

Implementation of RNAV aircraft approaches from the south at Bristol Airport

Consultation Feedback Report

December 2013

Prepared by:

Bristol Airport Limited in conjunction with NATS

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1 Introduction

Between 1 August 2013 and 31 October 2013, Bristol Airport Limited carried out a consultation, seeking feedback from stakeholders on a proposal to replicate, implement and eventually replace the current approach routes from the south into Bristol Airport with more accurately defined routes utilising the improved capabilities of modern aircraft – namely Area Navigation (RNAV).

The use of RNAV will enhance navigational accuracy and introduce a number of key benefits. These include a safer and more efficient Air Traffic Control (ATC) system requiring less controller intervention; more efficient operations leading to reduced cost, flying time and emissions; and the ability to allow more predictable patterns of over-flight as well as stabilised arrivals and approaches which should generate less noise.

By giving pilots a defined flight path from beginning to end they can plan a descent which avoids level segments, optimises power settings and speed in the descent, configures the aircraft for minimum noise, reduces fuel burn and keeps the aircraft higher over the ground for longer. Such operations are known as Continuous Descent Operations involving continuous descent from cruising altitude. Continuous Descent Approach (CDA) is a subset of this operating technique, starting at Bristol Airport from 6000 feet. This RNAV proposal aims to promote the use of Continuous Descent Operations.

This report describes the consultation process, and sets out the issues and key themes identified by consultees. The majority of responses were supportive or raised no objections to the RNAV proposals. Where issues were raised, Bristol Airport Limited have considered these carefully and decided that it would not be appropriate to make changes to the proposed design of the routes. These issues are set out in this report with explanations of why the changes suggested have not been carried forward.

Bristol Airport is now proceeding to seek the Civil Aviation Authority's approval to the Airspace Change Proposal with a view to implementing the changes in July 2014.

This document should be read in conjunction with the Stakeholder Consultation document available at www.bristolairport.co.uk/about-us/environment/rnav-consultation.aspx. All technical terms and acronyms are explained in full in the consultation document.

2 Confidentiality

The CAA Safety and Airspace Regulation Group (SARG) requires that all consultation material, including copies of responses from stakeholders, is included in any formal Airspace Change Proposal (ACP) submission to the CAA. Where specifically requested, details which may identify an individual will be removed before submission.

Bristol Airport undertakes not to disclose the personal details or content of responses and submissions to any third parties, apart from the necessary submission of material to the CAA and essential use by our consultants for analysis purposes in developing this report and subsequent ACP material.

3 Consultation Engagement

This section details the methods that were used to engage with consultees.

3.1 Introduction

A detailed Consultation Document was prepared by Bristol Airport Limited with the assistance of NATS Limited. The document explained the RNAV proposals and how it would affect various stakeholders. The Consultation Document was posted at a discrete link on the Bristol Airport website (www.bristolairport.co.uk/about-us/environment/rnav-consultation.aspx).

Formal consultation began on 1 August 2013. On this date an email was sent to the National Air Traffic Management Advisory Committee (NATMAC – see Appendices) membership outlining the proposal and how to access the consultation document. Comments were invited by the close of the consultation on 31 October 2013 (a 13 week duration). In addition, a notice was placed in the Western Daily Press (a regional newspaper¹) on 3 August notifying members of the public of the consultation and directing readers to the link on Bristol Airport website for the consultation document.

Prior to this, members of the Bristol Airport Consultative Committee (ACC) were provided with copies of the consultation document at their meeting on 31 July 2013. The link to the Consultation Document was also circulated to Environmental Health Officers at the six district councils under the flight path, the Mendip Hills Area of Outstanding Natural Beauty (AONB) and 15 local aircraft operators.

Complete details of these engagement channels are given below whilst the list of organisations invited to respond to the consultation and details of other organisations who responded are given in the Appendices.

¹ The Western Daily Press is one of the best read morning titles in the South West region, with coverage spanning 10 counties, including Somerset, Wiltshire and the city of Bristol. It has a circulation of 32,000 and an average issue readership of 70,000.

