



Commentary on the CAA's Conclusions in respect of ... Route 4 (CAP1531) dated 7 April 2017

A link to the CAA's Conclusions on Route 4 (including Annexes & Attachments) is here:

<http://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=7861>

("Conclusions").

For those pressed for time, the CAA's Conclusions contain a CAA Executive Summary on pages 10 & 11.

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This commentary is not intended as an exhaustive summary but seeks to highlight a number of key points, with observations.

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1. In its Conclusions published on 7 April 2017, the CAA have confirmed the existing P-RNAV redesign of Route 4, introduced on 26 May 2016 (the 2016 R4).

In so doing the CAA appear to repeat and compound errors they made in 2015 (when, in their November 2015 Post Implementation Review, they ordered a fundamental redesign of the first attempt to introduce P-RNAV to Route 4), and now seek to deflect repercussions with the uncertain prospects of 'jam tomorrow' (see 7 & 8 below).

2. In its consideration of the turn of the 2016 R4 (what it calls 'Segment 2') the CAA chooses to emphasise the better track-keeping performance of the 2016 Route, as compared to the first P-RNAV design of Route 4 introduced at the end of 2013 (e.g. Para 61). However there is only a passing reference (Para 60) to the fact there has been only a "*slight improvement*" in track-keeping, if you compare the 2016 Route with the R4 legacy Route (what the CAA refers to in its Conclusions as the 'extant conventional SID').

According to previous data published by Gatwick, the 2016 Route is only achieving a 1.4% improvement in track-keeping overall, as compared with the legacy Route (a figure the CAA doesn't mention at all in its Conclusions). There is no analysis by the CAA of whether this 1.4% improvement justifies the overflying of more than 7,000 new people, and the CAA instead confines itself to saying "*the main traffic pattern in this segment has improved*".

Moreover, in the CAA's own Conclusions, it records (Para 62) that aircraft flying outside the NPR below 4,000 feet have increased since the 2016 Route 4 was introduced – 9% of aircraft strayed

outside between May to November 2016, as compared with 6% in the same period in 2013 – i.e. when the legacy Route was still being flown. However the CAA offers no comment on this.

3. There is no reference in the Conclusions to compliance or otherwise with the 220 knot speed restriction imposed on the turn of the 2016 R4, nor to whether the 2016 R4 is necessitating aircraft flying with prolonged use of flaps and slats, and whether the CAA determines these to be acceptable. We are left to conjecture whether the CAA believes these effects are not happening, or believes they are irrelevant.

Similarly in saying that the 2016 R4 *“has resulted in dispersion around the turn”* (Para 60), is the CAA saying aircraft are not blowing out of the speed limit in substantial numbers with flaps deployed and thereby spaying proportionately more noise onto the underlying communities? Or that they are, but that it regards *“dispersion”* as an appropriate term to describe this disorderly failure by aircraft to execute the turn required of them?

4. In the part of the 2016 R4 swathe after the turn (what it refers to as Segment 3), the CAA first baldly states (Para 69) without further comment that the Route shows *“a greater degree of concentration than the original conventional SID (i.e. the legacy Route)”*.

It then goes on to the fundamental redesign change that the CAA suddenly introduced in 2015 - that the conventional SID of Route 4 (the legacy Route) on which the 2016 P-RNAV redesign of R4 was to be based, should be corrected for magnetic drift (which had not been corrected for at least the previous 25 years, despite its being the CAA's responsibility for most of that time).

In their Conclusions, the CAA simply assert (Para 121) that they had *“no option”* but to make this correction for magnetic variation, and they have left to Gatwick the task of explaining why this is to the affected communities (Para 129).

This has the effect (to quote the CAA's Conclusions in Para 69) of moving the conventional SID c. 800 to 1,000 metres to the South of where it was under the legacy Route.

This move is responsible of course for the overflying of a new population of more than 7,000 in parts of Newdigate, Capel, Leigh, Norwood Hill, Sidlow and Salfords, plus the knock-on vectoring issues in Horley (see 5 below); It is also largely responsible for the tightness of the 2016 R4 turn (See 3 above).

5. Turning to the vectoring problems over Horley created by the 2016 R4, the CAA appears to be confused in its Conclusions as to the position of Horley:

The CAA states (Annex N): *“It has become apparent that some residents of Horley have an expectation that air traffic cannot be vectored over Horley on departure at any altitude because of what is published in the UK AIP. However, in conflict with this interpretation of the published noise abatement procedure, it is evident that ATC (Air Traffic Control) operational procedures advise air traffic controllers they may vector traffic as soon as it has reached 4000ft.”*

The CAA's solution in its Conclusions is to pass this problem to Gatwick.

The CAA also states (Annex N) that *“following engagement with NATS, as previously advised, the amount of overflights have reduced following an air traffic controller engagement programme....”*

The ATC vectoring problem only started after May 2016. Because of the more southerly direction of the west-to-east part of the swathe after the turn, ATC has a narrower corridor into which to funnel vectored aircraft. As a consequence avoiding Horley proves much more challenging.

We believe that after the effort that was made to ‘re-educate’ ATCs there was an improvement, but that the problem has returned very recently. This may be illustrated by a table in the CAA’s Conclusions, which seeks to illustrate a reduction in Horley overflights, but only goes up to 23 February 2017 (Table 4, page 33).

The Horley vectoring issue may only get worse as summer approaches and the even greater number of aircraft compound the vectoring difficulties. Additional problems are likely to arise with residents moving into the new Westvale development north-west of Horley.

