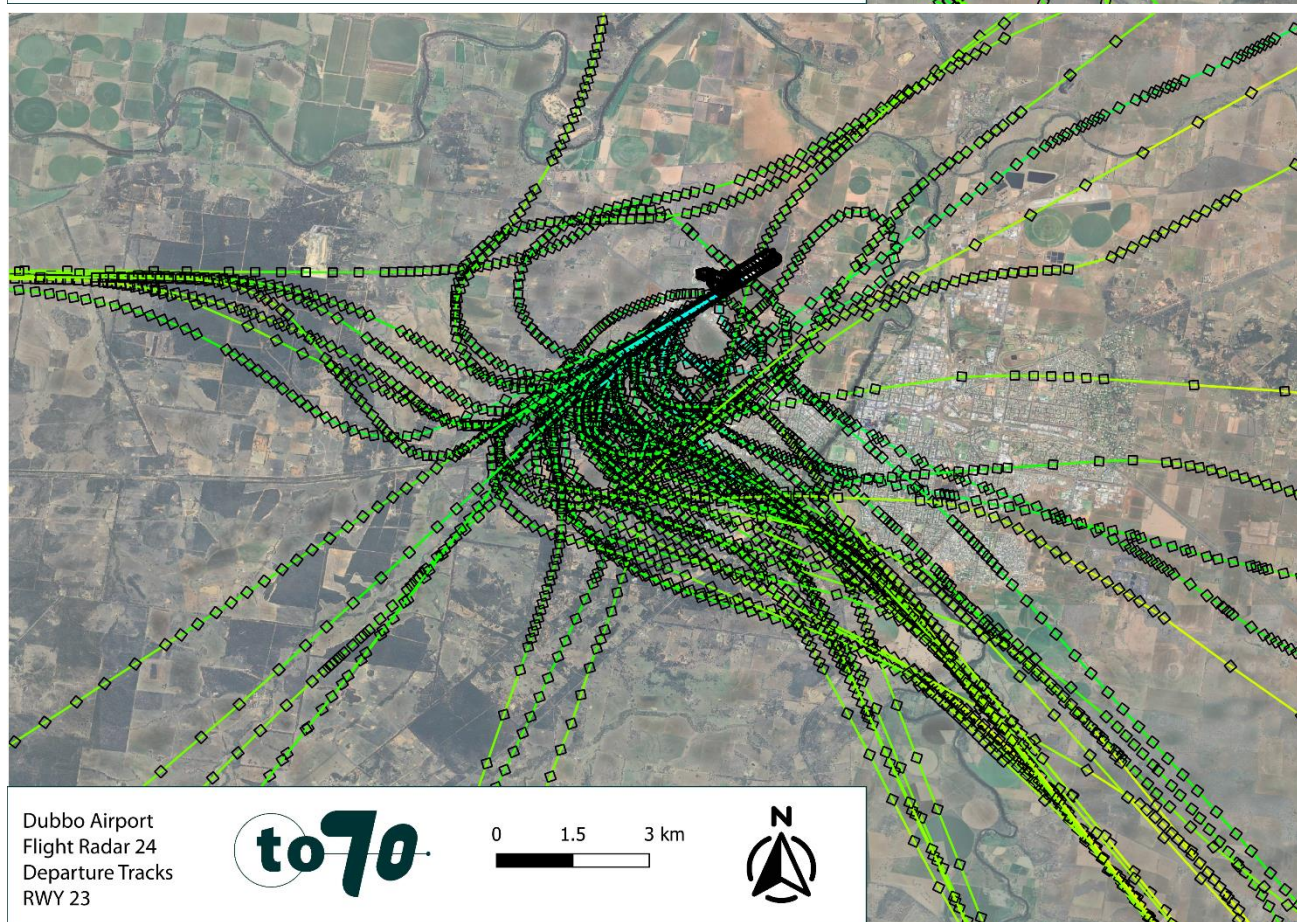
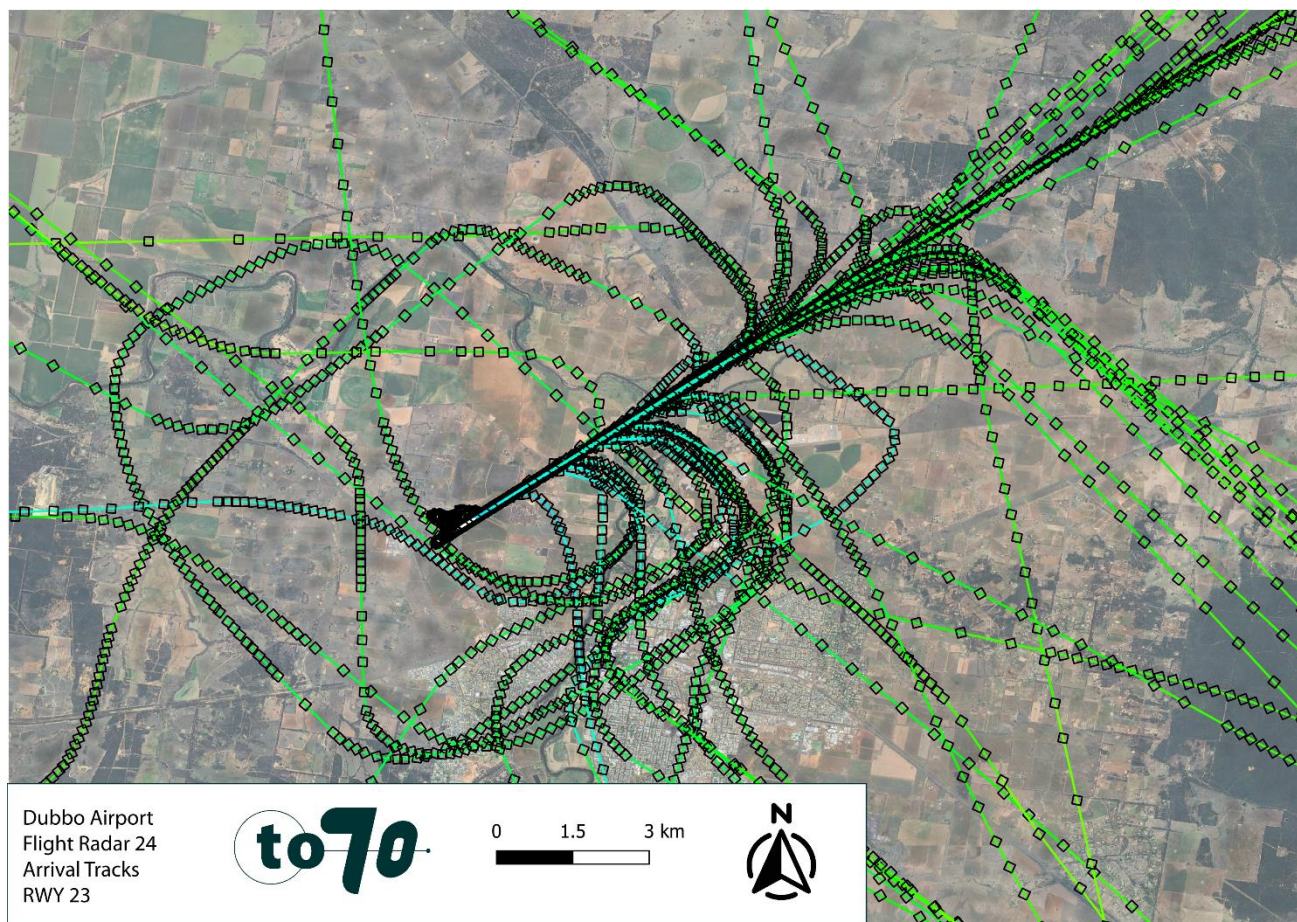
This report includes an ANEC. The intent is for the ANEC to become an official ANEF, and as such, the results will be submitted to Airservices for endorsement.

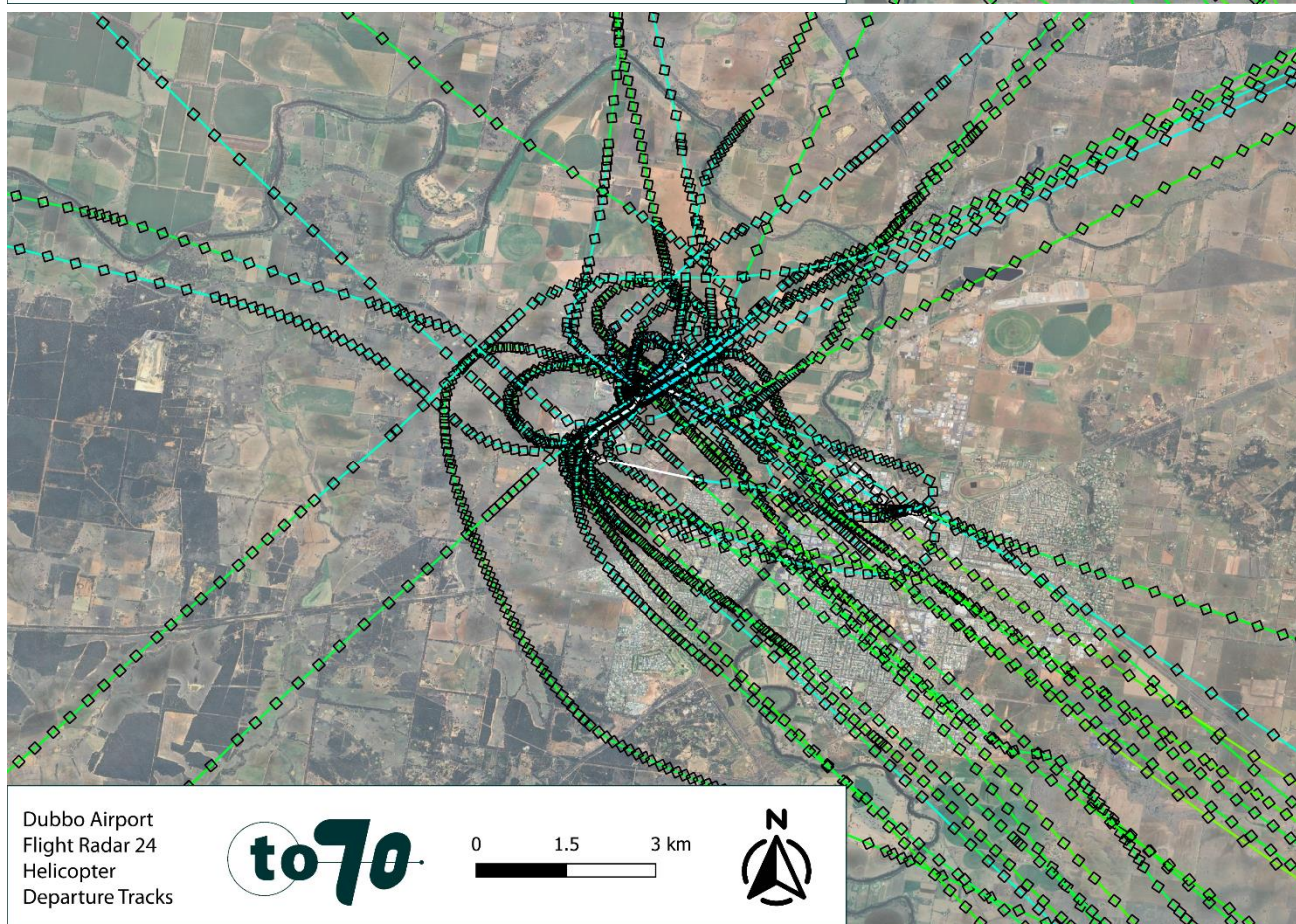
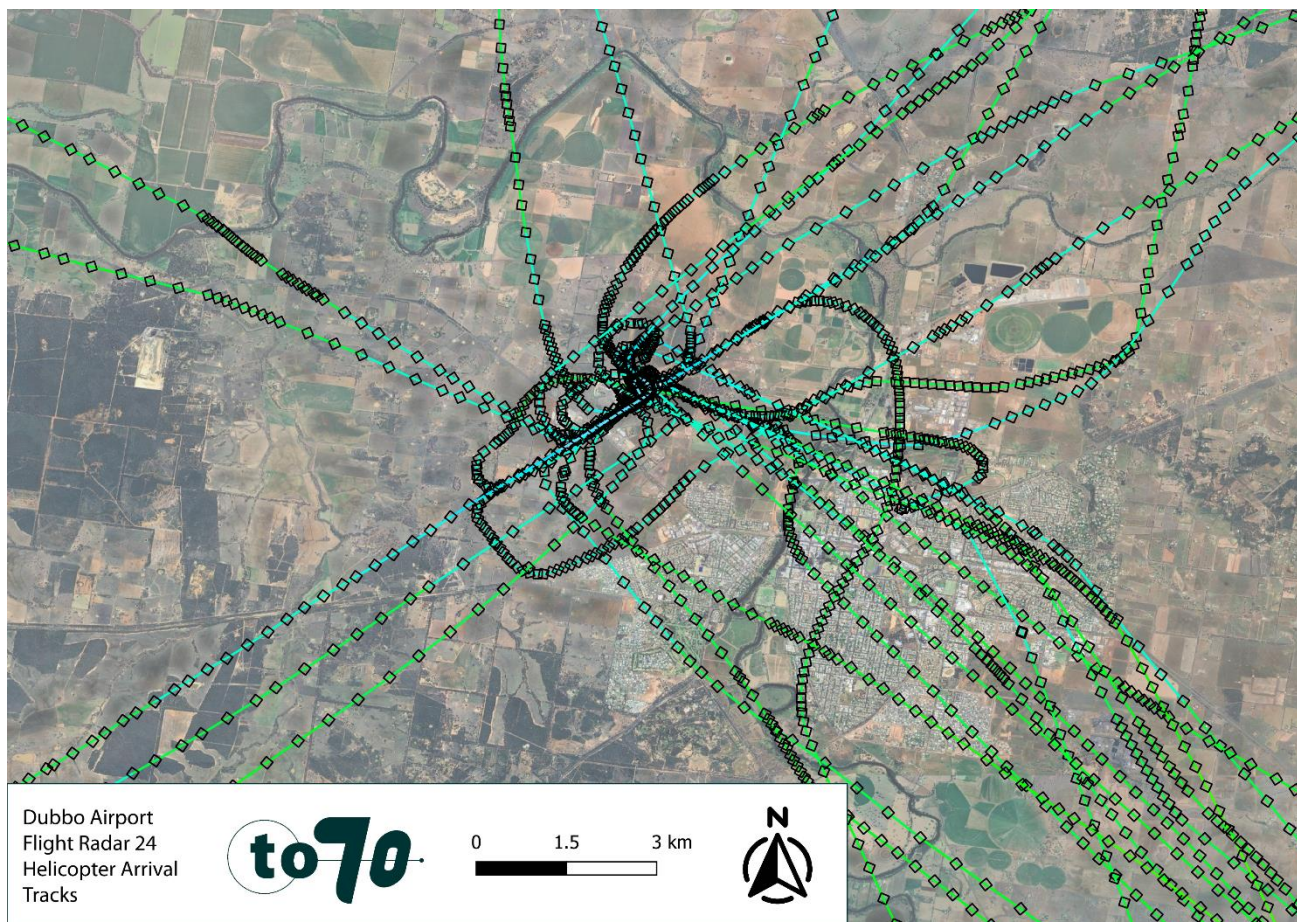
Appendices