3.2 National Air Traffic Management Advisory Committee

Consultation invitations were sent out to 30 members of the NATMAC of which five responded. The British Gliding Association, the Light Aircraft Association and Heathrow Airport Limited all supported the proposal; the British Helicopter Association and the Ministry of Defence (who were approached separately) raised no objections.

3.3 Bristol Airport Consultative Committee

The consultation document was circulated to members of the Bristol Airport Consultative Committee (ACC) at the Committee meeting held on 31 July 2013 (see Appendices for a list of organisations represented on the Committee). Bristol Airport's Head of Safety and Compliance gave a presentation explaining the proposals to the Committee. The Committee resolved to form a Working Group to review the proposals in more detail.

The members of the ACC Working Group were invited to meetings where the proposals were presented in more detail and questions answered by representatives of NATS and Bristol Airport Limited. The presentation was also provided to members of the ACC Environmental Effects Working Party sub-group at its meeting on 9 October 2013.

The Consultative Committee discussed its response to the consultation at its meeting on 23 October 2013 where airport management responded to comments about a flight trial for the runway 27 approach and the enforcement of the RNAV routes through a penalty system. The Committee resolved to raise no objections and this is recorded in the minutes of the meeting and an email from the Chairman of the Committee, dated 31 October 2013.

3.4 Local Authorities & AONBs

Six district councils whose areas fall under the flight paths were invited to respond to the consultation (see Appendices for a list of council consultees), three of which are also represented on the Airport Consultative Committee. Environmental Health Officers from these six authorities were invited to a briefing meeting where the proposals were explained in detail by representatives of NATS and Bristol Airport Limited. Four authorities sent representatives to this meeting.

A 'chaser' email was sent out on 17 September 2013 to the councils and 'no objection' responses were received from three of them.

The Mendip Hills AONB submitted a message of support.

3.5 Airlines

Consultation invitations were sent out to all 15 local aircraft operators. Four airlines (who between them account for around 75% of commercial aircraft movements in 2013 to date) responded in support of the proposal. A further airline confirmed that they had no objection to the proposal but with a side note requesting that it should remain possible to use conventional means of navigation as their aircraft were not certified to fly RNAV approaches.

3.6 Others

Responses were received directly from nine parish and town councils, three of which are also represented on the ACC. Some of these referred to a response from the Parish Councils Airport Association (a grouping of some of the local parish councils) which was received by copy of an email to the Chair of the Airport Consultative Committee.

The Parish Councils Airport Association indicated a response of no objections subject to a number of comments. Seven other responses recorded no objection, whilst three parish councils objected to the proposals and one member of the public supported the implementation.

4 Statistics

A total of 53 organisations were invited to respond to the consultation, with the breakdown of these shown in Figure 1:

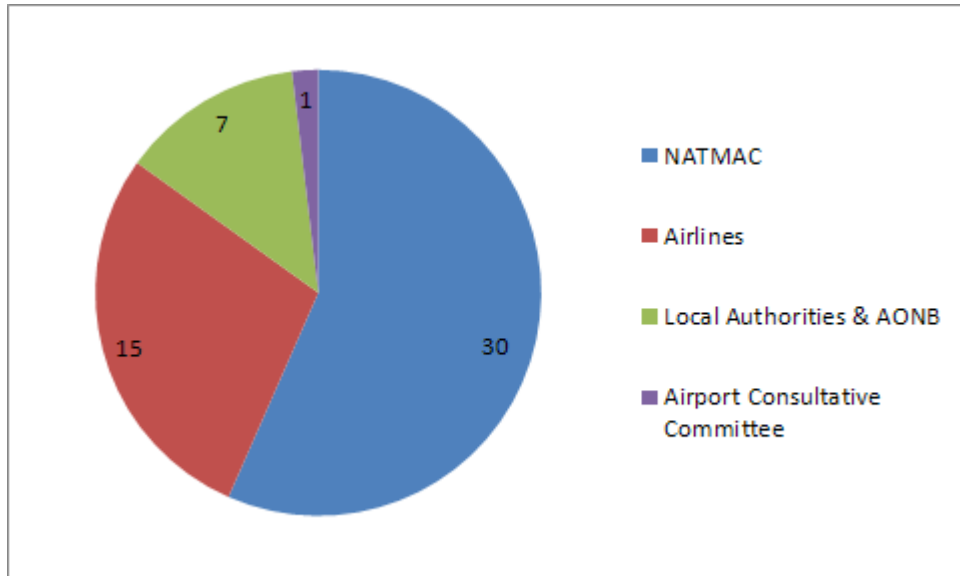


Figure 1: Breakdown of 53 unique consultees

The response rate from invitees and other² organisations is given in Figure 2, with a percentage figure representing the response rate within each group. 26 responses were received in total.