6. When it comes to the impact on communities and feedback to route4@gatwickairport.com during the evaluation period between 26 May & 26 November 2016, the CAA devotes one paragraph to this (116) and their conclusion is that the noise impact *“is as expected”*.

As to noise impact in general, the CAA confines itself to the same limited considerations that it used to inform its Post Implementation Review in 2015 and no other or additional measures of noise impacts far less the psychological impacts on people newly overflowed are set out in the Conclusions (Para 102 et seq).

This is also despite the fact there is an obvious and substantial increase e.g. in the ‘footprint’ of aircraft below 4000 feet, according to the ‘heat maps’ (Annex G) for July 2016, as compared with July 2013 (the legacy Route), but the CAA states these *“would not be deemed significant”* (Para 104).

Similarly the CAA also identifies (Annex M, Gate Analysis) that the average vertical profile of aircraft using the 2016 R4 is lower by on average 300 feet than both the 2013 R4 and the legacy Route but this is also discounted as insignificant.

The CAA makes reference (Para 116) to the fact that *“some communities are likely to be experiencing a decrease in noise impacts”*, but doesn’t add that those communities are likely to be either those overflowed for the first time by the first P-RNAV design in 2013, or those who had always been overflowed prior to 2013 and now find themselves in the serendipitous position of not being overflowed. Whilst it may have been proven wildly presumptuous to have expected the CAA’s Conclusions to have an ethical dimension, it is still hard to see what relevance the CAA believe pointing this out has to their decision whether or not to confirm the 2016 R4.

7. In its Conclusions the CAA has held out the prospect of ‘jam tomorrow’, i.e. the potential for options to reduce the impact of R4 on local communities – but leaving the current Route 4 in place - rather than returning Route 4 to the extant conventional SID (i.e. the R4 legacy Route) while these ‘Jam’ ideas are investigated. (See Para 129 et seq & Annex N)

Responsibility for investigating these options has been placed upon Gatwick (GAL), who on any level may have conflicts of interest, since its ultimate motivation must surely be the pursuit of greater aircraft movements and passenger numbers. Prima facie this appears an abdication of responsibility by the CAA.

Most of these options (except (c)) involve pushing part of the problem onto other communities, and we anticipate would be resisted – assuming that this time round, those communities are afforded a level of transparent consultation largely denied to those blighted by the current Route 4. In the case of (c) this would require agreement with Heathrow, which may prove highly problematic, especially given the logistics of its operating a third runway; It could even be something, even if granted, that would then have to be withdrawn later.

Our current perception is that ‘the Jam’ could either prove to be very thin (perhaps offering a 10 or 20% improvement at most for someone who may have gone from a de minimis number of aircraft per day to 300 per day), or that the jam-jar could prove empty, or impossible to open.

The CAA say “This is not suggesting any of these recommendations will guarantee a reduction in noise” (Para 125).

8. We list ‘the Jam’ options below (see Para 129 et seq & Annex N), as they are presented by the CAA, without further comment (but please refer to 7 above):

(a) SID Switching: The CAA asks whether traffic can be switched from Route 4 to other SIDs? (apart from R4, there are two other main departure Routes when the airport operates in a westerly direction, one which continues in a westwards direction after take-off and the other which turns South. Route 4 currently takes about 38% of the total traffic).

The CAA have asked GAL to consider whether it is possible to find alternative routes for aircraft into the London Terminal Manoeuvring Area airspace, but without causing an unintended consequence elsewhere.

The CAA state that when considering this option, GAL will need to engage with local communities that would be impacted by such a decision. If such an option were pursued GAL may need to request the CAA approve such a decision.

(b) Respite SIDs: The CAA asks whether a second RNAV 1 SID could be operated in conjunction with the modified RNAV 1 SID?

Options for respite, whereby use of SIDs is alternated have not been trialled or tested in terms of flying SIDs for respite purposes. Therefore, the CAA is unable to comment at this stage whether alternating different, but closely-spaced, RNAV 1 SID designs at different periods has any impact in reducing the impact of aircraft noise, as no guidelines have yet been published. However, the CAA believes that there is merit in examining this option further as the desire for a degree of genuine respite is apparent feedback from local communities.

Dependent upon the outcome of those investigations and any option progressed, modifications to Government sponsored NPR notifications may be required and therefore pursuing this investigation will require prior engagement with the Department for Transport.

All options will require engagement with affected communities.

(c) Re-profiling the vertical profile of the Route 4 RNAV 1 SID

The CAA asks whether aircraft can follow a steeper climb profile to enable the aircraft to fly at a higher altitude during the departure phase of the SID?

The Route 4 RNAV 1 SID has a climb restriction of 4000ft until passing a position known as KKE 11 (just to the east of Salfords railway station), after which further climb to 5000ft and eventually 6000ft is possible. From the CAA's understanding, this restriction is due to other conflicting departure profiles.

It may be possible for GAL to engage with the air traffic service provider NATS to examine options to remove this restriction so aircraft can climb to 5000ft without levelling off. This will need careful evaluation and consideration by NATS to ensure that there are no unintended consequences for other routes.

Any changes to the vertical profile have to be considered against other traffic patterns which are adjacent to the Gatwick departure procedures, and therefore it is not possible to do this without an appropriate in depth evaluation and risk assessment by NATS. Therefore, this is for GAL to examine, in conjunction with NATS, to determine what options (if any), may be feasible.

Dependent upon the outcome of those investigations and any option progressed, modifications to Government sponsored NPR notifications may be required and therefore pursuing this investigation will require prior engagement with the Department for Transport.

All options will require engagement with affected communities.

9 April 2017