

## Cardiff Airport Design Workshop – Airline Stakeholders (12/10/2021)

### Attendees:

██████████ – Aeros Flight Training, Senior flight instructor  
██████████ – Cardiff Airport GM  
██████████ – Wizzair, Senior First Officer  
██████████ – TUI pilot and instructor  
██████████ – Cardiff Airport, Head of Airfield Operations  
██████████ – NATS, Airspace Change Specialist  
██████████ – Wizzair, Base Captain  
██████████ – Cardiff ACP Design Lead  
██████████ – DAATM, Sqn Ldr

### Introductions and ACP Background

Discussion on training flights out of Cardiff Airport which benefit from the airspace north-west of the airport not being capped, for training purposes. Training flights regularly operate up to around 7,000ft. This is a very valuable piece of airspace for flight training, specifically over the edge of the water.

Similar comment made about military training and spinning flights out of St Athan. The military exercises can be as high as 9,000ft. However, these generally take place over land rather than the water.

### Design Work

#### Hold Options

Holding does not happen regularly for Cardiff arrivals and only really occurs for weather issues or (rare) heavy traffic. A Hold close to final approach would be beneficial for airlines, particularly if the weather suddenly improves e.g. Hold 8B (below).

Currently, controllers are often very accommodating in allowing arrivals them to just Hold around an arbitrary fix for ease and fuel saving.

Discussion on the main two types of Holds:

- **Sequencing Holds** which usually sit quite far from an airport – such as BIG and LAM for Heathrow arrivals – are typically used for airports with much more traffic than Cardiff.
- A **local Hold** sits in much closer proximity to an airport and is used in adverse conditions. This will be required for Cardiff.

Suggestion for a potential Hold north of Cardiff around Newport. Could be beneficial for arrivals from the north and also training flights. To be added to the long-list of Hold options.

**Hold 1** – In the overhead (as today)

**Pros** - current Hold is currently suitable for airlines in making their final approach. Minimum fuel burn.

**Hold 2A** – South of Cardiff Airport

**Pros** - in a good position for a sequencing Hold from the south  
Lot of arrivals from the south which this would be well placed for  
Could be used in partnership with Hold 2B (activate dependent on the runway in use)

**Cons** - possible interaction with Bristol traffic (less than Hold 2B)

**Hold 2B** – South of Cardiff Airport

**Pros** – in a good position for a sequencing Hold  
Lot of arrivals from the south which this would be well placed for  
Could be used in partnership with 2A (activate dependent on the runway in use)

**Cons** - possible interaction with Bristol traffic  
Yeovilton military operations near to this location  
Danger area in close proximity albeit rarely activated (down to FL145). This would reduce available levels in the Hold. It is currently activated less than annually.

**Hold 4** – North-west of Cardiff Airport

**Cons** - additional CAS required

**Hold 6** – North-east of Bristol Airport

**Cons** - far too far out for a Hold (sequencing or local)

**Hold 8A** – North-west and close to Cardiff Airport

**Pros** - close proximity to the airport, particularly if adverse conditions suddenly change allowing aircraft to move onto final approach e.g. weather improves  
Could be used as both a local and sequencing Hold  
Preferential location from an airline perspective  
Could be used in partnership with 8B (activate dependent on the runway in use)

**Hold 8B** – South-east and close to Cardiff Airport

**Pros** - close proximity to the airport, particularly if adverse conditions suddenly change allowing aircraft to move onto final approach e.g. weather improves  
Could be used as both a local and sequencing Hold.  
Preferential location from an airline perspective  
Could be used in partnership with 8A (activate dependent on the runway in use)



## Departure Options

SID profiles should take low performance aircraft into consideration e.g. minimum climb gradients.