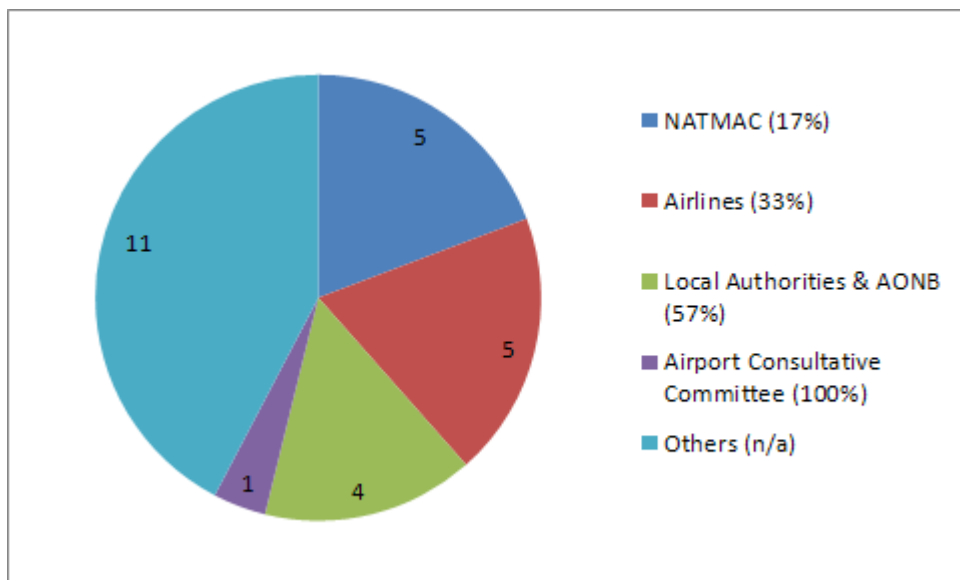


Figure 2: Response rates from all consultees

² 'Other' represents organisations not explicitly invited to respond but who did respond.

The nature of all of the responses (support, no objection or object) is given in Figure 3 as a percentage of overall responses received:

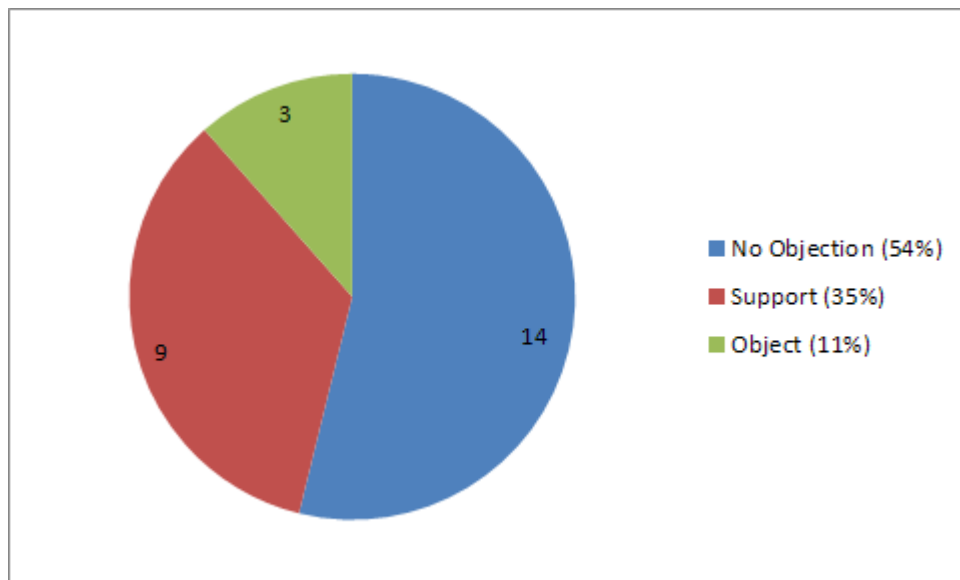


Figure 3: Nature of the responses

5 Consultee Responses

5.1 Consultee Responses Summary

The consultation covered the two inbound RNAV routes to Bristol Airport, labelled as Route A (runway 09) and Route B (runway 27), shown in Figure 4 below.

