Glasgow Airport Airspace Change Proposal

Stage 3 Consultation Document
Annex 1: Technical details of the proposed procedures

Consultation 20 October 2025 to 25 January 2026
ACP-2019-46

GLASGOW AIRPORT

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Note: v1.1 updated on 23/10/25 to correct Figure 6

1. Technical details of the proposed procedures

1.1.1 The following document outlines the technical details of the proposed procedures and therefore it is aimed towards the aviation industry audience. All consultees are welcome to review the information, and we would recommend referring to our terminology explained document to understand some of the technical language used.

1.1.2 Note the waypoint names are placeholders subject to change. Full details will be provided as part of the ACP submission at Stage 4.

1.2 Technical details applicable to departures and arrivals

Types of Performance Based Navigation and GNSS Interference

1.2.1 The following figure provides more information on the specifications of PBN routes proposed:

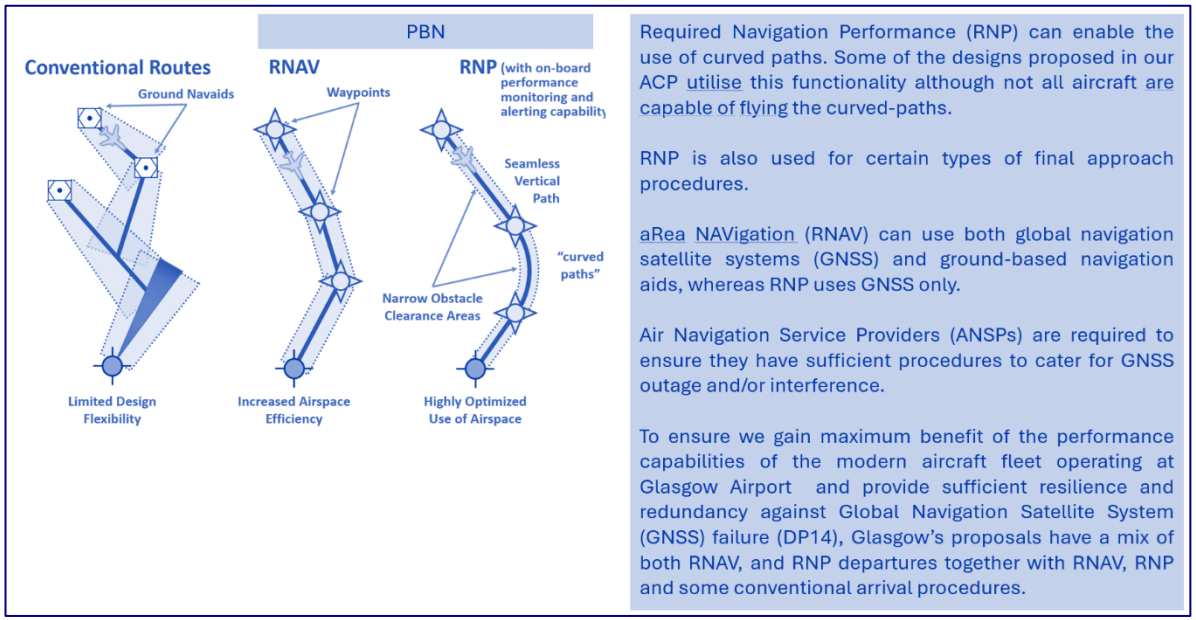

Figure 1: PBN specifications

1.2.2 The ICAO state letter E 3/5-24/54 (30 April 2024) raised around the increased occurrences of GNSS interference and made a number of recommendations including:

Civil Aviation Authorities (CAAs) to ensure that air navigation service providers (ANSPs) deploy and maintain adequate distance measuring equipment (DME) infrastructure and DME based Performance-Based Navigation (PBN) procedures and enable aircraft operators use of multi-DME and multi-DME/inertial reference system (IRS) complementary solutions as appropriate to maintain PBN operations during GNSS local or regional interference, jamming or spoofing.

1.2.3 The Glasgow Airport proposals make provision for GNSS outages by providing RNAV1 DME/DME or GNSS procedures. Where RNP1 SIDs are proposed, there is an equivalent RNAV1 procedure available. This was predominantly proposed based on the Glasgow Airport fleet equipage, but also satisfies the ICAO recommendation. The ILS at Glasgow will also remain in full operational service.

Provision for RNAV5 equipped aircraft

1.2.4 Flight plan data for all flights during 2022 and 2023 has shown that at Glasgow Airport, 2022 filed PBN equipage either equal to or greater than RNAV1 is 99.3% of traffic. In 2023 this increased to 99.8% of traffic. As this data is taken from filed flight plan data, aircraft only need to confirm their equipage meets the requirements for their planned route and not their actual equipage. Therefore, the RNAV1 equipage rate may be higher than what is shown here.

1.2.5 Due to the high RNAV1 equipage rates declared and the expectation that this will increase as older aircraft fleet are retired, the departure and arrival routes described will be designated as either RNAV1 or RNP1. RNAV 5 traffic will be accommodated where required through flight plannable directs[1] and vectoring though operators may experience increased mileage for such plannable routes.