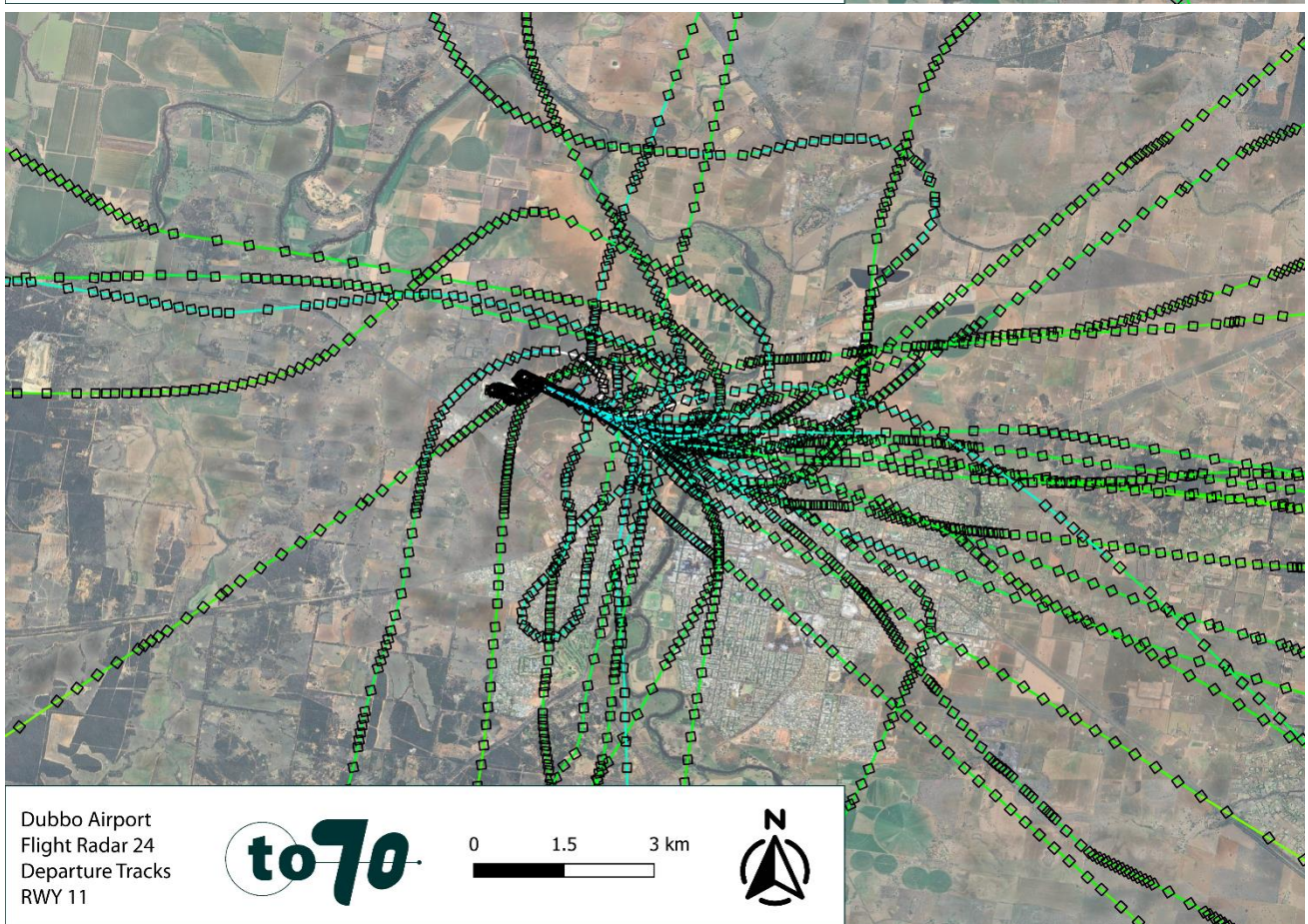
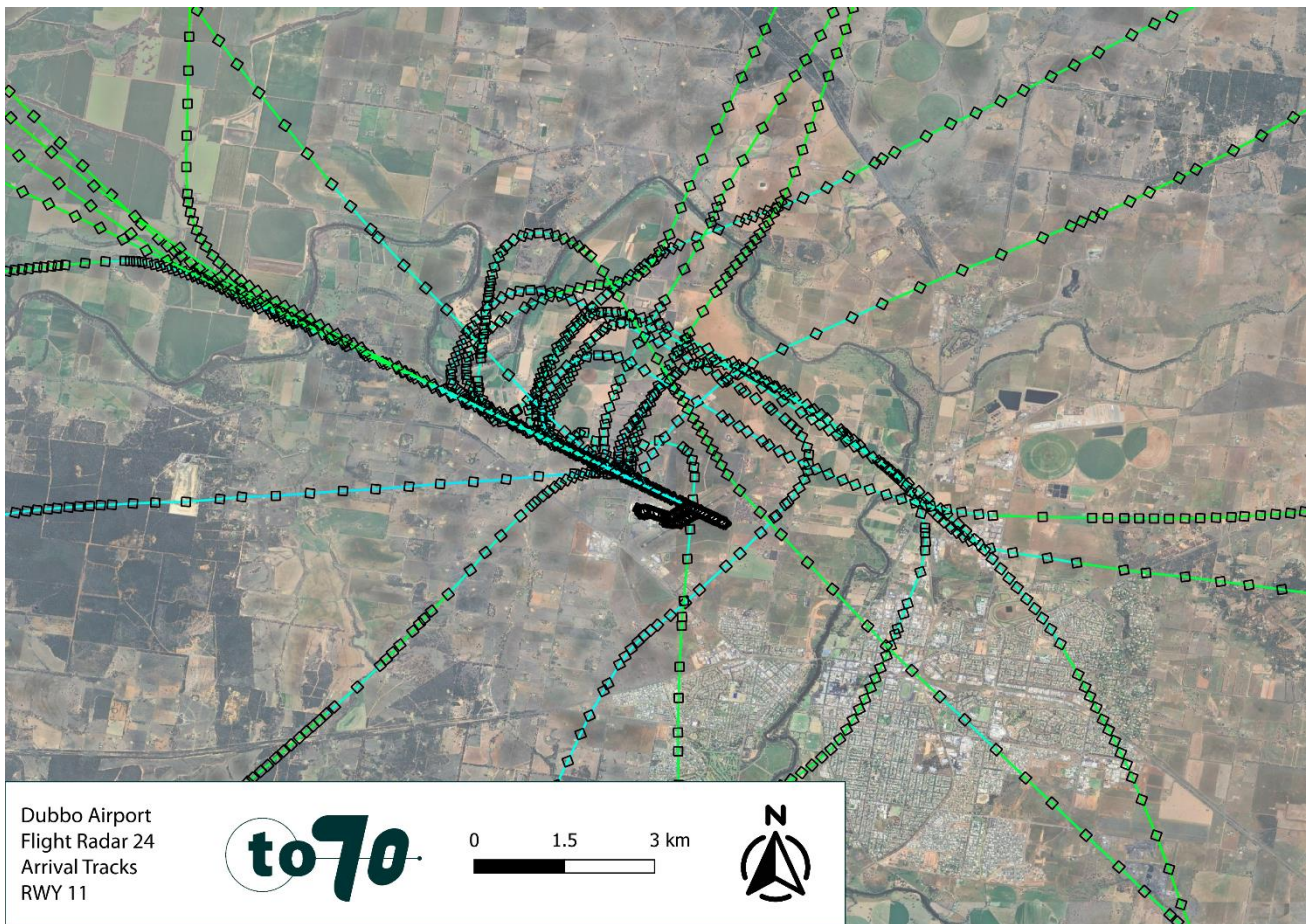
A.1 Dubbo Regional Airport Flight Radar 24 tracks

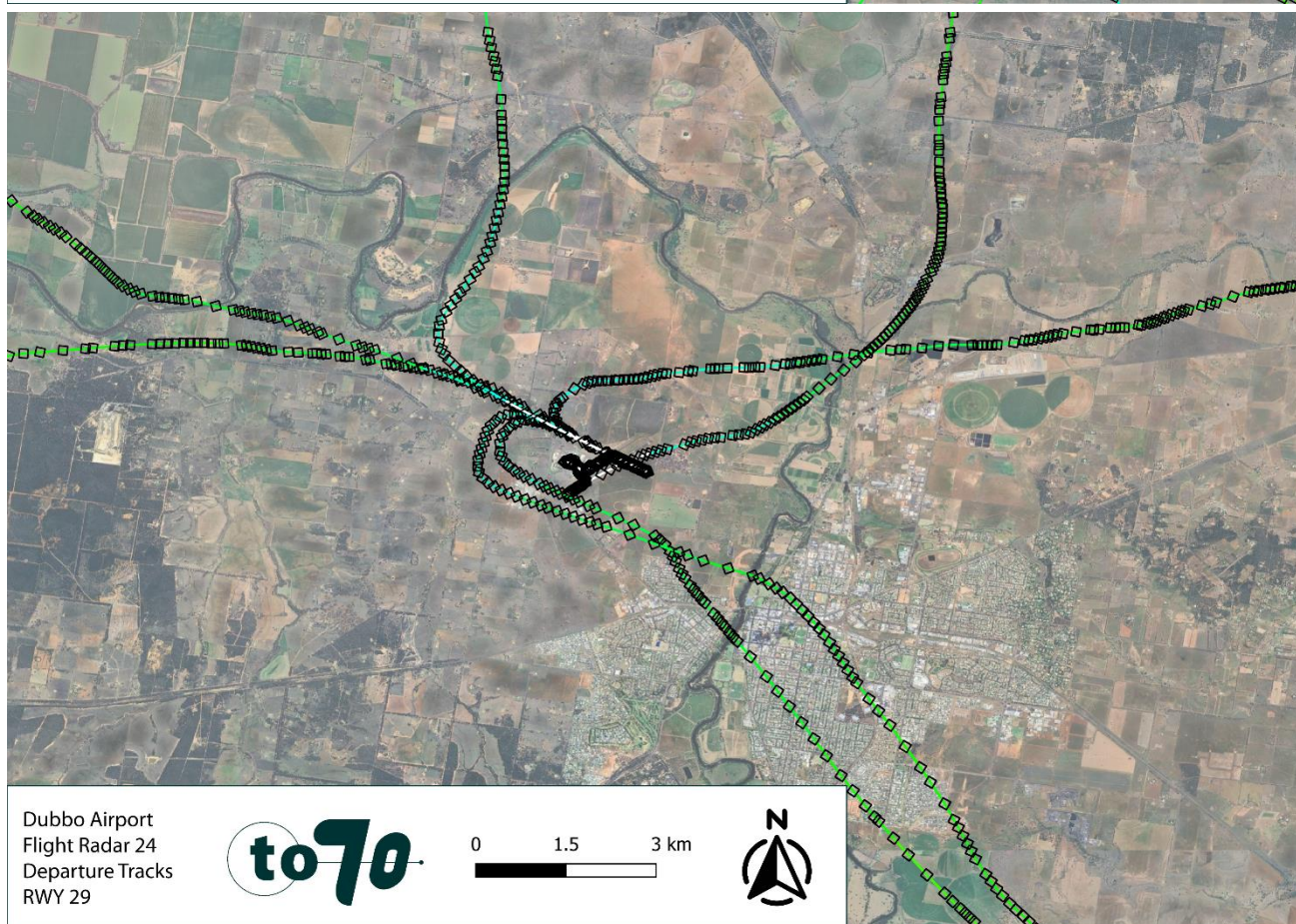
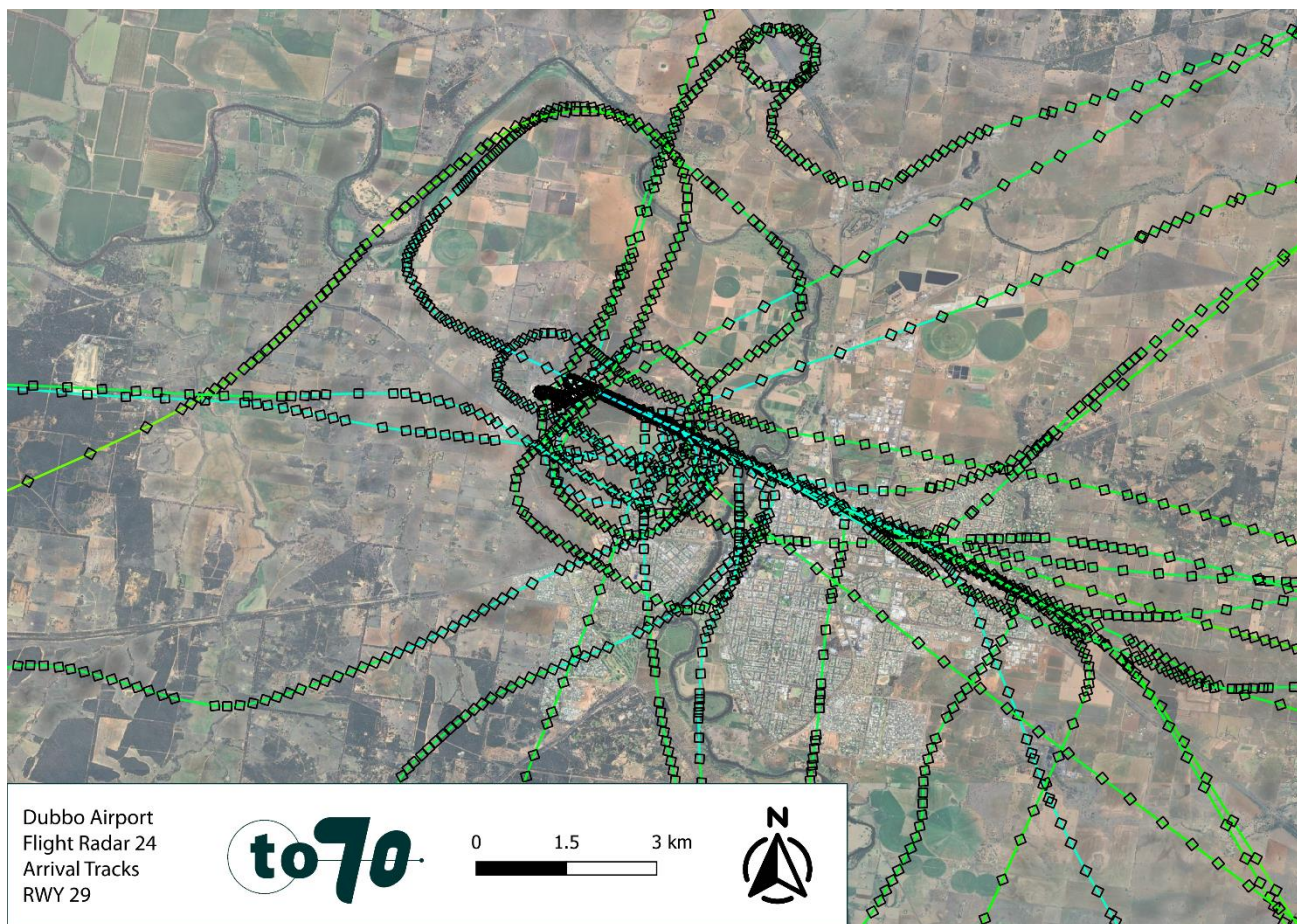