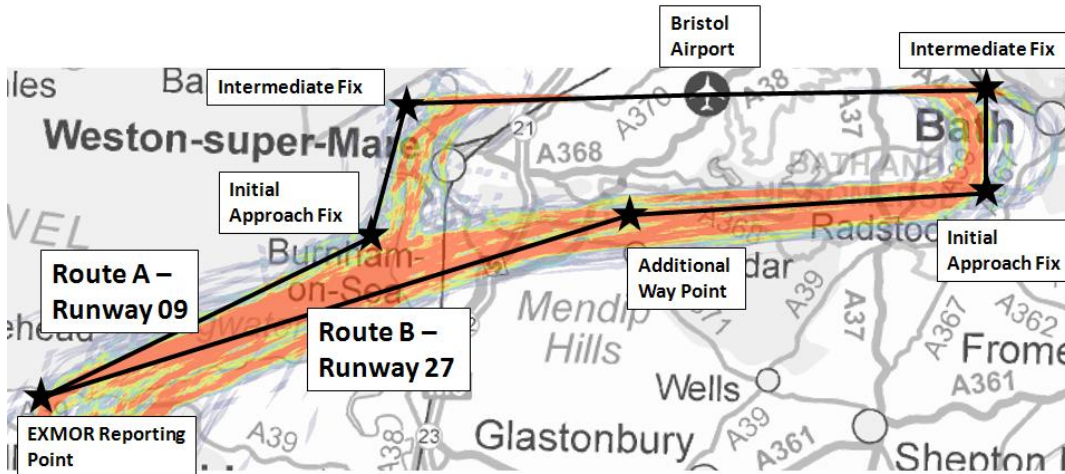


Figure 4: Approach route labelling from the Consultation Document

Although the consultation was targeted at the local authorities, the ACC and NATMAC, the consultation document was made available to wider stakeholders and the general public through a link on the Bristol Airport website. A notice was inserted in the Western Daily Press, a regional daily newspaper to further publicise the consultation.

The consultation document was drafted using language to make it as accessible as possible to non-aviation consultees. From this, 11 responses were received from organisations or individuals who had not been explicitly invited to respond, resulting in a total of 26 responses overall.

Of these 26 responses, three organisations on the Airport Consultative Committee responded separately. The response from the Parish Councils Airport Association (PCAA) does not identify which parish councils the organisation represents but one parish council response explicitly supported the PCAA response. Each response, either group and/or individual organisation, has been included in the statistical measure. This gives the following results, as illustrated in Figure 3.

- 14 – No Objection
- 9 – Support
- 3 - Object

5.2 Key Themes Arising from Objections

Issues raised by objectors to the proposal as well as a general comment from a respondent who did not object, were centred on the RNAV routes, specifically that for Runway 27 (referred to as Route B in Figure 4), with the following comments:

1. Can variance be applied to the RNAV route, to spread any disbenefits?
2. A second RNAV route should be created from the south, for runway 27, to keep aircraft away from Route B for as long as possible.
3. Can the routes be reviewed to prevent overflying the current villages which sit under them?
4. The RNAV route for runway 27 sits inside the inner 1/3 of the current track concentration and aircraft are expected to fly inside of the RNAV route waypoints rather than over them, which will put aircraft overhead certain villages. Can the route be centred on the concentration and aircraft fly over the waypoints to avoid overflying these settlements?