[1] Used in scenarios where permanent airways don't exist. A valid IFR route goes from one waypoint directly to another without an airway in between. These are marked by "DCT" in the flight plan and negate the need to establish permanent airways that are not expected to be required for routine use.

1.3 Technical details of the proposed departure procedures

1.3.1 The departure procedures currently published by Glasgow Airport can be found within the AIP (EGPF, AD 2.24).

1.3.2 Glasgow Airport is proposing to replace the existing departure procedures with the following Standard Instrument Departures (SIDs):

Runway	SID	Runway	SID
Runway 05	BEEFY (RNAV 1 DME/DME or GNSS)	**Runway 23**	BEEFY (RNAV 1 DME/DME or GNSS)
	CLYDE (RNP 1 with RF)		CLYDE (RNAV 1 DME/DME or GNSS)
	CLYDE (RNAV 1 DME/DME or GNSS)		COYLE (RNAV 1 DME/DME or GNSS)
	COLYE (RNAV 1 DME/DME or GNSS)		GREAN (RNAV 1 DME/DME or GNSS)
	GREAN (RNP 1 with RF)		LOMON (RNAV 1 DME/DME or GNSS)
	GREAN (RNAV 1 DME/DME or GNSS)		MOODI (RNP 1 with RF)
	LOMON (RNAV 1 DME/DME or GNSS)		MOODI (RNAV 1 DME/DME or GNSS)
	MOODI (RNAV 1 DME/DME or GNSS)		ROBBO (RNAV 1 DME/DME or GNSS)
	ROBBO (RNP 1 with RF)		
	ROBBO (RNAV 1 DME/DME or GNSS)		

Table 1: Proposed SIDs

1.3.3 The CAA do not permit sponsors to publish draft procedure charts for the proposals, even if co-ordinates are redacted, however any airlines wishing to see the draft charts, please get in touch via airspace@glasgowairport.com.

1.3.4 Figure 2 to Figure 5 show indicative procedure information. At each waypoint label, the text indicates any at / above / below restrictions; with a '+' indicating an above restriction, a '-'indicating a below restriction, and only the altitude stated for an 'at' restriction. The information in brackets shows an indicative 7% climb gradient and the altitude aircraft would be at based on that gradient. For example PFW61, +5000 (7%-5800) indicates that aircraft must be above 5000ft at the waypoint and on a 7% climb gradient, aircraft would be at 5800ft at this point.