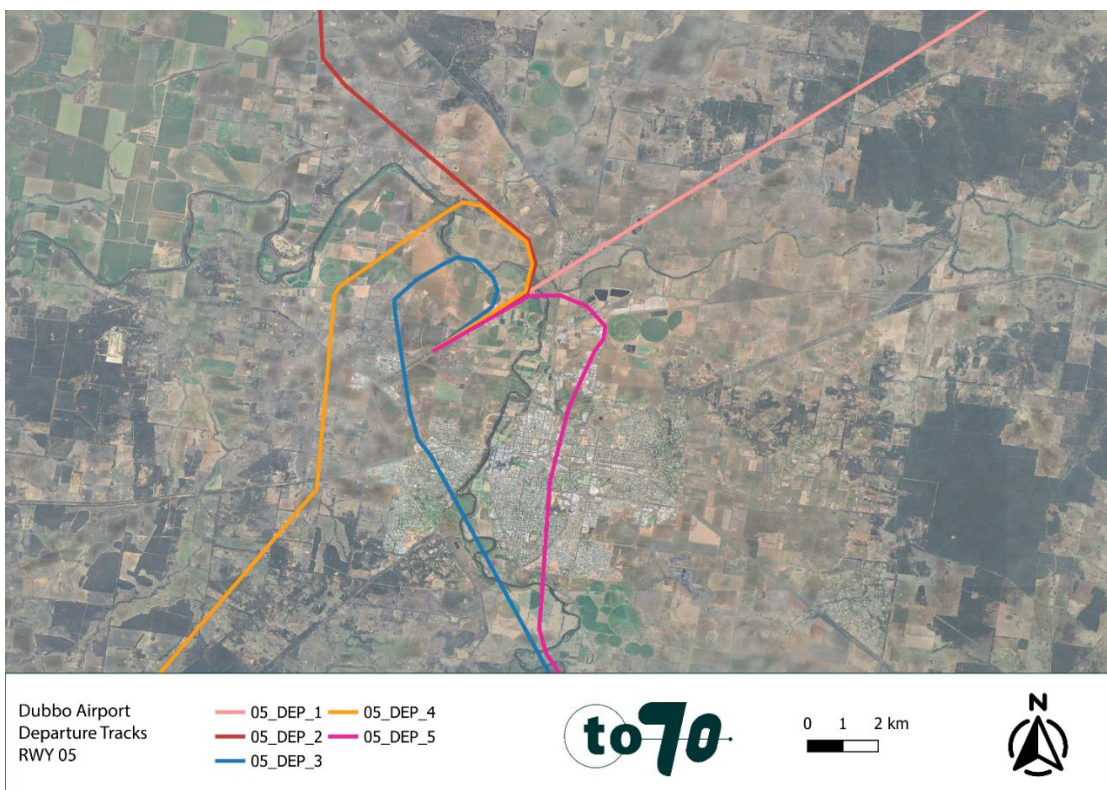
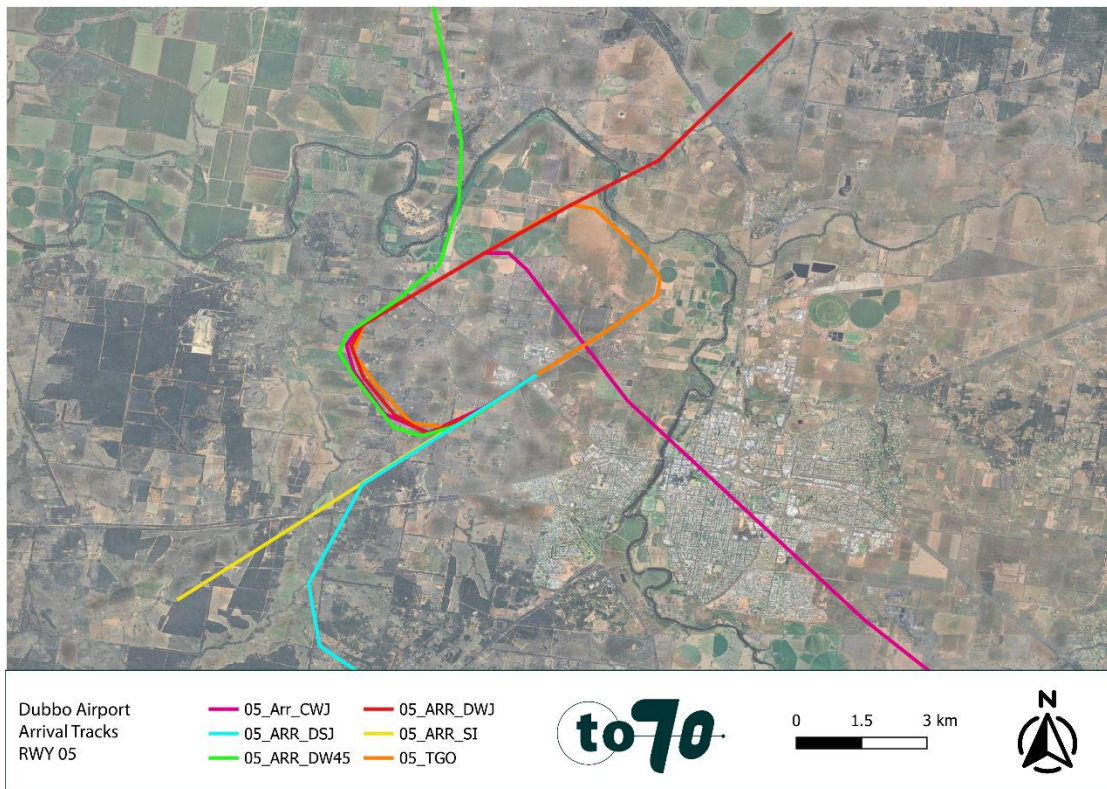


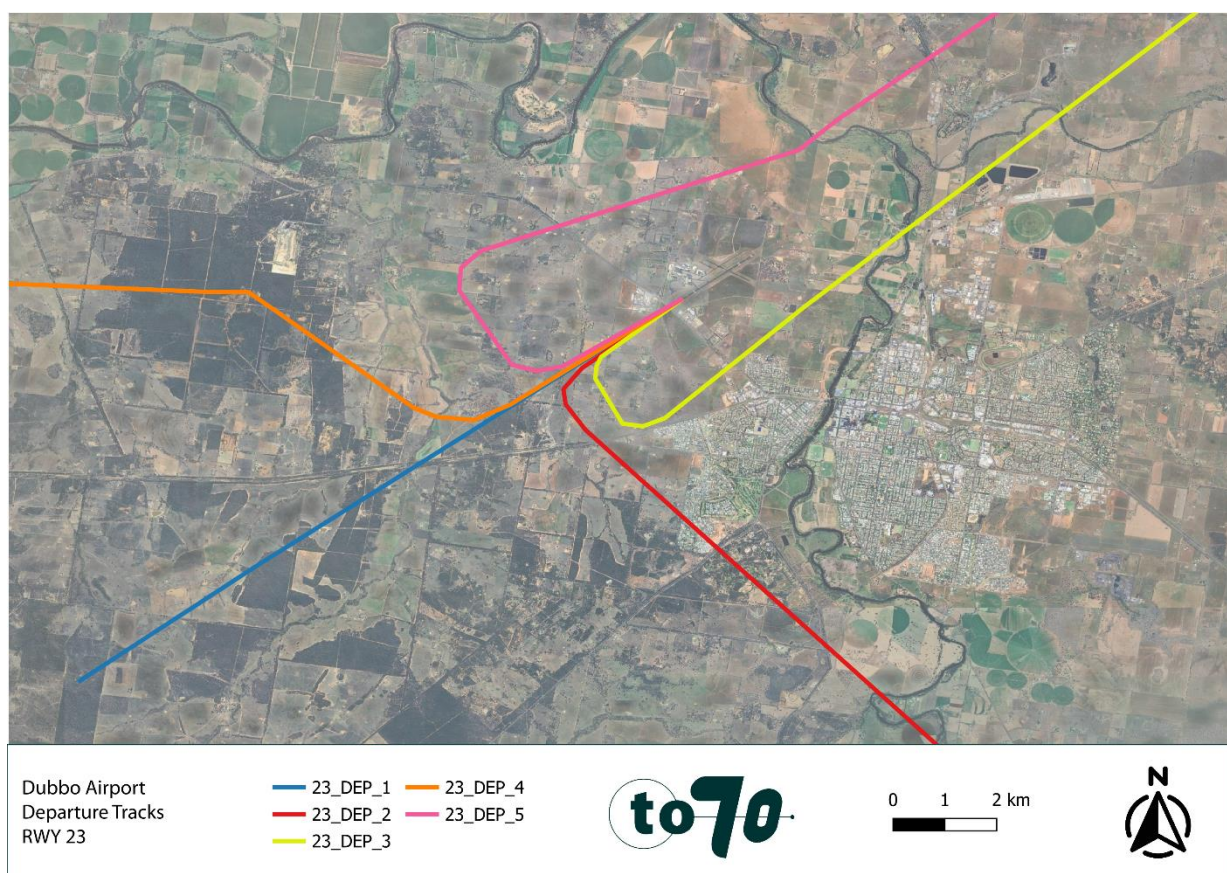
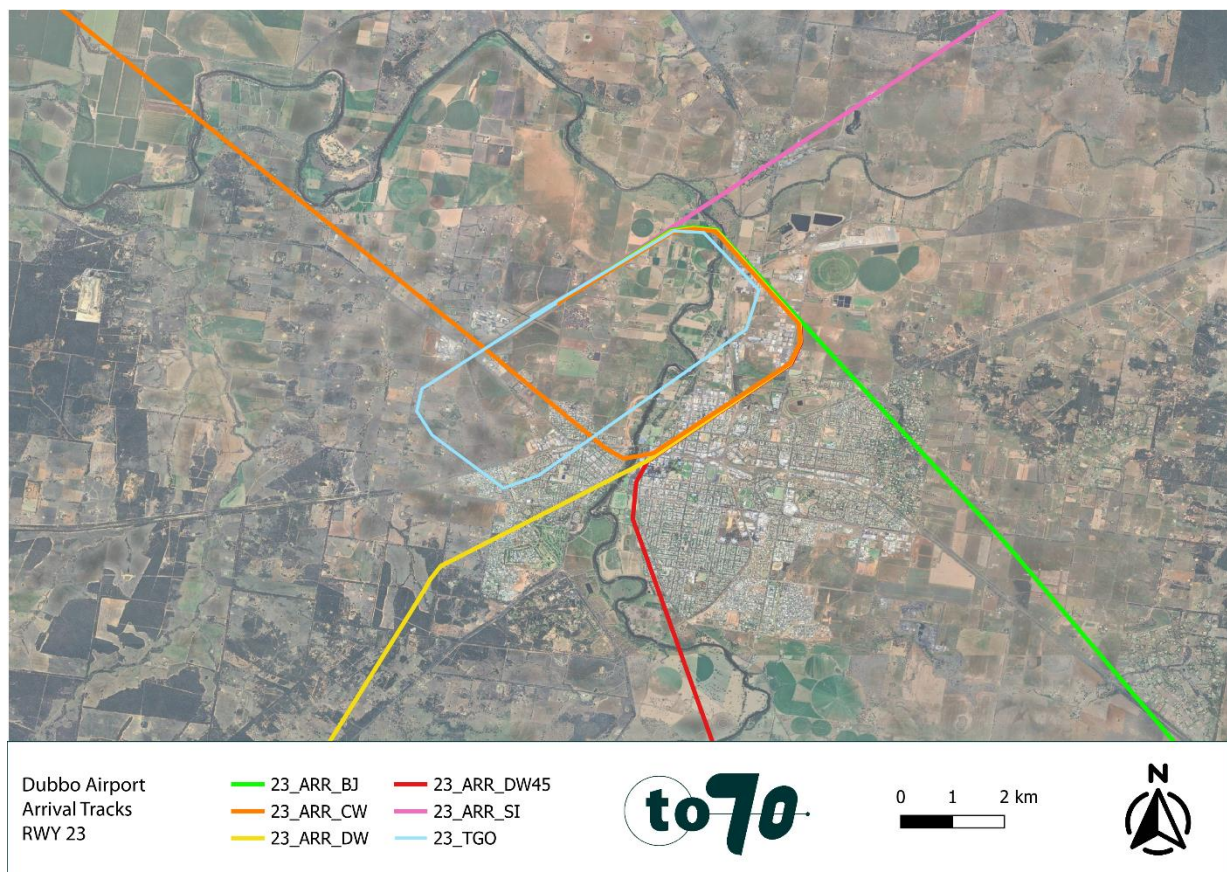