5.2.1 Responses to Key Themes

Bristol Airport has carefully considered the themes identified by the consultation and these are addressed below:

- There is a cluster of villages and towns to the south west of Bath that is overflown by aircraft approaching runway 27 from the south. Any route from the south approaching this runway will overfly one or more of these communities. Relocating the route will displace the noise from one community to another.
- The objective of this proposal is to maintain the legacy of current flight routes, to reduce the number of people exposed to aircraft noise and to avoid introducing new noise to communities. This is achieved by replicating the current aircraft tracks as much as possible, albeit with a level of concentration occurring over time.
- Planned variance of routes or creating routes which are different to the current concentrations of aircraft tracks, would increase the number of people affected by noise. The proposed route to runway 27 from the south will apply to a relatively small proportion of the total flights into and out of Bristol Airport (approximately 10% based on the current flight programme). In these circumstances it is preferable to concentrate aircraft along the fewest number of routes avoiding densely populated areas as far as possible. It is not possible to design non-linear tracks which weave between settlements in this case.

- As the RNAV routes will enable a greater application of CDAs, the aircraft are expected, on average, to be higher over the ground than they are today and this should be an improvement over today's operation. Concentration will also reduce the extent of areas overflown and has the potential to reduce the number of people exposed to noise from aircraft.

5.3 Questions & Comments

Some responses which were supportive or raised no objection to the proposals came with associated comments and questions. These are summarised and addressed below.

1. Can the RNAV routes be introduced as a trial to see if the flight paths raise any concerns or issues?
 - a. Replication of existing routes means that there is little likelihood of unforeseen consequences. As take up of the new routes is likely to be gradual with a substantial amount of tactical intervention varying the routes considerably just as today, a trial period would be unlikely to show useful results. The change can be removed at short notice if this proves necessary.
2. Enforcement procedures, with fixed financial penalties should be introduced for aircraft which transgress the expected CDA descent levels.
 - a. Penalty schemes introduced by airports must be within the approach phase of flight. It is considered that the Standard Arrival Route (STAR) that will be introduced by this proposal is outside of the remit of any airport related penalty scheme.
 - b. As not all aircraft will be RNAV equipped and ATC will tactically intervene to take aircraft from the route where necessary, enforcement of a penalty scheme would be impractical.
3. Turboprop aircraft should be encouraged to adopt the same technology and fly the same routes.
 - a. Modern turboprop aircraft can be RNAV equipped and BAL will encourage carriers to do this. As RNAV routes are known to deliver benefits to carriers, it is reasonable to assume that they will increase the portion of their fleet which is RNAV capable once the routes are available.
4. Why do so many aircraft overfly a nuclear power station when terrorists could use this to their advantage?
 - a. Hinkley Point power station is protected by a 2000ft restricted zone which is the standard level of protection afforded a power station regardless of nearby aircraft flight paths.

5. The World Health Organisation 55dBA contour should be used by the Bristol Airport Local Community Fund to determine the level at which noise insulation compensation becomes available to residents.
 - a. The policy relating to the Local Community Fund and grants for noise insulation is a matter for the Community Fund Management Committee and is unaffected by this proposal.
 - b. The UK Governments Aviation Policy Framework (March 2013) confirms that the Government will continue to treat the 57dB LAeq 16 hour contour as the average level of daytime aircraft noise marking the onset of significant community annoyance. It also provides guidance to airport operators on noise insulation using the 63 dB LAeq 16 hour noise level as the appropriate trigger.
6. Conventional navigation should be available alongside the proposed RNAV routes.
 - a. It will remain possible to use conventional means of navigation in the immediate future.
7. Will aircraft be cleared to the ILS direct from the RNAV arrival and what plans are there for GNSS approaches?
 - a. At implementation aircraft will be vectored for the ILS following the RNAV arrival.
 - b. It is anticipated that the straight in LNAV/VNAV approaches will be implemented for December 2013.

5.4 Summary of Intended Airspace Change Proposal

As a result of careful consideration of all consultation responses, Bristol Airport Limited intends to proceed to submit an Airspace Change Proposal (ACP) to the CAA. The basis of this proposal will be for the introduction of new RNAV STARs which replicate the existing conventional arrival tracks as closely as possible (as described in the consultation document and below). This ACP will be considered by the CAA and it is expected that they will reach a decision in spring 2014.