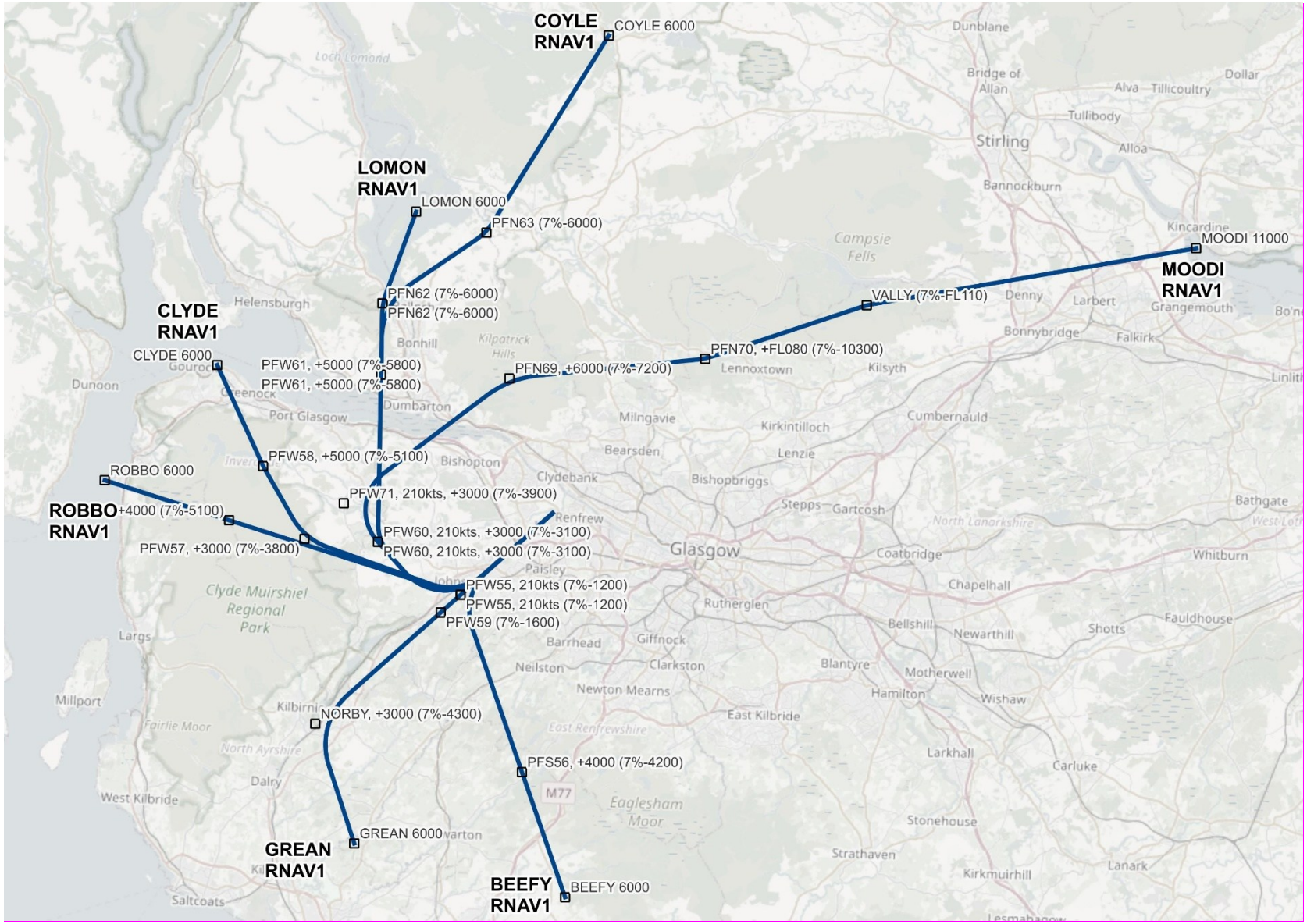

Figure 2 Runway 23 RNAV1 Standard Instrument Departures

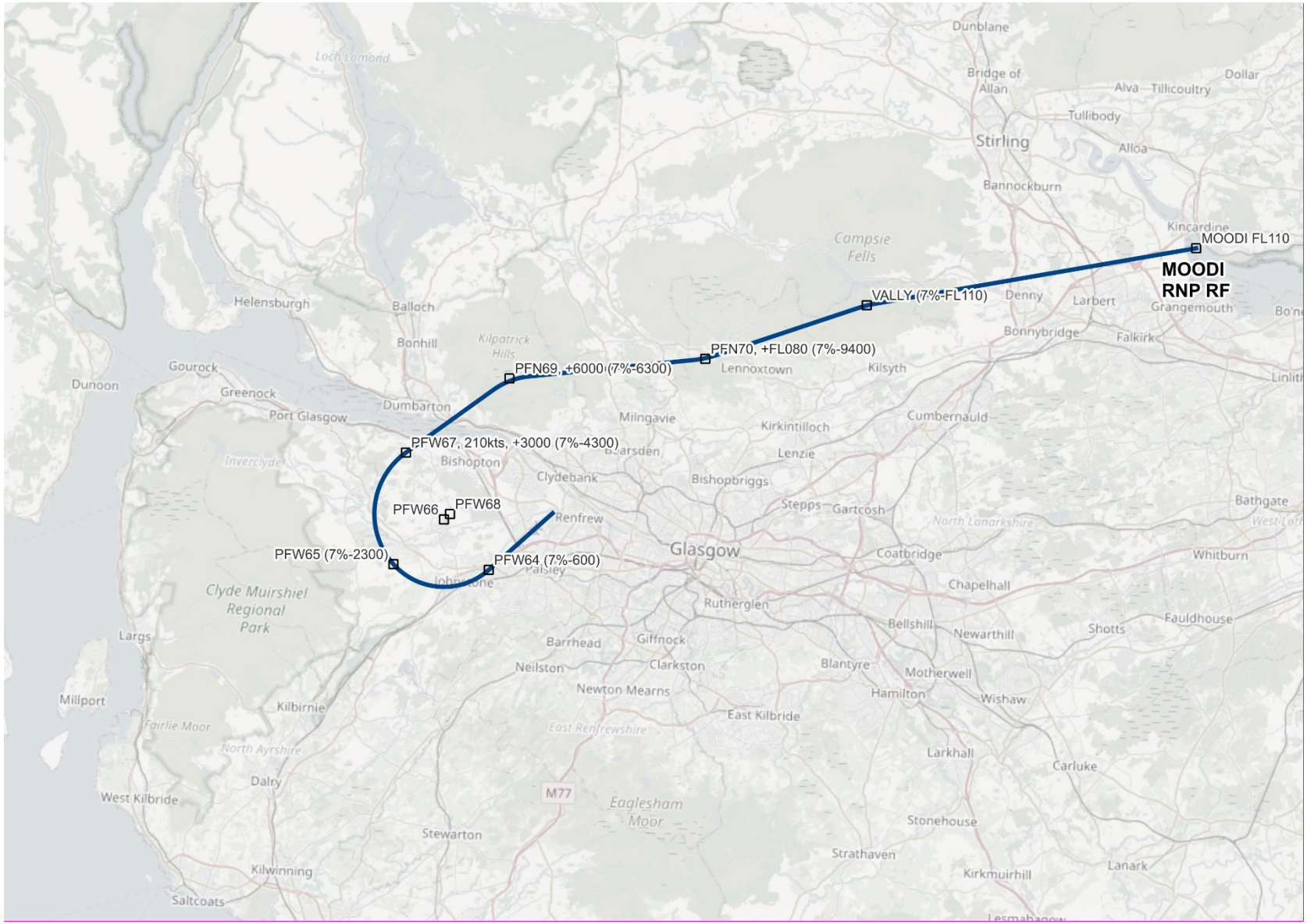

Figure 3 Runway 23 RNP1+ RF Standard Instrument Departure

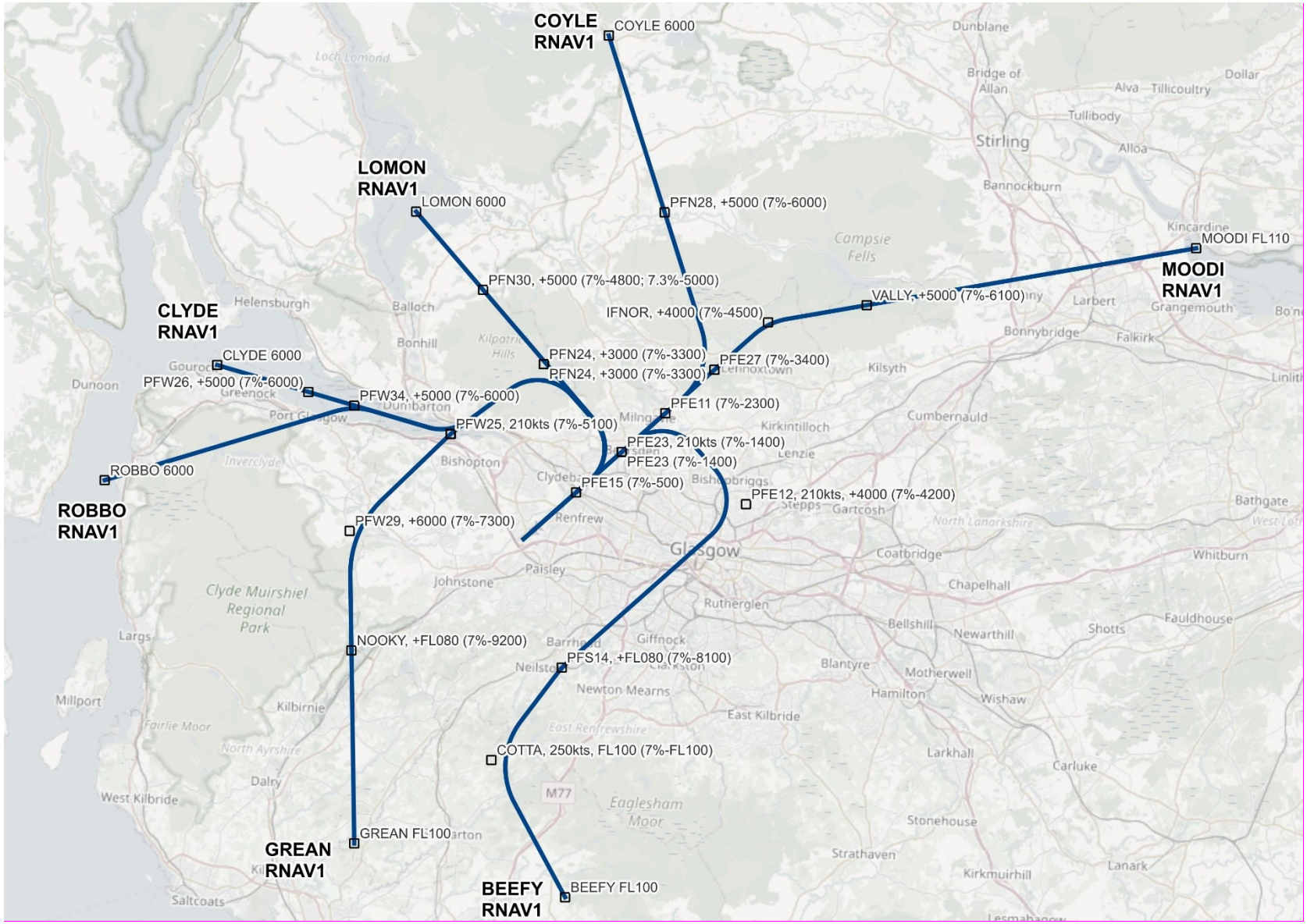

Figure 4 Runway 05 RNAV1 Standard Instrument Departures