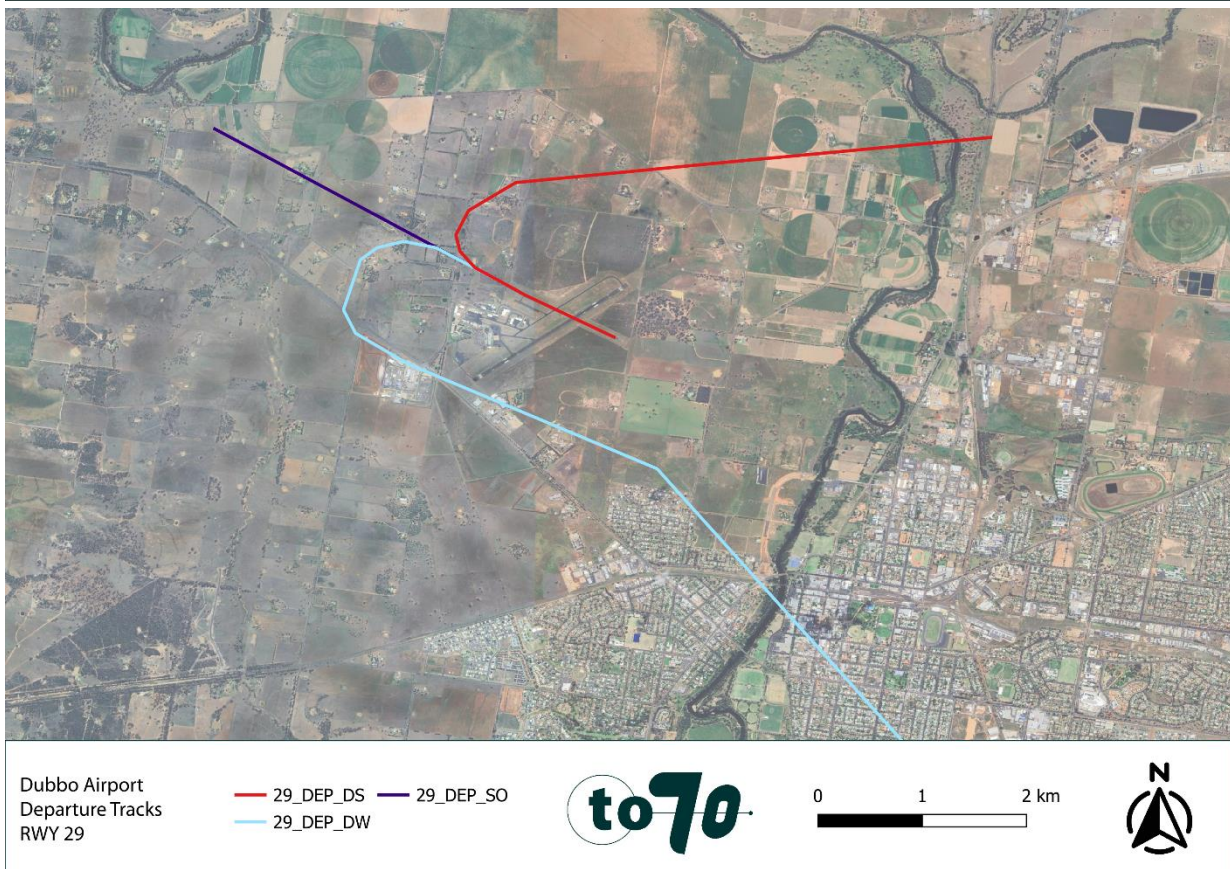
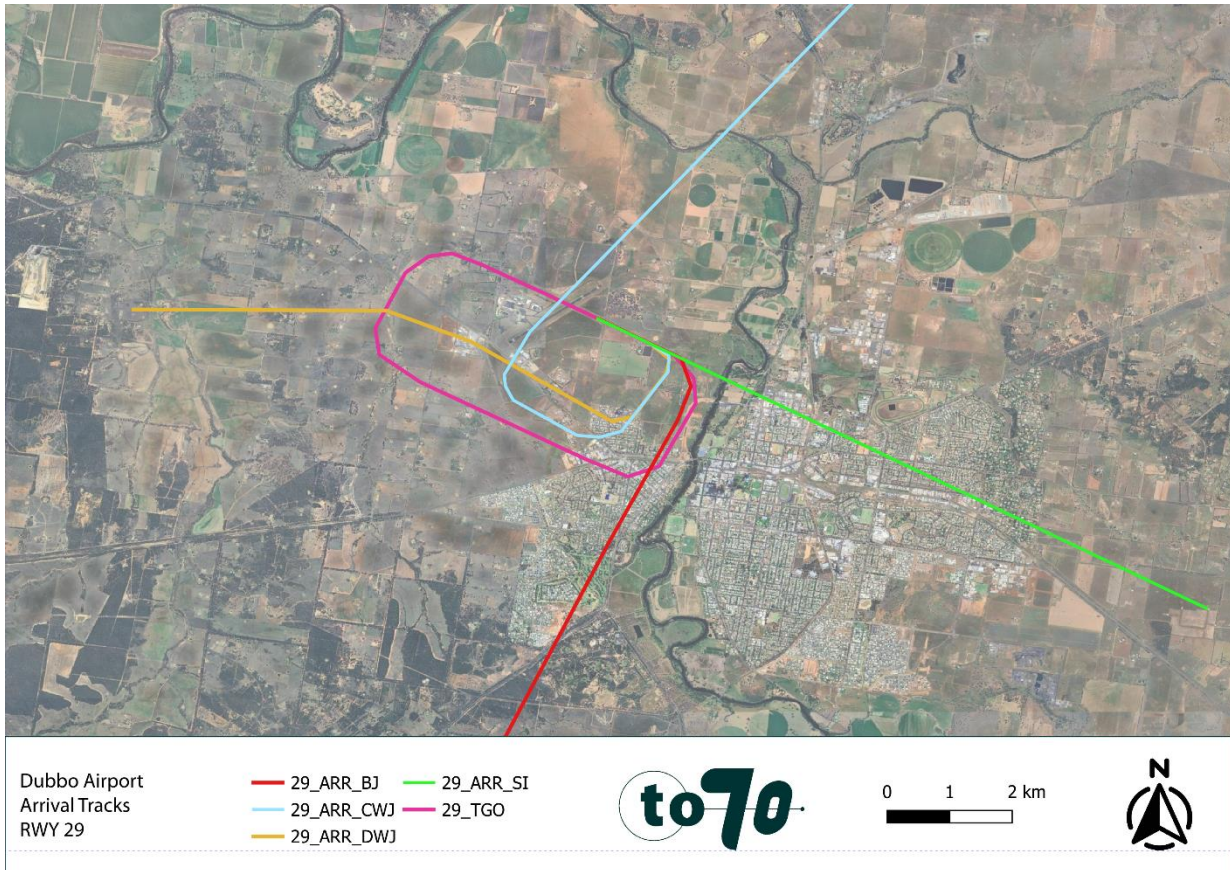


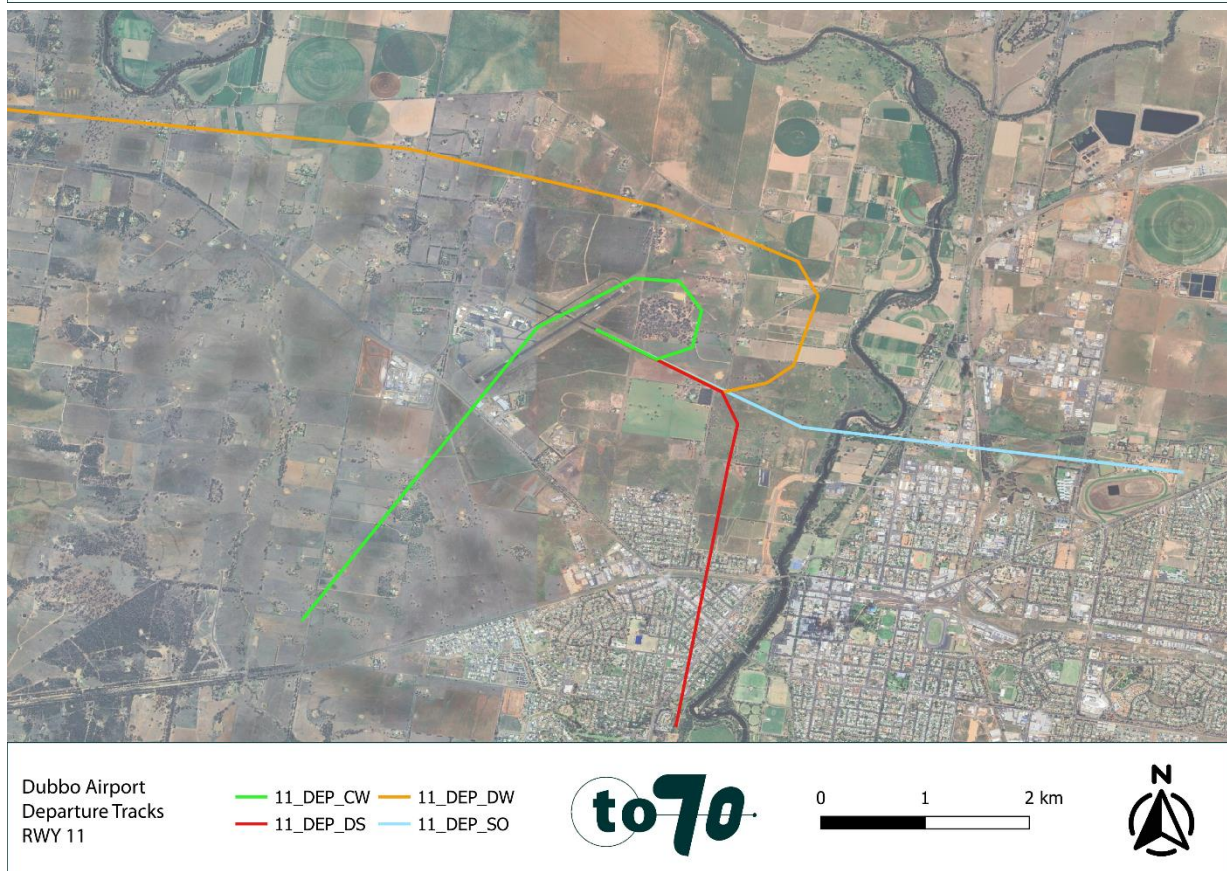
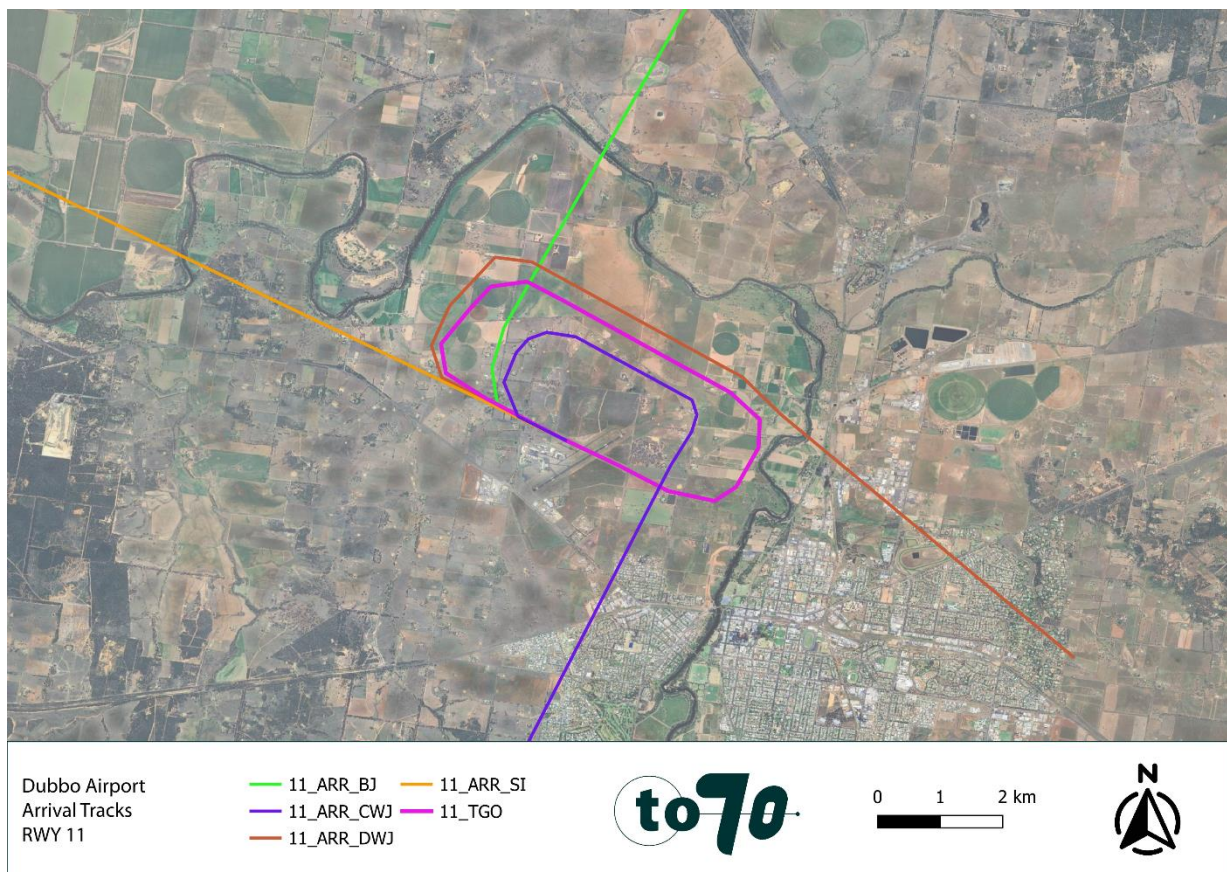