To allow for aircraft which are not yet RNAV equipped, the current STAR will remain available until such time as the aircraft RNAV equipage rate is close to 100%. This will facilitate a gradual, managed transition to RNAV. The proposed implementation date for the RNAV STARs to be introduced is 27th July 2014. However this is dependent on many factors, including CAA approval of the proposed change.

The consultation period for this airspace change proposal closed on 31st October 2013. All responses submitted before this date will be forwarded to the CAA Safety and Airspace Regulation Group (with personal details removed where requested) who will consider the merits of this proposal.

If you have any further comments you may wish to make, these will still be accepted, and if they present new evidence, may still influence the final airspace change proposal (see Section 6 for details on submitting further responses).

5.4.1 Runway 09 – Route A

Alongside the conventional approach route available today, a specific RNAV STAR will be implemented for runway 09 as illustrated in Figure 5.

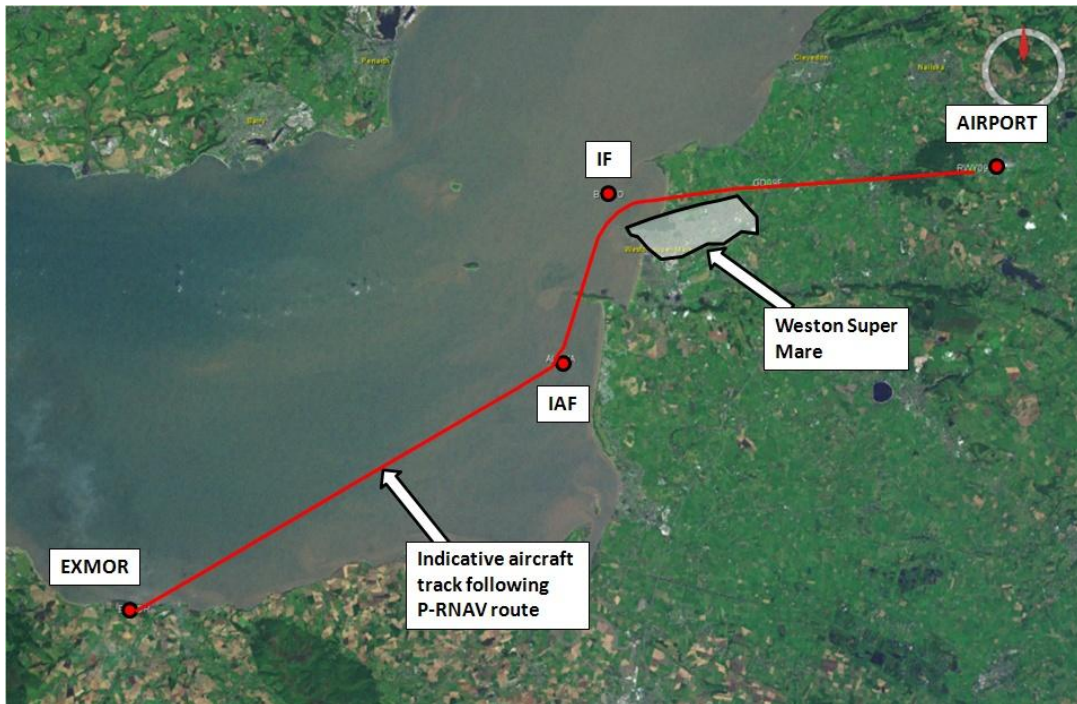


Figure 5: Indicative Aircraft Track Following Proposed RNAV Route, Runway 09

5.4.2 Runway 27 – Route B

Alongside the conventional approach route available today, a specific RNAV STAR will be implemented for runway 27 as illustrated in Figure 6.