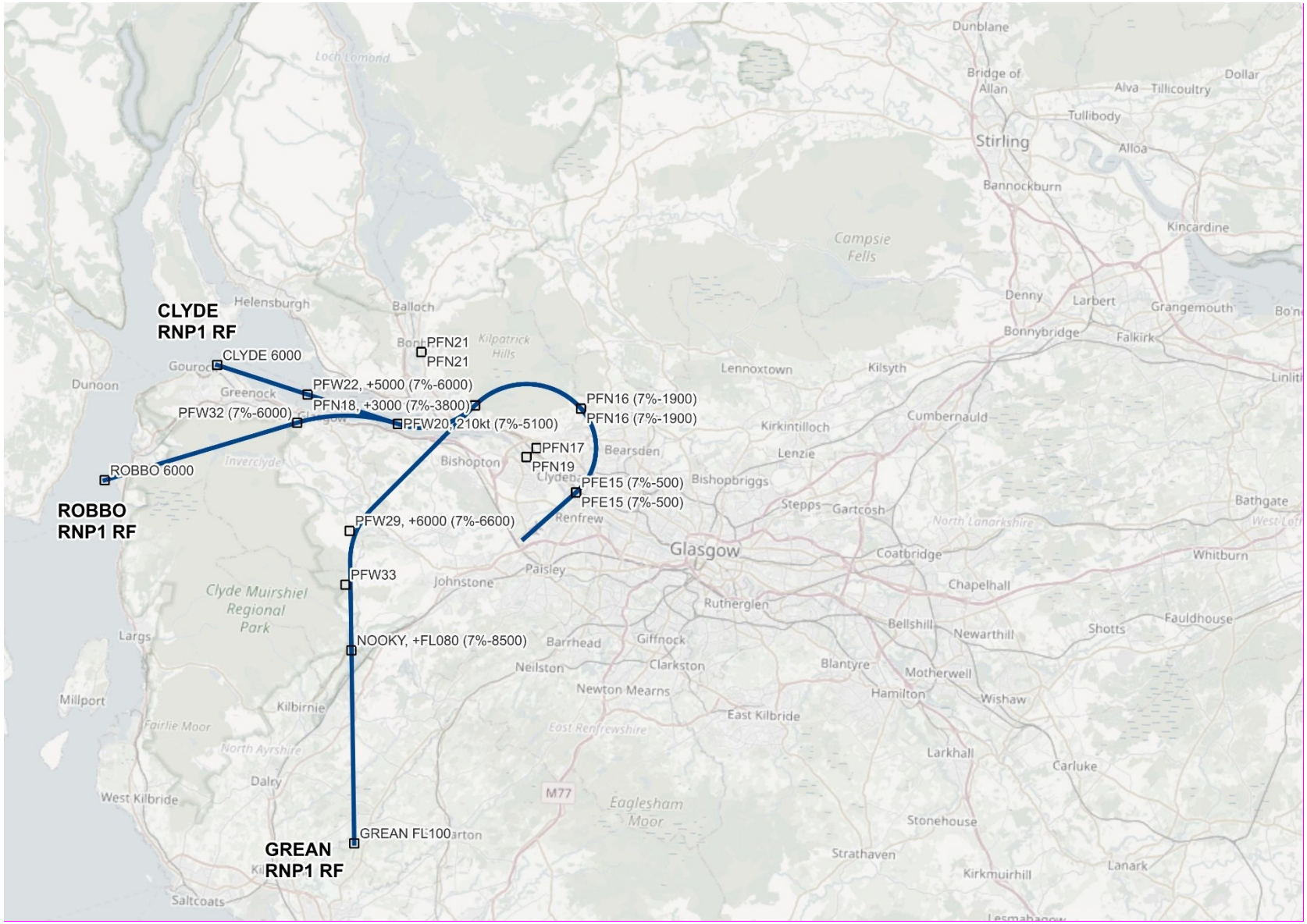

Figure 5 Runway 05 RNP1 + RF Standard Instrument Departures

1.4 Noise Abatement Procedures (Departures)

1.4.1 The proposed Noise Abatement Procedures have been incorporated into the SID design.

1.4.2 The proposed exemption is for tactical vectoring of turboprops <=23,000kg off SIDs between 0700-2300 local & <=5,700kg H24. All other aircraft are required to remain within 1.5km either side of the SID centrelines until the end of the corridor or above the altitudes shown in Figure 6.