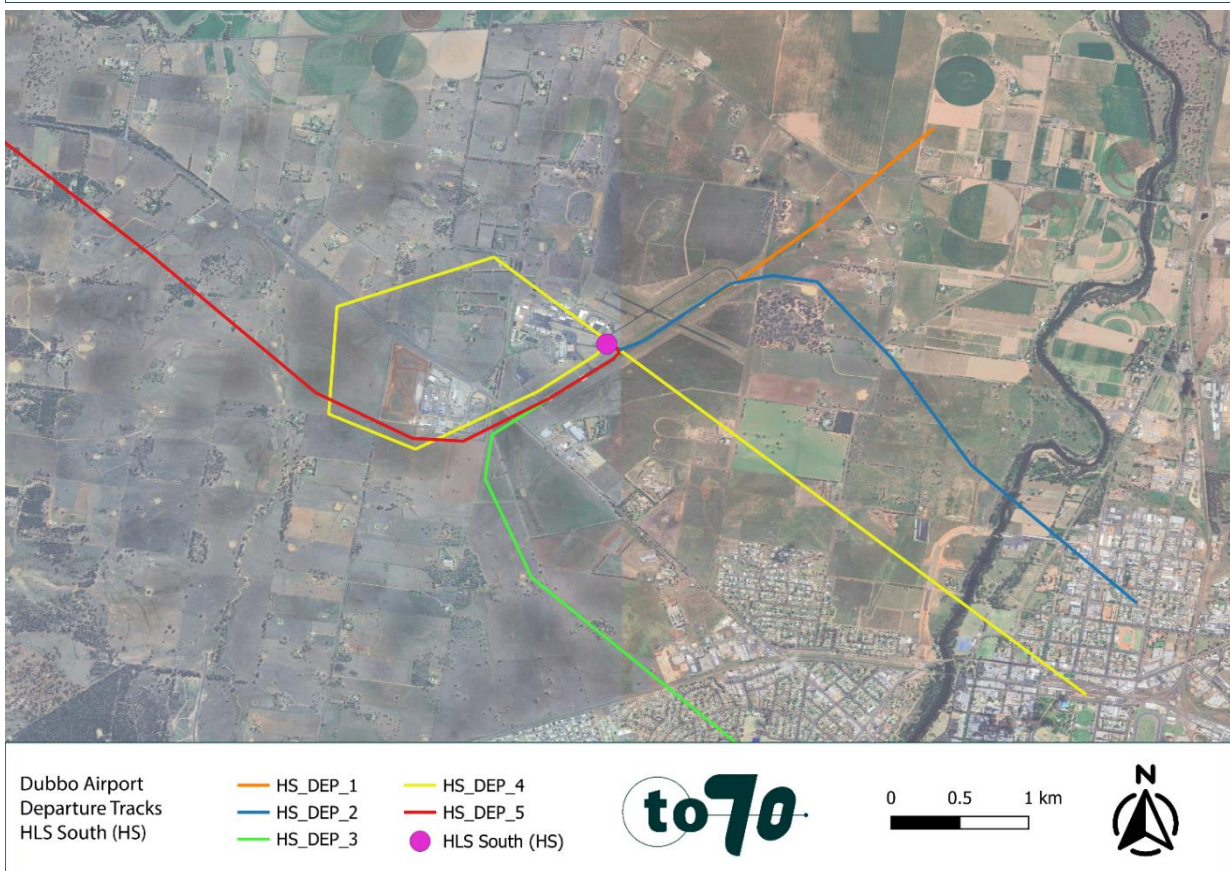
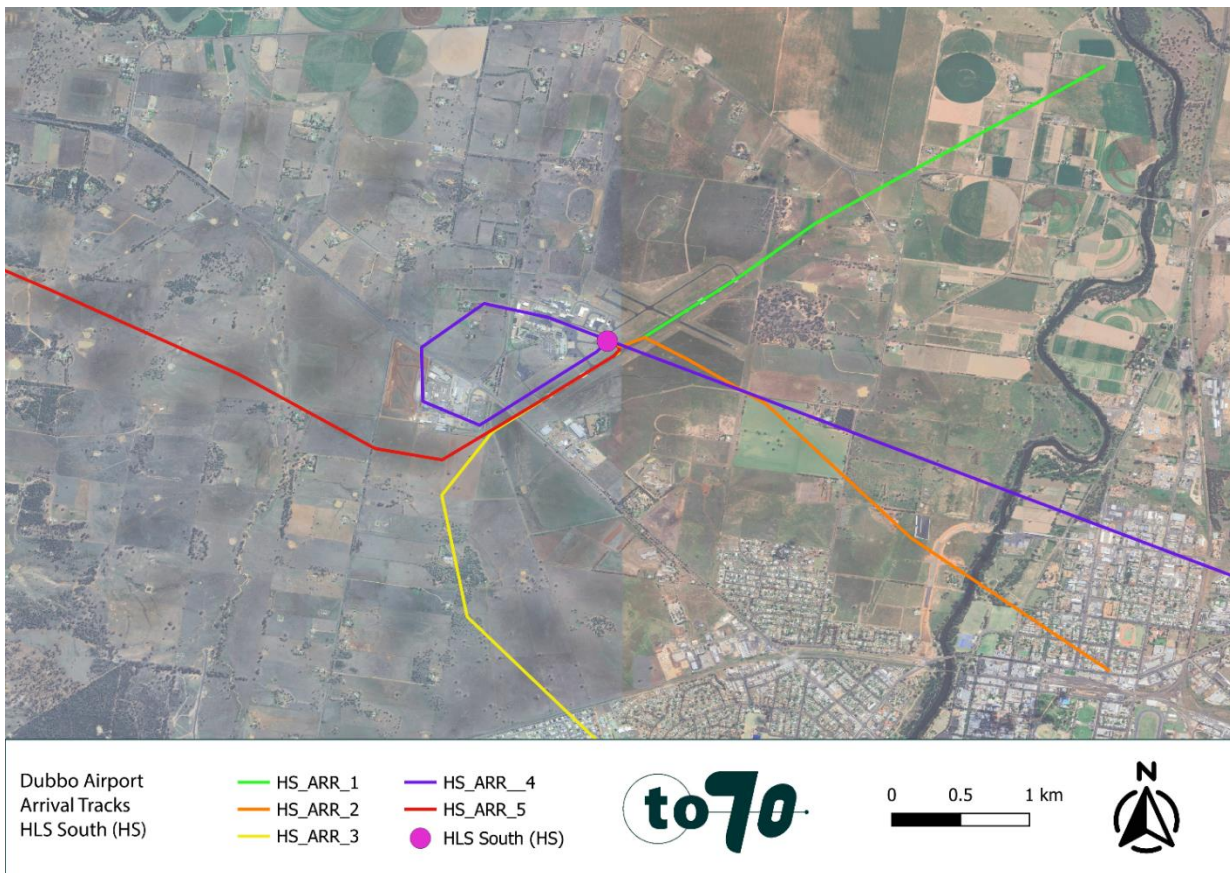
A.2 Modelled flight tracks

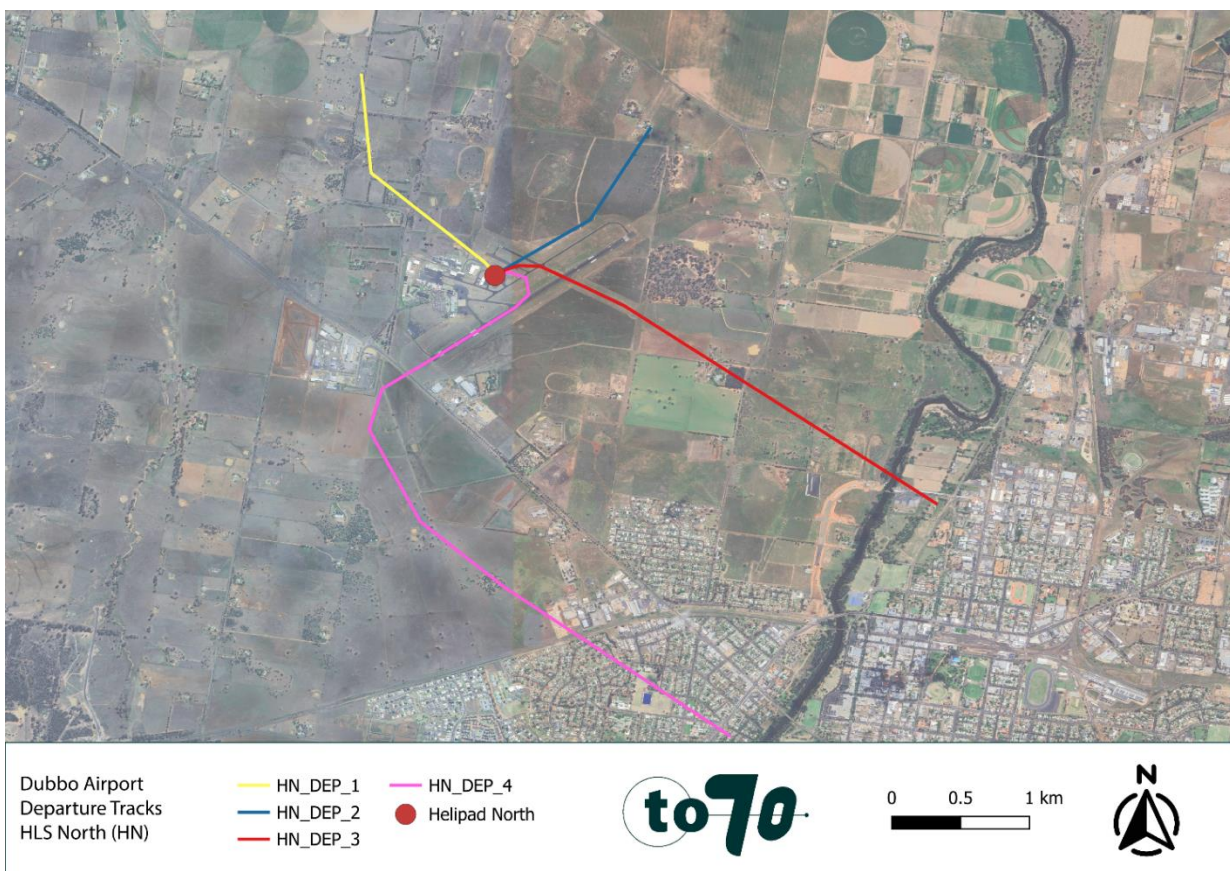
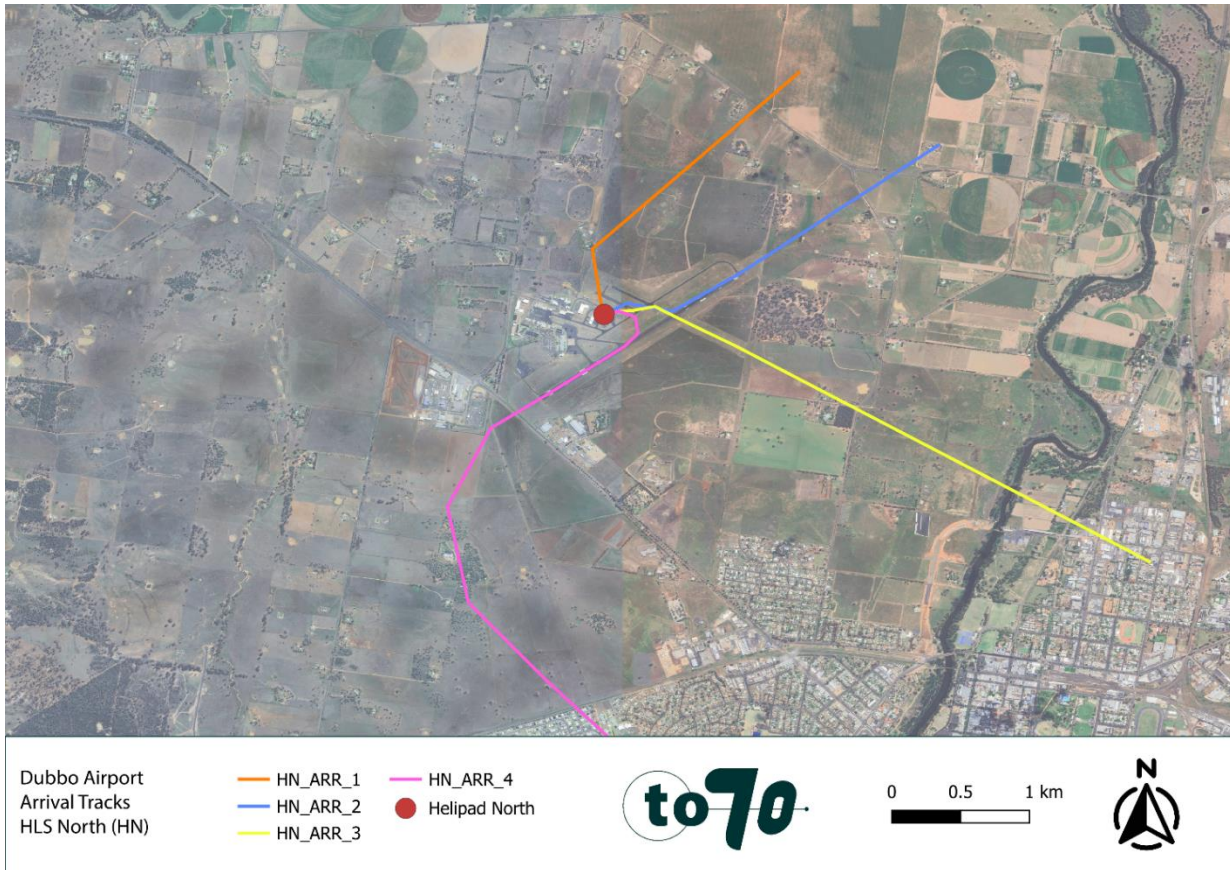