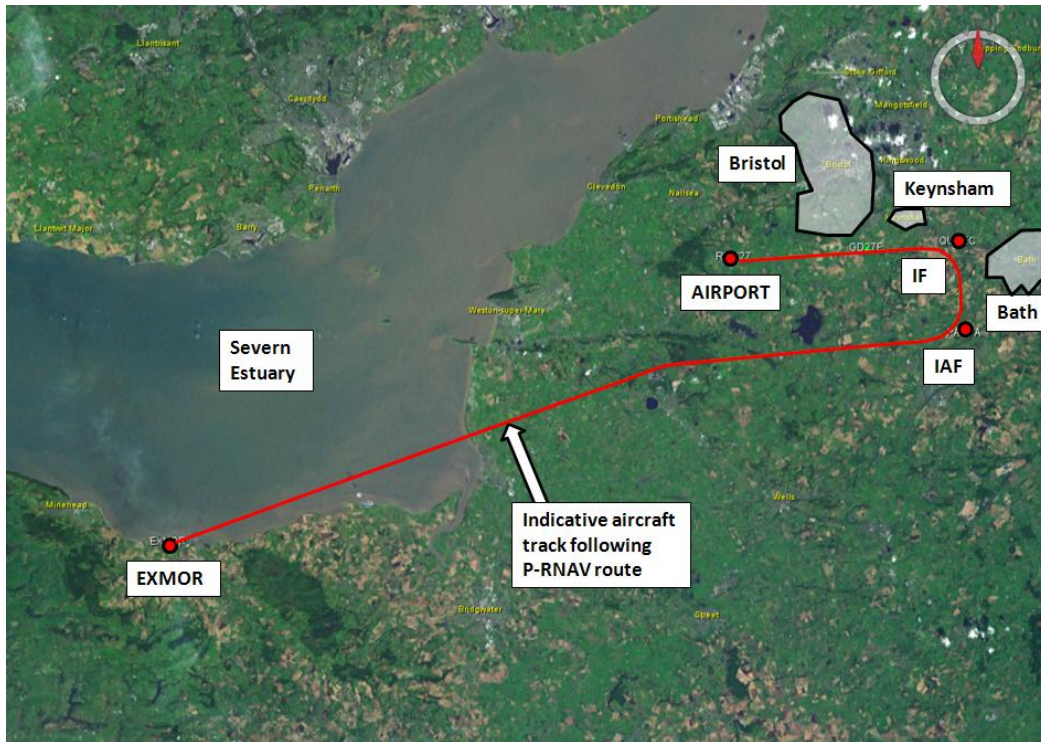


Figure 6: Indicative Aircraft Track Following Proposed RNAV Route, Runway 27

5.5 Feedback to Consultees

This consultation feedback report will be made available to download on the Bristol Airport Limited website and an email will be sent to all respondents directing them to the download page.

5.6 Post Implementation Review

Approximately twelve months after implementation of any airspace change, the sponsor (in this case Bristol Airport Limited) will be expected to carry out a post-implementation review of the change to assess and validate the success of the new arrangements. The purpose of the review will be to confirm that the RNAV routes are working as anticipated in the change proposal and have had the desired effect. The post-implementation review also provides an opportunity to identify any unforeseen issues that might have arisen and if so, address these.

This review is governed by the CAA CAP725 process and is conducted in conjunction with the CAA.

Bristol Airport Limited is committed to ensuring that any change represents the best possible solution and takes into account concerns of consultees, operational constraints and the CAP725 legal framework.

Bristol Airport Limited is confident that the proposal put forward, following as it does, existing traffic patterns whilst seeking to increase average aircraft levels in the descent, represents the best possible solution.

6 Further Correspondence & Feedback

In the event that a representative organisation wishes to present new evidence or data to the Safety and Airspace Regulation Group Director, for consideration prior to making his regulatory decision regarding this proposal, the representative organisation must submit, in writing or via email, the information to the following address:

Head of Airspace Policy, Coordination & Consultation
Safety & Airspace Regulation Group,
CAA House,
45-49 Kingsway
London WC2B 6TE
Email: airspacepolicy@caa.co.uk

7 Consultation Emails & Web Text

7.1 Email Sent to NATMAC Members at the Start of Consultation

Dear Sir/Madam,

As a member of the National Air Traffic Management Advisory Committee (NATMAC), we are writing to seek your views on the implementation of RNAV aircraft approaches from the south at Bristol Airport.

As you may be aware, Area Navigation (RNAV) is at the heart of new technology with the potential to streamline air traffic procedures, ultimately delivering fuel savings, reduced emissions and an improved noise environment for people on the ground.