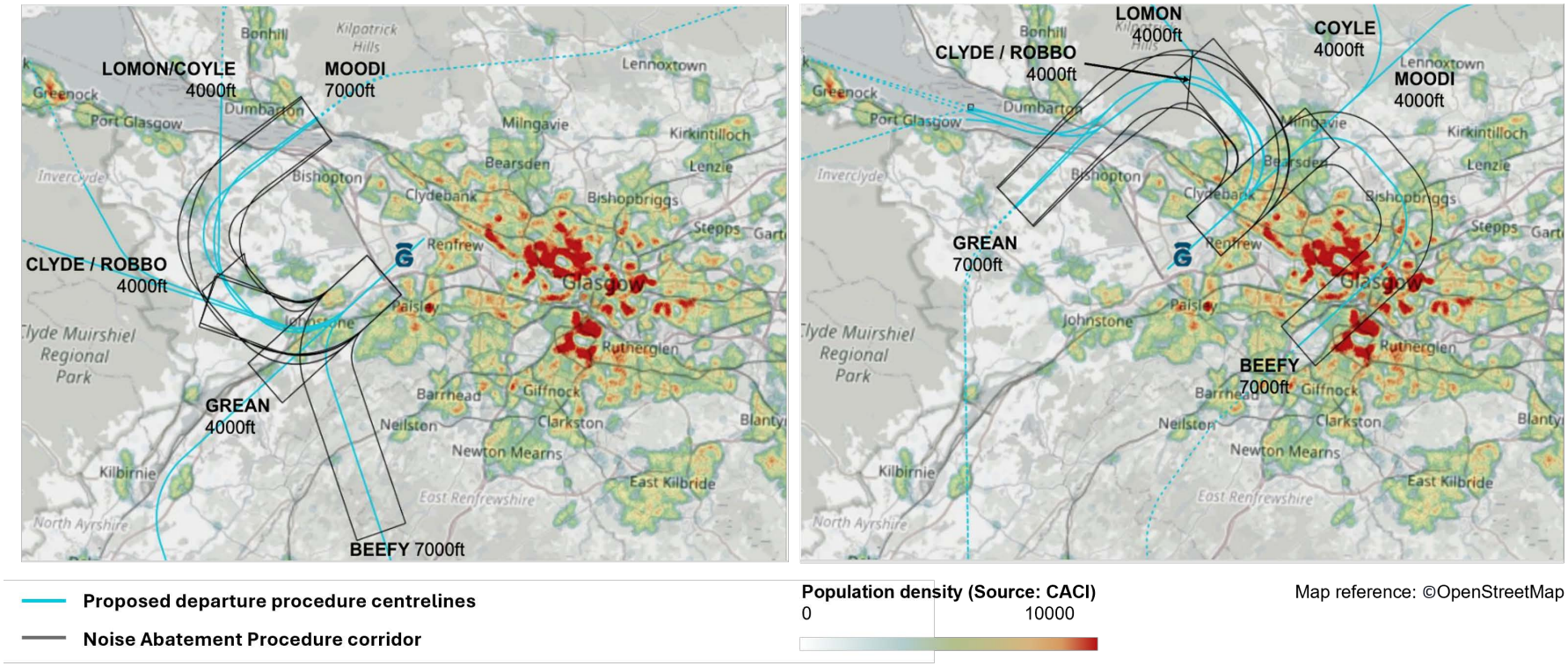

Figure 6 Proposed noise abatement procedure corridors and minimum altitudes

1.5 Transition Altitude and Standard Instrument Departure (SID) to Flight Level

1.5.1 Even with a redesign and modernisation of the airspace there is a significant and fixed constraint to consider, the Transition Altitude (TA). This is 6,000ft. The transition altitude means the way aircraft reference their height above ground changes above 6,000ft compared to at or below 6,000ft. At or below 6,000ft, they fly at an altitude. Above 6,000ft they fly at a Flight Level (FL).

1.5.2 Whenever aircraft are not laterally separated, they are kept at least 1,000ft apart vertically. 5,000ft is obviously 1,000ft below 6,000ft. Similarly, FL70 is 1,000ft below FL80. However, due to the transition altitude, 6,000ft and FL70 are not always at least 1,000ft apart. In fact, sometimes 6,000ft and FL80 are not always at least 1,000ft apart.

1.5.3 This means that the ability to enable continuous climb for departures to at least 7,000ft would actually mean that departures need to climb to at least FL90 to cater for all pressures.

1.6 Technical details of the proposed arrival procedures

1.6.1 The approach procedures currently published by Glasgow Airport can be found within the AIP (EGPF, AD 2.24).

1.6.2 Glasgow Airport is proposing to introduce a number of RNAV 1 (DME/DME or GNSS) approach transitions from the holding stacks to the Instrument Approach Procedures. Alongside this, we are proposing to introduce RNP approach procedures and amend the existing runway 23 ILS approach procedures slightly to accommodate the approach transitions. Associated missed approach procedures have also been drafted. Table 2 shows the proposed arrival procedures:

Table 2 Proposed arrival procedures

Runway	Arrival Transition Procedure	Approach Procedure
05	COYLE	RNP APCH
	FYNER	ILS/DME/NDB
	LESMA	
23	COYLE	RNP APCH
	FYNER	ILS/DME/NDB
	LESMA	

Table 3: Proposed arrival routes

1.6.3 The existing VOR/DME approach procedures would be withdrawn before this ACP is implemented due to the withdrawal of the GOW VOR as part of NERL's NAVAID rationalisation programme.

1.6.4 The draft proposed arrival transition and approach procedures are shown in Figure 7 and Figure 8. Note that the position of the Final Approach Fix (FAF) for the Runway 23 ILS procedure has been amended due to the requirements for the PBN arrival transitions to link with both an RNP and ILS approach. At each waypoint label, the text indicates any at / above / below restrictions; with a '+' indicating an above restriction, a '-' indicating a below restriction, and 'at' stated for an at restriction.

1.6.5 For information about network airspace, including STARs and holding stacks, please see the NERL Consultation.

1.6.6 The CAA do not permit sponsors to publish draft procedure charts for the proposals however any airlines wishing to see the draft charts, please get in touch via airspace@glasgowairport.com