A.3 Track allocation

Arrival tracks	Runway 05
05_ARR_DSJ	15%
05_ARR_DW45	10%
05_ARR_DWJ	25%
05_ARR_CWJ	25%
05_ARR_SI	25%

Departure tracks	Runway 05
05_DEP_5	30%
05_DEP_4	15%
05_DEP_3	25%
05_DEP_2	10%
05_DEP_1	20%

Arrival tracks	Runway 23
23_ARR_BJ	15%
23_ARR_CW	15%
23_ARR_DW	15%
23_ARR_DW45	15%
23_ARR_SI	40%

Departure tracks	Runway 23
23_DEP_5	10%
23_DEP_4	15%
23_DEP_3	25%
23_DEP_2	35%
23_DEP_1	15%

Arrival tracks	Runway 11
11_ARR_BJ	25%
11_ARR_CWJ	25%
11_ARR_DWJ	25%
11_ARR_SI	25%

Departure tracks	Runway 11
11_DEP_CW	20%
11_DEP_DS	20%
11_DEP_DW	20%
11_DEP_SO	40%
11_DEP_CW	20%

Arrival tracks	Runway 29
29_ARR_BJ	20%
29_ARR_CWJ	20%
29_ARR_DWJ	20%
29_ARR_SI	40%

Departure tracks	Runway 29
29_DEP_DS	33%
29_DEP_SO	34%
29_DEP_DW	33%
29_DEP_DS	33%
29_DEP_SO	34%

Helipad North tracks	HN
HN_ARR_1 HN_DEP_1	25%
HN_ARR_2 HN_DEP_2	25%

Helipad South tracks	HS
HS_ARR_1 HS_DEP_1	20%
HS_ARR_2 HS_DEP_2	20%

HN_ARR_3 HN_DEP_3	25%
HN_ARR_4 HN_DEP_4	25%

HS_ARR_3 HS_DEP_3	20%
HS_ARR_4 HS_DEP_4	20%
HS_ARR_5 HS_DEP_5	20%

A.4 Operations breakdown by runway

Runway	ANP profile	Arrivals			Departures			Circuits			Grand Total
		Day	Night	Total	Day	Night	Total	Day	Night	Total	
11	BEC58P	0.26769	0.01460	0.28229	0.26769	0.01460	0.28229	0.05202	0.00217	0.05419	0.61877
	CNA172	0.14804	0.00779	0.15584	0.14804	0.00779	0.15584	0.39804	0.01659	0.41463	0.72630
	CNA182	0.17740	0.00934	0.18674	0.17740	0.00934	0.18674	0.05202	0.00217	0.05419	0.42767
	CNA208	0.06622	0.00374	0.06996	0.06622	0.00374	0.06996	0.00000	0.00000	0.00000	0.13992
	CNA510	0.00637	0.00286	0.00923	0.00637	0.00286	0.00923	0.00000	0.00000	0.00000	0.01847
	CNA525C	0.04463	0.00304	0.04767	0.04463	0.00304	0.04767	0.00000	0.00000	0.00000	0.09534
	CNA55B	0.03095	0.00214	0.03308	0.03095	0.00213	0.03308	0.00000	0.00000	0.00000	0.06616
	COMSEP	0.07402	0.00390	0.07792	0.07402	0.00390	0.07792	0.00000	0.00000	0.00000	0.15584
	DHC6	0.05592	0.02336	0.07927	0.05592	0.02336	0.07927	0.00000	0.00000	0.00000	0.15855
	GASEPF	0.38448	0.02024	0.40471	0.38448	0.02024	0.40471	0.67450	0.02810	0.70260	1.51203
	GASEPV	0.24030	0.01351	0.25381	0.24030	0.01351	0.25381	0.55351	0.02306	0.57658	1.08419
	PA30	0.02967	0.00156	0.03123	0.02967	0.00156	0.03123	0.00000	0.00000	0.00000	0.06247
	Total	1.52570	0.10605	1.63175	1.52570	0.10605	1.63175	1.73010	0.07209	1.80219	5.06570
29	BEC58P	0.18144	0.01107	0.19251	0.18144	0.01107	0.19251	0.02036	0.00085	0.02121	0.40622
	CNA172	0.09870	0.00519	0.10389	0.09870	0.00519	0.10389	0.15576	0.00649	0.16225	0.37003
	CNA182	0.11827	0.00622	0.12449	0.11827	0.00622	0.12449	0.02036	0.00085	0.02121	0.27019
	CNA208	0.06020	0.00392	0.06412	0.06020	0.00392	0.06412	0.00000	0.00000	0.00000	0.12825
	CNA510	0.01911	0.00859	0.02770	0.01911	0.00859	0.02770	0.00000	0.00000	0.00000	0.05540
	CNA525C	0.03100	0.00215	0.03315	0.03100	0.00215	0.03315	0.00000	0.00000	0.00000	0.06630
	CNA55B	0.02361	0.00276	0.02637	0.02361	0.00276	0.02637	0.00000	0.00000	0.00000	0.05274
	COMSEP	0.04935	0.00260	0.05195	0.04935	0.00260	0.05195	0.00000	0.00000	0.00000	0.10389
	DHC6	0.15766	0.06907	0.22673	0.15766	0.06907	0.22673	0.00000	0.00000	0.00000	0.45345
	GASEPF	0.25632	0.01349	0.26981	0.25632	0.01349	0.26981	0.26393	0.01100	0.27493	0.81455
	GASEPV	0.16175	0.00916	0.17090	0.16175	0.00916	0.17090	0.21659	0.00902	0.22562	0.56743
	PA30	0.01978	0.00104	0.02082	0.01978	0.00104	0.02082	0.00000	0.00000	0.00000	0.04164
	Total	1.17718	0.13526	1.31244	1.17718	0.13526	1.31244	0.67700	0.02821	0.70521	3.33008
05E	737300	0.01361	0.00135	0.01496	0.01361	0.00135	0.01496	0.00000	0.00000	0.00000	0.02992
	737700	0.10172	0.01795	0.11967	0.10172	0.01795	0.11967	0.00000	0.00000	0.00000	0.23934
	BAE146	0.05864	0.00580	0.06444	0.05864	0.00580	0.06444	0.00000	0.00000	0.00000	0.12888

	BEC58P	1.57966	0.18376	1.76341	1.57966	0.18376	1.76341	0.07464	0.00311	0.07775	3.60458
	C130AD	0.02031	0.00155	0.02186	0.02031	0.00155	0.02186	0.00000	0.00000	0.00000	0.04373
	CNA172	0.49348	0.02597	0.51945	0.49348	0.02597	0.51945	0.57111	0.02380	0.59490	1.63381
	CNA182	0.59134	0.03112	0.62247	0.59134	0.03112	0.62247	0.07464	0.00311	0.07775	1.32268
	CNA208	0.49369	0.03674	0.53042	0.49369	0.03674	0.53042	0.00000	0.00000	0.00000	1.06085
	CNA510	0.27394	0.12307	0.39701	0.27394	0.12307	0.39701	0.00000	0.00000	0.00000	0.79403
	CNA525C	0.14129	0.00940	0.15068	0.14129	0.00940	0.15068	0.00000	0.00000	0.00000	0.30137
	CNA55B	0.15377	0.02986	0.18363	0.15377	0.02986	0.18363	0.00000	0.00000	0.00000	0.36726
	COMSEP	0.24674	0.01299	0.25973	0.24674	0.01299	0.25973	0.00000	0.00000	0.00000	0.51945
	DHC6	2.22423	0.98647	3.21070	2.22423	0.98647	3.21070	0.00000	0.00000	0.00000	6.42140
	DHC8	1.86420	0.32613	2.19033	1.86420	0.32613	2.19033	0.00000	0.00000	0.00000	4.38066
	DHC830	1.78109	0.31431	2.09540	1.78109	0.31431	2.09540	0.00000	0.00000	0.00000	4.19079
	F10062	0.15258	0.02693	0.17951	0.15258	0.02693	0.17951	0.00000	0.00000	0.00000	0.35901
	GASEPF	1.28159	0.06745	1.34904	1.28159	0.06745	1.34904	0.96776	0.04032	1.00808	3.70616
	GASEPV	0.79173	0.04410	0.83584	0.79173	0.04410	0.83584	0.79417	0.03309	0.82726	2.49893
	GIV	0.02232	0.00069	0.02301	0.02232	0.00069	0.02301	0.00000	0.00000	0.00000	0.04603
	PA30	0.09890	0.00521	0.10411	0.09890	0.00521	0.10411	0.00000	0.00000	0.00000	0.20822
	SF340	1.84466	0.32553	2.17019	1.84466	0.32553	2.17019	0.00000	0.00000	0.00000	4.34038
	Total	14.22949	2.57637	16.80586	14.22949	2.57637	16.80586	2.48232	0.10343	2.58575	36.19748
23E	737300	0.01880	0.00186	0.02066	0.01880	0.00186	0.02066	0.00000	0.00000	0.00000	0.04131
	737700	0.14047	0.02479	0.16526	0.14047	0.02479	0.16526	0.00000	0.00000	0.00000	0.33052
	BAE146	0.08098	0.00801	0.08899	0.08098	0.00801	0.08899	0.00000	0.00000	0.00000	0.17797
	BEC58P	1.83498	0.23229	2.06727	1.83498	0.23229	2.06727	0.07917	0.00330	0.08247	4.21701
	C130AD	0.02805	0.00215	0.03019	0.02805	0.00215	0.03019	0.00000	0.00000	0.00000	0.06038
	CNA172	0.49348	0.02597	0.51945	0.49348	0.02597	0.51945	0.60572	0.02524	0.63096	1.66986
	CNA182	0.59134	0.03112	0.62247	0.59134	0.03112	0.62247	0.07917	0.00330	0.08247	1.32740
	CNA208	0.56250	0.04286	0.60536	0.56250	0.04286	0.60536	0.00000	0.00000	0.00000	1.21071
	CNA510	0.33765	0.15170	0.48934	0.33765	0.15170	0.48934	0.00000	0.00000	0.00000	0.97868
	CNA525C	0.15500	0.01075	0.16575	0.15500	0.01075	0.16575	0.00000	0.00000	0.00000	0.33151
	CNA55B	0.16653	0.03559	0.20212	0.16653	0.03559	0.20212	0.00000	0.00000	0.00000	0.40425
	COMSEP	0.24674	0.01299	0.25973	0.24674	0.01299	0.25973	0.00000	0.00000	0.00000	0.51945
	DHC6	2.74265	1.21600	3.95864	2.74265	1.21600	3.95864	0.00000	0.00000	0.00000	7.91729