RNAV enables appropriately equipped aircraft to follow a standardised route with a greater degree of accuracy. As part of its phased implementation, Bristol Airport is proposing to introduce RNAV approach routes from the south. These routes have been designed to replicate the current tracks flown by aircraft as closely as possible.

Full details, including instructions on how to respond to the consultation, can be found at www.bristolairport.co.uk/about-us/environment/rnav-consultation.aspx

The closing date for responses is 31 October 2013.

We look forward to receiving your comments.

Yours sincerely

7.2 Email Sent to Airlines Operating from Bristol Airport

Dear Sir/Madam,

As an airline operating at Bristol Airport we are writing to seek your views on the implementation of RNAV aircraft approaches from the south.

As you may be aware, Area Navigation (RNAV) is at the heart of new technology with the potential to streamline air traffic procedures, ultimately delivering fuel savings, reduced emissions and an improved noise environment for people on the ground.

RNAV enables appropriately equipped aircraft to follow a standardised route with a greater degree of accuracy. As part of its phased implementation, Bristol Airport is

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Full details, including instructions on how to respond to the consultation, can be found at www.bristolairport.co.uk/about-us/environment/rnav-consultation.aspx

The closing date for responses is 31 October 2013.

We look forward to receiving your comments.

Yours sincerely

7.3 Bristol Airport Web Landing Page Text

RNAV Consultation

Bristol Airport is consulting on proposals to replicate, implement and eventually replace the current approach routes from the south with more accurately defined routes utilising the improved Area Navigation (RNAV) capabilities of modern aircraft.

The consultation document explains what RNAV is, how it will be used, and its potential benefits. It also includes advice on how to respond and explains what will happen next.

[Download RNAV Consultation Document \(pdf: 2MB\)](#)

Appendices

Appendix A: List of Stakeholders

A i: Bristol Airport Consultative Committee

Bristol Airport Consultative Committee
Bristol Airport Limited
CBI South Western Region
GWE Business West
Association of British Travel Agents/Guild of Travel Management Companies
Trades Union Council, Bristol and South West Region
Bristol City Council
North Somerset Council
Bath and North East Somerset Council
Weston-super-Mare Town Council
Chew Valley cluster of parishes
Cleeve Parish Council
Backwell Parish Council
Winford Parish Council
Wrington Parish Council
Yatton Parish Council

A ii: Additional Local Authorities

Local authorities
Bath and North East Somerset Council
Bristol City Council
Mendip District Council
North Somerset Council
Sedgemoor District Council
West Somerset Council

A iii: Airlines

Airlines
Aer Arann
Air France
Air Malta

Aurigny
Blue Islands
bmi regional
Bristol Flying Centre
easyJet
flybe
Helvetic
KLM
Ryanair
Thomas Cook
Thomson
Western Power Distribution Helicopter Unit

A iv: National Air Traffic Advisory Committee

National Air Traffic Management Advisory Committee
Aviation Environment Federation
Airport Operators Association
Aircraft Owners & Pilots Association
British Airways
British Aerospace Systems
British Airline Pilots Association
British Air Transport Association
British Balloon & Airship Club
BBGA (Business & General Aviation)
British Gliding Association
British Hang Gliding & Paragliding Association
British Microlight Aircraft Association
British Model Flying Association
British Parachute Association
British Helicopter Association
Civil Aviation Authority
Guild of Air Pilots & Air Navigators
General Aviation Safety Council
Guild of Air Traffic Control Officers
Helicopter Club of Great Britain
Heathrow Airport Ltd
Heavy Airlines
Light Aircraft Association
Light Airlines
Low Fares Airlines
Ministry of Defence

NATS
PPL/IR
Unmanned Aerial Vehicles Association
UK Flight Safety Committee

A v: Area of Outstanding Natural Beauty

AONB
Mendip Hills AONB

A vi: List of Other Responders

Others
Winford Parish Council
Hinton Blewett Parish Council
Cameley Parish Council
Timsbury Parish Council
Brockley Parish Council
Weston Town Council
Stowey Sutton Parish Council
Cleeve Parish Council
Churchill Parish Council
Parish Councils Airport Association
Resident of Weston-super-Mare