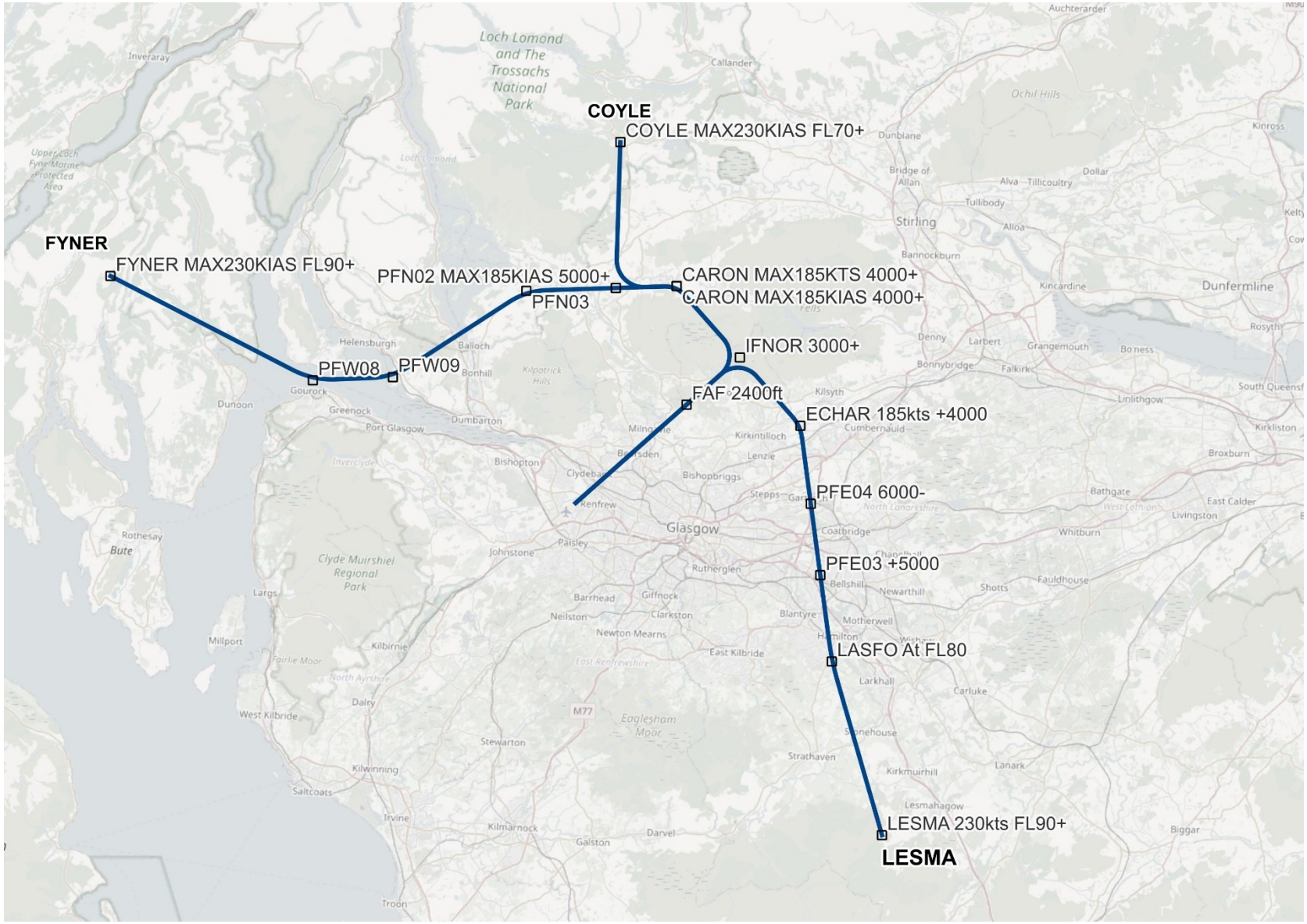

Figure 7 Runway 23 RNAV 1 (DME/DME or GNSS) arrival transitions and approach procedures (Does not show missed approach procedures)