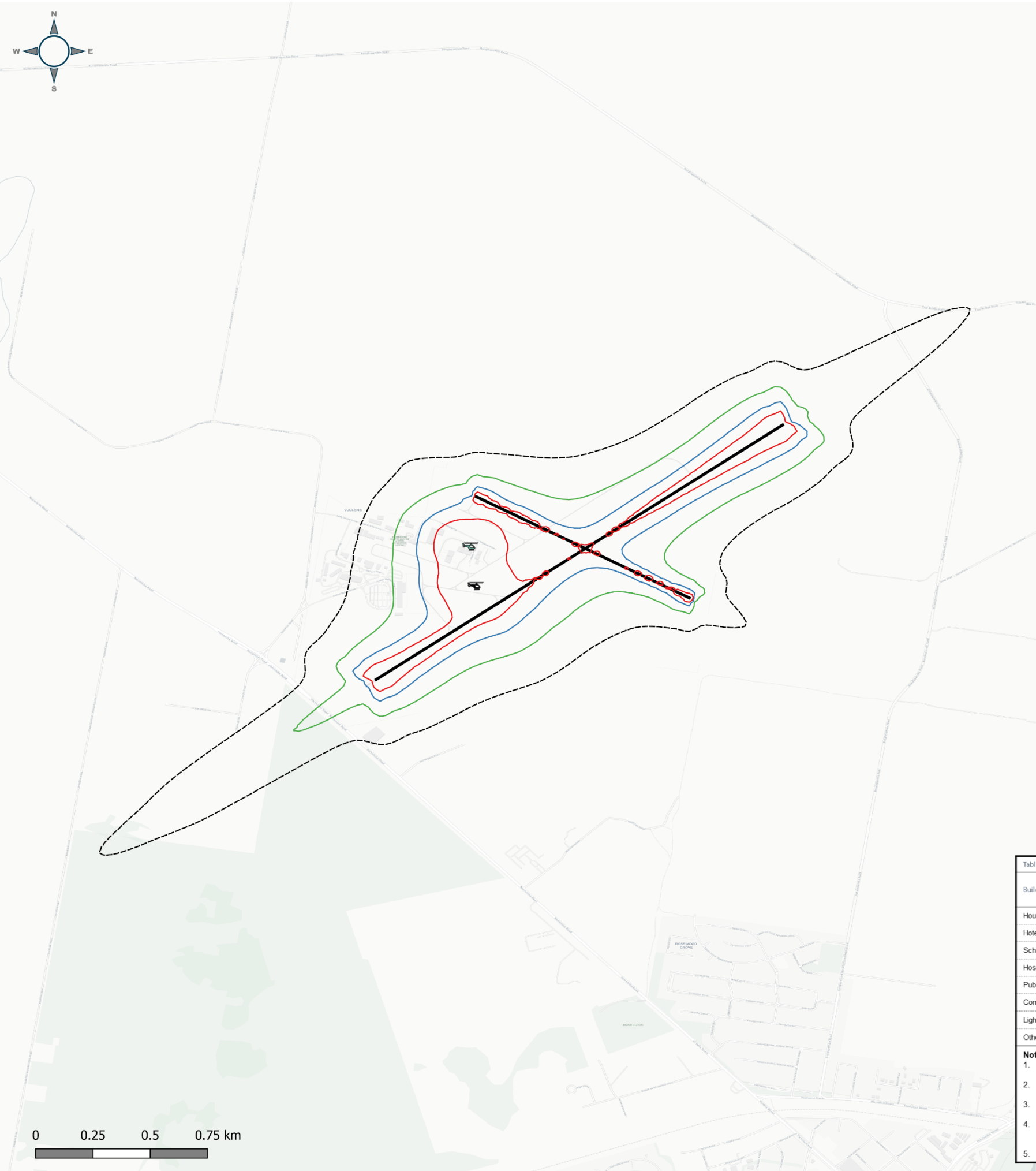
	DHC8	2.57437	0.45037	3.02474	2.57437	0.45037	3.02474	0.00000	0.00000	0.00000	6.04948
	DHC830	2.45960	0.43405	2.89364	2.45960	0.43405	2.89364	0.00000	0.00000	0.00000	5.78729
	F10062	0.21071	0.03718	0.24789	0.21071	0.03718	0.24789	0.00000	0.00000	0.00000	0.49578
	GASEPF	1.28159	0.06745	1.34904	1.28159	0.06745	1.34904	1.02641	0.04277	1.06918	3.76726
	GASEPV	0.80874	0.04578	0.85452	0.80874	0.04578	0.85452	0.84230	0.03510	0.87740	2.58644
	GIV	0.03083	0.00095	0.03178	0.03083	0.00095	0.03178	0.00000	0.00000	0.00000	0.06356
	PA30	0.09890	0.00521	0.10411	0.09890	0.00521	0.10411	0.00000	0.00000	0.00000	0.20822
	SF340	2.54739	0.44954	2.99693	2.54739	0.44954	2.99693	0.00000	0.00000	0.00000	5.99386
	Total	17.41128	3.28661	20.69789	17.41128	3.28661	20.69789	2.63277	0.10970	2.74247	44.13825
HN	B206B3	0.00987	0.00098	0.01085	0.00987	0.00098	0.01085	0.00000	0.00000	0.00000	0.02170
	B407	0.01975	0.00195	0.02170	0.01975	0.00195	0.02170	0.00000	0.00000	0.00000	0.04340
	B427	0.00987	0.00098	0.01085	0.00987	0.00098	0.01085	0.00000	0.00000	0.00000	0.02170
	B429	0.00709	0.00318	0.01027	0.00709	0.00318	0.01027	0.00000	0.00000	0.00000	0.02055
	B430	0.28226	0.09481	0.37707	0.28226	0.09481	0.37707	0.00000	0.00000	0.00000	0.75414
	EC130	0.13428	0.00870	0.14299	0.13428	0.00870	0.14299	0.00000	0.00000	0.00000	0.28597
	R44	0.09890	0.00521	0.10411	0.09890	0.00521	0.10411	0.00000	0.00000	0.00000	0.20822
	Total	0.56202	0.11581	0.67784	0.56202	0.11581	0.67784	0.00000	0.00000	0.00000	1.35567
HS	B206B3	0.00509	0.00050	0.00559	0.00509	0.00050	0.00559	0.00000	0.00000	0.00000	0.01118
	B407	0.01017	0.00101	0.01118	0.01017	0.00101	0.01118	0.00000	0.00000	0.00000	0.02236
	B427	0.00509	0.00050	0.00559	0.00509	0.00050	0.00559	0.00000	0.00000	0.00000	0.01118
	B429	0.00709	0.00319	0.01027	0.00709	0.00319	0.01027	0.00000	0.00000	0.00000	0.02055
	B430	0.25392	0.09093	0.34485	0.25392	0.09093	0.34485	0.00000	0.00000	0.00000	0.68970
	EC130	0.16658	0.00961	0.17619	0.16658	0.00961	0.17619	0.00000	0.00000	0.00000	0.35238
	R44	0.14836	0.00781	0.15616	0.14836	0.00781	0.15616	0.00000	0.00000	0.00000	0.31233
	Total	0.59629	0.11354	0.70984	0.59629	0.11354	0.70984	0.00000	0.00000	0.00000	1.41967
Grand Total		35.50197	6.33364	41.83562	35.50197	6.33364	41.83562	7.52219	0.31342	7.83562	91.50685

A.5 Track usage by ANP profile

RWY	Track	ANP ID																													
		737300	737700	B206B3	B407	B427	B429	B430	BAE146	BEC58P	C130AD	CNA172	CNA182	CNA208	CNA510	CNA525C	CNA55B	COMSEP	DHC6	DHC8	DHC830	EC130	F10062	GASEPF	GASEPV	GIV	PA30	R44	SF340	Grand Total	
11	11_ARR_BJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.071	0.000	0.039	0.047	0.017	0.002	0.012	0.008	0.019	0.020	0.000	0.000	0.000	0.000	0.101	0.063	0.000	0.008	0.000	0.000	0.000	0.408
	11_ARR_CWJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.071	0.000	0.039	0.047	0.017	0.002	0.012	0.008	0.019	0.020	0.000	0.000	0.000	0.000	0.101	0.063	0.000	0.008	0.000	0.000	0.000	0.408
	11_ARR_DWJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.071	0.000	0.039	0.047	0.017	0.002	0.012	0.008	0.019	0.020	0.000	0.000	0.000	0.000	0.101	0.063	0.000	0.008	0.000	0.000	0.000	0.408
	11_ARR_SI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.071	0.000	0.039	0.047	0.017	0.002	0.012	0.008	0.019	0.020	0.000	0.000	0.000	0.000	0.101	0.063	0.000	0.008	0.000	0.000	0.000	0.408
	11_TGO	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.054	0.000	0.415	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.703	0.577	0.000	0.000	0.000	0.000	1.802	
	11_DEP_CW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056	0.000	0.031	0.037	0.014	0.002	0.010	0.007	0.016	0.016	0.000	0.000	0.000	0.000	0.081	0.051	0.000	0.006	0.000	0.000	0.000	0.326
	11_DEP_DS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056	0.000	0.031	0.037	0.014	0.002	0.010	0.007	0.016	0.016	0.000	0.000	0.000	0.000	0.081	0.051	0.000	0.006	0.000	0.000	0.000	0.326
	11_DEP_DW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056	0.000	0.031	0.037	0.014	0.002	0.010	0.007	0.016	0.016	0.000	0.000	0.000	0.000	0.081	0.051	0.000	0.006	0.000	0.000	0.000	0.326
	11_DEP_SO	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.113	0.000	0.062	0.075	0.028	0.004	0.019	0.013	0.031	0.032	0.000	0.000	0.000	0.000	0.162	0.102	0.000	0.012	0.000	0.000	0.000	0.653
	Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.619	0.000	0.726	0.428	0.140	0.018	0.095	0.066	0.156	0.159	0.000	0.000	0.000	0.000	1.512	1.084	0.000	0.062	0.000	0.000	0.000	5.066
29	29_ARR_BJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.000	0.021	0.025	0.013	0.006	0.007	0.005	0.010	0.045	0.000	0.000	0.000	0.000	0.054	0.034	0.000	0.004	0.000	0.000	0.000	0.262
	29_ARR_CWJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.000	0.021	0.025	0.013	0.006	0.007	0.005	0.010	0.045	0.000	0.000	0.000	0.000	0.054	0.034	0.000	0.004	0.000	0.000	0.000	0.262
	29_ARR_DWJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.000	0.021	0.025	0.013	0.006	0.007	0.005	0.010	0.045	0.000	0.000	0.000	0.000	0.054	0.034	0.000	0.004	0.000	0.000	0.000	0.262
	29_ARR_SI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077	0.000	0.042	0.050	0.026	0.011	0.013	0.011	0.021	0.091	0.000	0.000	0.000	0.000	0.108	0.068	0.000	0.008	0.000	0.000	0.000	0.525
	29_TGO	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.162	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.275	0.226	0.000	0.000	0.000	0.000	0.000	0.705
	29_DEP_DS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.064	0.000	0.034	0.041	0.021	0.009	0.011	0.009	0.017	0.075	0.000	0.000	0.000	0.000	0.089	0.056	0.000	0.007	0.000	0.000	0.000	0.433
	29_DEP_DW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.064	0.000	0.034	0.041	0.021	0.009	0.011	0.009	0.017	0.075	0.000	0.000	0.000	0.000	0.089	0.056	0.000	0.007	0.000	0.000	0.000	0.433
	29_DEP_SO	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.065	0.000	0.035	0.042	0.022	0.009	0.011	0.009	0.018	0.077	0.000	0.000	0.000	0.000	0.092	0.058	0.000	0.007	0.000	0.000	0.000	0.446
	Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.406	0.000	0.370	0.270	0.128	0.055	0.066	0.053	0.104	0.453	0.000	0.000	0.000	0.000	0.815	0.567	0.000	0.042	0.000	0.000	0.000	3.330
	05E	05E_ARR_CWJ	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.254	0.005	0.130	0.156	0.133	0.099	0.038	0.046	0.065	0.803	0.005	0.000	0.000	0.000	0.337	0.209	0.006	0.026	0.000	0.000	0.000
05E_ARR_DSJ		0.002	0.060	0.000	0.000	0.000	0.000	0.000	0.010	0.527	0.003	0.078	0.093	0.080	0.060	0.023	0.028	0.039	0.482	1.088	1.048	0.000	0.090	0.202	0.125	0.003	0.016	0.000	1.085	5.140	
05E_ARR_DW4		0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.101	0.002	0.052	0.062	0.053	0.040	0.015	0.018	0.026	0.321	0.002	0.000	0.000	0.000	0.135	0.084	0.002	0.010	0.000	0.000	0.000	0.932
05E_ARR_DWJ		0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.254	0.005	0.130	0.156	0.133	0.099	0.038	0.046	0.065	0.803	0.005	0.000	0.000	0.000	0.337	0.209	0.006	0.026	0.000	0.000	0.000	2.330
05E_ARR_SI		0.004	0.060	0.000	0.000	0.000	0.000	0.000	0.016	0.628	0.005	0.130	0.156	0.133	0.099	0.038	0.046	0.065	0.803	1.090	1.048	0.000	0.090	0.337	0.209	0.006	0.026	0.000	1.085	6.072	
05E_TGO		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.078	0.000	0.595	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.008	0.827	0.000	0.000	0.000	0.000	0.000	2.586
05E_DEP_1		0.003	0.024	0.000	0.000	0.000	0.000	0.000	0.013	0.353	0.004	0.104	0.124	0.106	0.079	0.030	0.037	0.052	0.642	0.438	0.419	0.000	0.036	0.270	0.167	0.005	0.021	0.000	0.434	3.361	
05E_DEP_2		0.001	0.012	0.000	0.000	0.000	0.000	0.000	0.006	0.176	0.002	0.052	0.062	0.053	0.040	0.015	0.018	0.026	0.321	0.219	0.210	0.000	0.018	0.135	0.084	0.002	0.010	0.000	0.217	1.681	
05E_DEP_3		0.004	0.030	0.000	0.000	0.000	0.000	0.000	0.016	0.441	0.005	0.130	0.156	0.133	0.099	0.038	0.046	0.065	0.803	0.548	0.524	0.000	0.045	0.337	0.209	0.006	0.026	0.000	0.543	4.201	
05E_DEP_4		0.002	0.018	0.000	0.000	0.000	0.000	0.000	0.010	0.265	0.003	0.078	0.093	0.080	0.060	0.023	0.028	0.039	0.482	0.329	0.314	0.000	0.027	0.202	0.125	0.003	0.016	0.000	0.326	2.521	
05E_DEP_5	0.004	0.036	0.000	0.000	0.000	0.000	0.000	0.019	0.529	0.007	0.156	0.187	0.159	0.119	0.045	0.055	0.078	0.963	0.657	0.629	0.000	0.054	0.405	0.251	0.007	0.031	0.000	0.651	5.042		
Total	0.030	0.239	0.000	0.000	0.000	0.000	0.000	0.129	3.605	0.044	1.634	1.323	1.061	0.794	0.301	0.367	0.519	6.421	4.381	4.191	0.000	0.359	3.706	2.499	0.046	0.208	0.000	4.340	36.197		
23E	23E_ARR_BJ	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.155	0.005	0.078	0.093	0.091	0.073	0.025	0.030	0.039	0.594	0.004	0.000	0.000	0.000	0.202	0.128	0.005					

A.7 ANEF chart

Dubbo Regional Airport Australian Noise Exposure Forecast (ANEF) 2045



Notes:

1. Terrain has been included in the calculation of the ANEF contours
2. ANEF contours modelled using AEDT 3e
3. Co-ordinate system: WGS84
4. Where figures have been rounded, there may be discrepancies between the total presented and the sum of the items in that column

Issue date: 12 May 2025

Drawn By: To70 Aviation

Endorsement for technical accuracy Standard ANEF



Date:/...../.....

Team Lead - Environmental Assessments

The aircraft noise contours on this chart have been calculated using an appropriate modelling process. Airlservices Australia has, in accordance with the approved manner of endorsement, considered the physical ultimate capacity of the existing or proposed runways in its endorsement process.
The data input and assumptions made in that process are derived in part from external sources. Airlservices Australia makes no warranty in respect of that information and excludes all liability for any loss arising from reliance on that information.