**SID C1** – Runway 12 departure to the south

**Pros** - similar to what is flown today

Could be used for low performance aircraft

**SID C2** – Runway 12 departure to the south

**Pros** - similar to what is flown today

**SID C3** – Runway 12 departure to the south-west

**Pros** - departure could achieve quite a rapid climb over the water (noise benefit)

Expectation that the current fleet mix could achieve this profile

Potential small saving in airline route charges (from the current “T” routes which are used)

**SID C4** – Runway 12 departure to the west

**Cons** - infrequent use therefore lack interest from airlines

**SID C7** – Runway 12 departure to the north-east

**Pros** - potential increase in traffic to the east in the future

Useful for low performance aircraft

**SID C8** – Runway 12 departure to the east

**Pros** - would be used frequently

Fuel saving for airlines, more direct than the current dogleg

Expectation that departures could climb high enough above Bristol traffic

**Cons** - not appropriate for low performance aircraft

**SID C8a** – Runway 12 alternative departure to the east

**Pros** - would be used frequently

Fuel saving for airlines, more direct than the current dogleg

Expectation that departures could climb high enough above Bristol traffic

**Cons** - not appropriate for low performance aircraft

**SID C9** – Runway 12 departure to the south-east

**Pros** - useful for low performance aircraft

Fuel saving for airlines

Useful for known early peak, from around 6am, particularly during the summer period

**SID C10** - Runway 30 departure to the south



**Pros** - similar to what is flown today

**SID C11** - Runway 30 departure to the south

**Pros** - similar to what is flown today

**SID C13** – Runway 30 departure to the west

**Pros** - more aircraft may fly east in the future (FANS datalink system on aircraft required for “T” routes)

**SID C14** – Runway 30 departure to the north-west

**Cons** - additional CAS required

**SID C15** – Runway 30 departure to the north

**Pros** - less additional CAS required than C14

**SID C17** – Runway 30 wrap-around departure to the south

**Pros** - could be used to avoid potential Hold to the south

**Cons** - very likely conflict with inbounds

Not an efficient route, excessive fuel burn

Operationally complex

**SID C18** – Runway 30 departure to the south-east

**Pros** - more direct than the current dogleg towards BCN

Fuel saving for airlines

### Transition Options

It was agreed that transitions which take the guess work out of approaches are beneficial for crews, inexperienced or not. It would help crews with planning ahead.

A suggestion was made to physically mark procedure charts with likely positions where controllers may provide pilots with shortcuts. This will help airlines to fuel efficiently alongside workload.

### **Hold 2A Transitions**

**Pros** - transitions similar to what a tactical direct would look like

No excessive fuel

### **Hold 2B Transitions**

**Pros** - transitions similar to what a tactical direct would look like

No excessive fuel

### **Hold 3 Transitions**

**Cons** - Hold levels may be too high to allow a direct approach to Runway 09

### Hold 4 Transitions

**Cons** - Hold levels may be too high to allow a direct approach to Runway 09

Switching transitions is extremely difficult and workload intensive for pilots (inputting into FMS), at a critical point of the flight. Point raised as numerous transition options are shown from Hold 4 to Runway 27.

### Hold 6 Transitions

**Cons** - very long transitions from the Hold

### Hold 7 Transitions

**Cons** - Hold levels may be too high to allow a direct approach to Runway 09

### STAR Options

Point raised on there no longer being a STAR option arriving directly from the east. The current STAR from the east is efficient and favourable by airlines. This is dependent on the NERL LD1.1 ACP which is changing the network structure and therefore a different presentation.

Additional STAR added from the east to Hold 2B. Expected that it would be high enough above Bristol Airport to cause them no concerns.

### STAR to Hold 2B

**Cons** - conflict with Yeovilton traffic

### STAR to Hold 4

**Cons** - may not be used much as a lot of traffic arrives from the east/ south

### STAR to Hold 5

**Cons** - may not be used much as a lot of traffic arrives from the east/ south

### STAR to Hold 6

**Cons** - inefficient dogleg to the Hold - excessive fuel burn

Takes arrivals in a completely different direction before final approach (particularly from the south)

### STAR to Hold 8A

**Pros** - transitions over the water beneficial

**Cons** - airlines would benefit from the same Hold orientation as runway direction. However, this would require significant more CAS.

### STAR to Hold 8B

**Cons** - airspace currently in this region is base 4,000ft – this would likely have to be increased downwards. This could impact upon training flights.

Airlines would benefit from the same Hold orientation as runway direction. However, this would require significant more CAS.