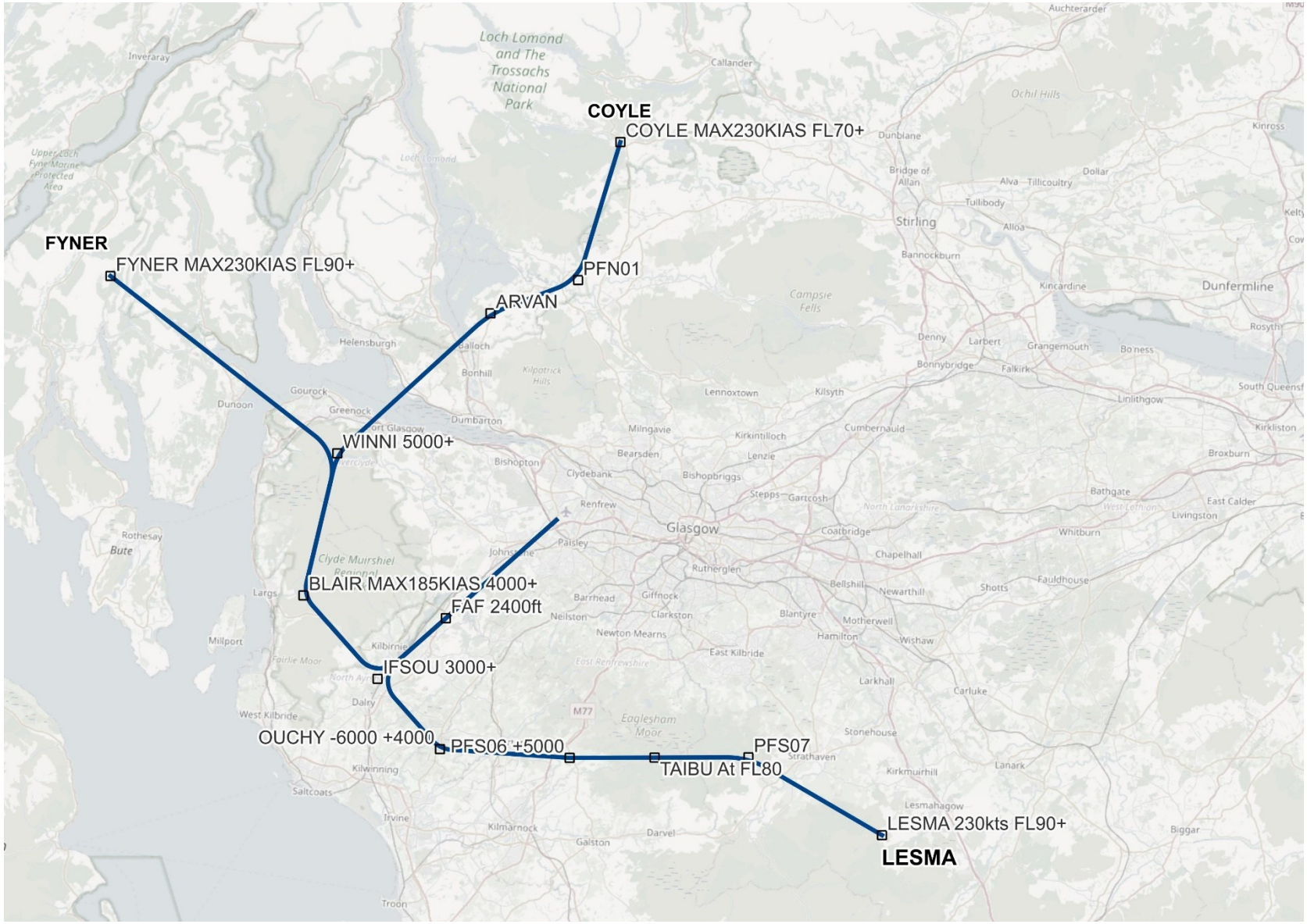

Figure 8 Runway 05 RNAV 1 (DME/DME or GNSS) arrival transitions and approach procedures (does not show missed approach procedures)

Missed approach procedures

1.6.7 The proposed missed approach procedures are outlined in Table 4. For airlines wishing to see full details on the missed approach procedures outlined on the draft procedure charts, please get in touch via airspace@glasgowairport.com

Table 4 Proposed Missed Approach procedures

Runway	RNAV	ILS
23	MAPt (LNAV): RW23 Continuous climb to 3000. Initially, straight ahead to PFM02 to be at least 2000 by PFM02, then turn left to intercept a course of 010° to GLW to join the hold at 3000 or as directed. Note: Aircraft which have not achieved 2000 by PFM02, continue straight ahead until passing 2000 then turn left to GLW at 3000 or as directed.	Continuous climb to 3000. Initially, straight ahead to 2500 or I-OO DME 2.6 (GOW DME 3) whichever is later, then climbing left turn to hold at NDB(L) GLW at 3000 or as directed.
05	MAPt (LNAV): RW05 Continuous climb to 3000. Initially, straight ahead to PFM01 to be at least 2000 by PFM01, then turn right to intercept a course of 266° to GLW to join the hold at 3000 or as directed. Note: Aircraft which have not achieved 2000 by PFM01, turn right (at PFM01) onto track 095°until passing 2000 then turn right to GLW at 3000 or as directed.	Continuous climb to 3000. Initially, straight ahead to 3000 or I-UU DME 5 (GOW 5.9) whichever is earlier, then right turn to NDB(L) GLW at 3000 or as directed. Note: Aircraft which have not achieved 2000 by I-UU DME 5 (GOW 5.9), turn right (at I-UU D5) onto track 095 until passing 2000 then turn right to NDB(L) GLW at 3000 or as directed.

1.7 Noise Abatement Procedures (Arrivals)

1.7.1 The proposed Noise Abatement Procedures for arrivals will remain the same as those published in the AIP today:

For Runway 23, aircraft using the ILS (Instrument Landing System) shall not descend below 2000 FT QFE before intercepting the glidepath nor thereafter fly below it unless instructed by Radar. Aircraft landing without assistance from the ILS or Radar shall follow a descent path which will not result in their being at any time lower than an approach path consistent with a 3° glidepath.

For Runway 05, jet aircraft using the ILS shall not descend below 2000 FT QFE before intercepting the glidepath. Propeller driven aircraft may, when instructed by Radar, be descended to 1600 FT QFE. Aircraft landing without the assistance of ILS or Radar shall follow a descent path which will not result in their being at any time lower than an approach path consistent with a 3° glidepath.

For visual approaches to Runways 05 or 23 the following limitations will apply: All aircraft whose MTWA exceeds 5700 KG must route via 5 NM from the runway threshold and maintain 1500 FT QFE until established on final approach.