Runway end	Latitude	Longitude
11	-32.21436	148.57344
29	-32.21904	148.58335
05	-32.2228	148.56884
23 Extension	-32.2110735702	148.58767520
HN	-32.21667263	148.57319736
HS	-32.21849511	148.57344637

Legend

ANEF

- 20
- 25
- 30
- 35

Runways

- 05-23E
- 11-29

HLS

- HN
- HS



RWY	ANP Profile	Arrivals				Departures				Circuits				Grand Total
		Day	Night	Total		Day	Night	Total		Day	Night	Total		
11	BEC58P	0.26769	0.01460	0.28229	0.26769	0.01460	0.28229	0.55202	0.00217	0.55419			0.61877	
	CNA172	0.14804	0.00779	0.15584	0.14804	0.00779	0.15584	0.39804	0.01659	0.41463			0.72630	
	CNA182	0.17740	0.00934	0.18674	0.17740	0.00934	0.18674	0.05202	0.00217	0.05419			0.42767	
	CNA208	0.06622	0.00374	0.06996	0.06622	0.00374	0.06996	0.00000	0.00000	0.00000			0.13992	
	CNA510	0.00637	0.00286	0.00923	0.00637	0.00286	0.00923	0.00000	0.00000	0.00000			0.01847	
	CNA525C	0.04463	0.00304	0.04767	0.04463	0.00304	0.04767	0.00000	0.00000	0.00000			0.09534	
	CNA558	0.03095	0.00214	0.03308	0.03095	0.00213	0.03308	0.00000	0.00000	0.00000			0.06616	
	COMSEP	0.07402	0.00390	0.07792	0.07402	0.00390	0.07792	0.00000	0.00000	0.00000			0.15584	
	DHC6	0.05592	0.02356	0.07927	0.05592	0.02356	0.07927	0.00000	0.00000	0.00000			0.15855	
	GASEFF	0.38448	0.02024	0.40471	0.38448	0.02024	0.40471	0.74750	0.02810	0.70260			1.51203	
	GASEPV	0.24030	0.01351	0.25381	0.24030	0.01351	0.25381	0.55351	0.02306	0.57658			1.08419	
	PA30	0.02967	0.00156	0.03123	0.02967	0.00156	0.03123	0.00000	0.00000	0.00000			0.06247	
	Total	1.52570	0.10605	1.63175	1.52570	0.10605	1.63175	1.73010	0.07209	1.80219			5.06570	
29	BEC58P	0.18144	0.01107	0.19251	0.18144	0.01107	0.19251	0.02036	0.00885	0.02121			0.40602	
	CNA172	0.09870	0.00519	0.10389	0.09870	0.00519	0.10389	0.15576	0.00649	0.16225			0.37003	
	CNA182	0.11827	0.00622	0.12449	0.11827	0.00622	0.12449	0.02036	0.00885	0.02121			0.27019	
	CNA208	0.06020	0.00392	0.06412	0.06020	0.00392	0.06412	0.00000	0.00000	0.00000			0.12825	
	CNA510	0.01911	0.00859	0.02770	0.01911	0.00859	0.02770	0.00000	0.00000	0.00000			0.05540	
	CNA525C	0.03100	0.00215	0.03315	0.03100	0.00215	0.03315	0.00000	0.00000	0.00000			0.06630	
	CNA558	0.02361	0.00276	0.02637	0.02361	0.00276	0.02637	0.00000	0.00000	0.00000			0.05274	
	COMSEP	0.04935	0.00260	0.05195	0.04935	0.00260	0.05195	0.00000	0.00000	0.00000			0.10389	
	DHC6	0.15766	0.06907	0.22673	0.15766	0.06907	0.22673	0.00000	0.00000	0.00000			0.45345	
	GASEFF	0.25632	0.01349	0.26981	0.25632	0.01349	0.26981	0.26393	0.01100	0.27493			0.81455	
	GASEPV	0.16175	0.00916	0.17090	0.16175	0.00916	0.17090	0.21659	0.00902	0.22562			0.56743	
	PA30	0.01978	0.00104	0.02082	0.01978	0.00104	0.02082	0.00000	0.00000	0.00000			0.04164	
	Total	1.17718	0.13526	1.31244	1.17718	0.13526	1.31244	0.67700	0.02821	0.70521			3.33008	
05	737300	0.01361	0.00135	0.01496	0.01361	0.00135	0.01496	0.00000	0.00000	0.00000			0.02992	
	737700	0.10172	0.01795	0.11967	0.10172	0.01795	0.11967	0.00000	0.00000	0.00000			0.23934	
	BAE146	0.05864	0.00580	0.06444	0.05864	0.00580	0.06444	0.00000	0.00000	0.00000			0.12888	
	BEC58P	1.57966	0.18376	1.76341	1.57966	0.18376	1.76341	0.74644	0.00311	0.77775			3.60458	
	C130AD	0.02031	0.00155	0.02186	0.02031	0.00155	0.02186	0.00000	0.00000	0.00000			0.04373	
	CNA172	0.49348	0.02597	0.51945	0.49348	0.02597	0.51945	0.57111	0.02380	0.59490			1.63381	
	CNA182	0.59134	0.03112	0.62247	0.59134	0.03112	0.62247	0.07464	0.00311	0.07775			1.32268	
	CNA208	0.49369	0.03674	0.53042	0.49369	0.03674	0.53042	0.00000	0.00000	0.00000			1.06085	
	CNA510	0.27394	0.12307	0.39701	0.27394	0.12307	0.39701	0.00000	0.00000	0.00000			0.79403	
	CNA525C	0.14129	0.00940	0.15068	0.14129	0.00940	0.15068	0.00000	0.00000	0.00000			0.30137	
	CNA558	0.15377	0.02986	0.18363	0.15377	0.02986	0.18363	0.00000	0.00000	0.00000			0.36726	
	COMSEP	0.24674	0.01299	0.25973	0.24674	0.01299	0.25973	0.00000	0.00000	0.00000			0.51945	
	DHC6	2.22423	0.98647	3.21070	2.22423	0.98647	3.21070	0.00000	0.00000	0.00000			6.42140	
DHC8	1.86420	0.32613	2.19033	1.86420	0.32613	2.19033	0.00000	0.00000	0.00000			4.38066		
DHC830	1.78109	0.31431	2.09540	1.78109	0.31431	2.09540	0.00000	0.00000	0.00000			4.19079		
F10062	0.15258	0.02693	0.17951	0.15258	0.02693	0.17951	0.00000	0.00000	0.00000			0.35901		
GASEFF	1.28159	0.06745	1.34904	1.28159	0.06745	1.34904	0.96776	0.04032	1.00808			3.70616		
GASEPV	0.79173	0.04410	0.83584	0.79173	0.04410	0.83584	0.79417	0.03309	0.82726			2.49893		
GIV	0.02232	0.00069	0.02301	0.02232	0.00069	0.02301	0.00000	0.00000	0.00000			0.04603		
PA30	0.09890	0.00521	0.10411	0.09890	0.00521	0.10411	0.00000	0.00000	0.00000			0.20822		
SF340	1.84466	0.32553	2.17019	1.84466	0.32553	2.17019	0.00000	0.00000	0.00000			4.43038		
Total	14.22949	2.57637	16.80586	14.22949	2.57637	16.80586	2.48232	0.10343	2.58575			36.19748		
23E	737300	0.01880	0.00186	0.02066	0.01880	0.00186	0.02066	0.00000	0.00000	0.00000			0.04131	
	737700	0.14047	0.02479	0.16526	0.14047	0.02479	0.16526	0.00000	0.00000	0.00000			0.33052	
	BAE146	0.08098	0.00801	0.08899	0.08098	0.00801	0.08899	0.00000	0.00000	0.00000			0.17797	
	BEC58P	1.83498	0.23229	2.06727	1.83498	0.23229	2.06727	0.79717	0.00330	0.80247			4.21701	
	C130AD	0.02805	0.00215	0.03019	0.02805	0.00215	0.03019	0.00000	0.00000	0.00000			0.06038	
	CNA172	0.49348	0.02597	0.51945	0.49348	0.02597	0.51945	0.60572	0.02524	0.63096			1.66986	
	CNA182	0.59134	0.03112	0.62247	0.59134	0.03112	0.62247	0.79717	0.00330	0.80247			1.32740	
	CNA208	0.56250	0.04286	0.60536	0.56250	0.04286	0.60536	0.00000	0.00000	0.00000			1.21071	
	CNA510	0.33765	0.15170	0.48934	0.33765	0.15170	0.48934	0.00000	0.00000	0.00000			0.97868	
	CNA525C	0.15500	0.01075	0.16575	0.15500	0.01075	0.16575	0.00000	0.00000	0.00000			0.33151	
	CNA558	0.16653	0.03559	0.20212	0.16653	0.03559	0.20212	0.00000	0.00000	0.00000			0.40425	
	COMSEP	0.24674	0.01299	0.25973	0.24674	0.01299	0.25973	0.00000	0.00000	0.00000			0.51945	
	DHC6	2.74265	1.21600	3.95864	2.74265	1.21600	3.95864	0.00000	0.00000	0.00000			7.91229	
	DHC8	2.57437	0.45037	3.02474	2.57437	0.45037	3.02474	0.00000	0.00000	0.00000			6.04948	
	DHC830	2.45960	0.43405	2.89364	2.45960	0.43405	2.89364	0.00000	0.00000	0.00000			5.78729	
	F10062	0.21071	0.03718	0.24789	0.21071	0.03718	0.24789	0.00000	0.00000	0.00000			0.49578	
	GASEFF	1.28159	0.06745	1.34904	1.28159	0.06745	1.34904	1.02641	0.04277	1.06918			3.76726	
	GASEPV	0.80874	0.04578	0.85452	0.80874	0.04578	0.85452	0.84230	0.03510	0.87740			2.58644	
	GIV	0.03083	0.00095	0.03178	0.03083	0.00095	0.03178	0.00000	0.00000	0.00000			0.06356	
	PA30	0.09890	0.00521	0.10411	0.09890	0.00521	0.10411	0.00000	0.00000	0.00000			0.20822	
	SF340	2.54739	0.44954	2.99693	2.54739	0.44954	2.99693	0.00000	0.00000	0.00000			5.99386	
	Total	17.41128	3.28661	20.69789	17.41128	3.28661	20.69789	2.63277	0.10970	2.74247			44.13825	
HN	B206B3	0.00987	0.00098	0.01085	0.00987	0.00098	0.01085	0.00000	0.00000	0.00000			0.02170	
	B407	0.01975	0.00195	0.02170	0.01975	0.00195	0.02170	0.00000	0.00000	0.00000			0.04340	
	B427	0.00987	0.00098	0.01085	0.00987	0.00098	0.01085	0.00000	0.00000	0.00000			0.02170	
	B429	0.00709	0.00318	0.01027	0.00709	0.00318	0.01027	0.00000	0.00000	0.00000			0.02055	
	B430	0.02826	0.009481	0.03777	0.02826	0.009481	0.03777	0.00000	0.00000	0.00000			0.75414	
	EC130	0.13428	0.00870	0.14299	0.13428	0.00870	0.14299	0.00000	0.00000	0.00000			0.28857	
	R44	0.09890	0.00521	0.10411	0.09890	0.00521	0.10411	0.00000	0.00000	0.00000			0.20822	
	Total	0.65020	0.15181	0.80789	0.65020	0.15181	0.80784	0.00000	0.00000	0.00000			1.35567	
HS	B206B3	0.00509	0.00050	0.00559	0.00509	0.00050	0.00559	0.00000	0.00000	0.00000			0.11311	
	B407	0.01017	0.00101	0.01118	0.01017	0.00101	0.01118	0.00000	0.00000	0.00000			0.02236	
	B427	0.00509	0.00050	0.00559	0.00509	0.00050	0.00559	0.00000	0.00000	0.00000			0.01118	
	B429	0.00709	0.00319	0.01027	0.00709	0.00319	0.01027	0.00000	0.00000	0.00000			0.02055	
	B430	0.25392	0.09093	0.34485	0.25392	0.09093	0.34485	0.00000	0.00000	0.00000			0.69790	
	EC130	0.16658	0.00961	0.17619	0.16658	0.00961	0.17619	0.00000	0.00000	0.00000			0.35238	
	R44	0.14836	0.00781	0.15616	0.14836	0.00781	0.15616	0.00000	0.00000	0.00000			0.32323	
	Total	0.59629	0.13354	0.70984	0.59629	0.13354	0.70984	0.00000	0.00000	0.00000			1.14967	
Grand Total	35.50197	6.13364	41.83562	35.50197	6.13364	41.83562	7.52219	0.31342	7.835					

A.8 ANEF checklist

Ref	Item	Details	Source/Attribution
A1	Airport description	Refer to 2.1.3 Error! Reference source not found.	Airservices Australia (AIP)
A2	What sort of ANEF; Standard (20 year) ANEF, Long Range ANEF or Ultimate Capacity ANEF	Refer to Error! Reference source not found. Standard 20 Year	Dubbo Regional Council To70 Aviation
A3	Composite ANEF	N/A	N/A
A4	Runway and Helipad co-ordinates	Refer to 2.1.2 Runway and Helipad Coordinates	Airservices Australia (AIP) Google Earth
A5	Noise model software utilised and version number	Refer to 1 Introduction	To70 Aviation
A6	AEDT Aircraft type selection	Refer to 2.2.2 Aircraft selection	To70 Aviation (Forecast based on BITRE's trends to determine compound annual growth rates)
A7	Source for forecast/movement data	Refer to 2.2.1 Traffic forecast	To70 Aviation (Forecast based on BITRE's trends to determine compound annual growth rates)
A8	Airport Capacity Study	Refer to 2.2.3 Airport capacity	FAA Capacity & Delay Advisory
A9	Runway usage	Refer to 2.2.6 Runway usage and A.4 Operations breakdown by runway	To70 Aviation (METAR data)
A10	Modelled Tracks	Refer to 2.2.9 Track allocation and A.2 Modelled flight tracks	Dubbo Regional Council (Operator consultation) Airservices (En Route Supplement Australia (ERSA)) FlightRadar 24 (ADS-B Data)
A11	Meteorological Parameters	Refer to 2.1.4 Weather	Bureau of Meteorology
A12	Circuit operations	Refer to 2.2.8 Flight paths	N/A
A13	Terrain	Refer to 2.1.5. Terrain	Geoscience Australia
A14	Stage lengths	Refer to 2.2.4 Stage length	To70 Aviation (Forecast based on BITRE's trends to determine compound annual growth rates)
A15	Balancing of operations	Refer to A.4 Operations breakdown by runway	To70 Aviation
A16	AEDT Error/warning messages	Included as an addendum to this document	To70 Aviation
A17	AEDT Metric Set Up	Included in the study AEDT backup file	Airservices (ANEF Metric)
A18	ANEF Atmospheric Absorption Type	Included in the study AEDT backup file	Airservices (Absorption Metric)
A19	Aircraft Noise Calibration	Refer to 2.2.2 Aircraft selection	To70 Aviation
A20	Attribution Table	Refer to 0 Error! Not a valid result for table.	Airservices (ANEF Checklist)
A21	ANEF Chart Features	Refer to A.7 ANEF chart	Airservices (ANEF Checklist)

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