Redesign of Gatwick Route 4 RNAV SIDs

Stage 2 Design Engagement Document

CAA Ref: ACP-2018-86







Document Details

| Reference | Description | |
|----------------|--|--|
| Document Title | Redesign of Gatwick Route 4 RNAV SIDs | |
| | Stage 2 Design Engagement Document | |
| Document Ref | 71248 072 | |
| Issue | Submission 2 Issue | |
| Date | 15 July 2022 | |
| Client Name | London Gatwick Airport | |
| Classification | Commercial in Confidence until Release | |

| Issue | Amendment | Date |
|-------------------------|-----------|----------------------------|
| Submission 2 Issue 1 | Final | 15 th July 2022 |



Table of Contents

| 1 | Introduction | 1 |
|--|--|------|
| 1.1 | Overview | 1 |
| 1.2 | Background | |
| 1.3 | New Context | 3 |
| 2 | Options Development | 4 |
| 2.1 | Design Options | 4 |
| 3 | Stage 2 Stakeholder Engagement Activities | 11 |
| 3.1 | Stage 2 Engagement Requirements | |
| 3.2 | Previous Stakeholder Engagement (Gateway 1) | 11 |
| 3.3 | Recent Stakeholder Engagement (Gateway 2) | |
| 3.4 | Hazard Identification | 13 |
| 3.5 | Regulatory Engagement | 13 |
| 4 | References | 14 |
| A1 | Stage 2 Focus Group Attendees | 1-1 |
| A2 | October/November 2019 Focus Group Feedback Summary | 2-9 |
| A 3 | February 2022 Focus Group Feedback Summary | 3-19 |
| A4 | Stage 2 Stakeholder Correspondence | 4-22 |
| | | |
| | | |
| Table | of Figures | |
| Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication | |
| Figure | | |
| Figure Figure Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication 2 Option 1 – Fly-by Fly-by (LAM1X) | |
| Figure Figure Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication 2 Option 1 – Fly-by Fly-by (LAM1X) | |
| Figure Figure Figure Figure Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication | |
| Figure Figure Figure Figure Figure Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication | |
| Figure Figure Figure Figure Figure Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication | |
| Figure Figure Figure Figure Figure Figure Figure Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication | |
| Figure Figure Figure Figure Figure Figure Figure Figure Figure | 1 Option 0 – Current Conventional 6M 6V RNAV Replication | 1 |



Table of Tables

| Table 1 Glossary of Terms | <i>I</i> |
|--|----------|
| Table 2 Design Principles | |
| Table 3 HARP Workshop Attendees | |
| Table 4 References | |
| Table 5 October/November 2019 Focus Group Feedback Summary by Option | |
| Table 6 February 2022 Focus Group Feedback Summary | |



Glossary of Terms

| Acronym | Definition |
|---------|---|
| ACP | Airspace Change Proposal |
| AIP | Aeronautical Information Publication |
| ANS | Air Navigation Solutions |
| AONB | Area of Outstanding Natural Beauty |
| ATC | Air Traffic Control |
| CAA | Civil Aviation Authority |
| CAP | Civil Aviation Publication |
| DET | Detling (Waypoint) |
| DfT | (UK) Department for Transport |
| DP | Design Principle |
| DPE | Design Principle Evaluation |
| FASI-S | Future Airspace Strategy Implementation – South |
| GAL | Gatwick Airport Limited |
| HARP | Hazard and Risk Assessment Procedure |
| IOA | Initial Options Appraisal |
| KIAS | Knots Indicated Airspeed |
| LAM | Lambourne (Waypoint) |
| NPR | Noise Preferential Route |
| RNAV | Area Navigation |
| SID | Standard Instrument Departure |
| SMS | Safety Management System |
| SUNAV | SUNAV (Waypoint) |

Table 1 Glossary of Terms



1 Introduction

1.1 Overview

Gatwick Airport Limited (GAL) are currently progressing an Airspace Change Proposal (ACP) to re-design an Area Navigation (RNAV) Standard Instrument Departure (SID) route known as Route 4. The development of this route is conducted via an Airspace Change Proposal (ACP) in accordance with the process defined in Civil Aviation Publication (CAP) 1616 [Ref 1] as regulated by the UK Civil Aviation Authority (CAA).

1.1.1 Document Purpose and Scope

The overall purpose of this document is to provide a narrative, explaining the steps, rationale, and outcomes of engagement activities that have taken place in Stage 2 of the CAP 1616 process. This document refers to stakeholder engagement conducted prior to Gateway 1 (the 'Develop & Assess' Gateway on 28 February 2020) and Gateway 2 (the engagement taken place prior to the 'Develop & Assess' Gateway in July 2022). Full details regarding the progress of this ACP can be found on the CAA Airspace Change Portal, available via the link below.

https://airspacechange.caa.co.uk/PublicProposalArea?pID=111

This document is structured as follows:

- 1. Introduction (this Section)
- 2. Options Development
- 3. Stage 2 Stakeholder Engagement Activities
- 4. References
- 5. Stage 2 Focus Group Attendees (Appendix A1)
- 6. October/November 2019 Focus Group Feedback Summary (Appendix A2)
- 7. February 2022 Focus Group Feedback Summary (Appendix A3)
- 8. Stage 2 Stakeholder Correspondence (Appendix A4)

It is recommended that this document is read alongside Submission 2 of the Design Principle Evaluation (DPE), available on the CAA Airspace Change <u>portal</u>.

Please note, this document is not intended to act as a formal response to any stakeholders, it is simply a record of engagement activities that have taken place. In addition, it must be highlighted that this document refers to Stage 2 only and does not include any engagement that occurred during Stage 1. Furthermore, this document does not act as a basis for formal consultation, which takes place in Stage 3.

1.2 Background

The introduction of RNAV SIDs for Route 4 has been subject to regulatory and legal challenge since its original approval in 2013, when the CAA approved the introduction of RNAV procedures for all nine GAL departure routes. In 2015 the CAA conducted a Post Implementation Review (PIR) and approved most of the routes for continued use but found that Route 4 had not delivered the objective of the airspace change and required the route



to be modified. This work was completed, and GAL submitted an amended Route 4 proposal which was ratified by the CAA.

Subsequently, the community group 'Plane Justice' sought a judicial review to challenge the CAA's (PIR) decision. Following a further detailed investigation, the CAA asked the court to quash their previous decision. As a result, Route 4 RNAV SIDs assumed a temporary status.

The purpose of this project is to submit a new application for RNAV-1 Performance-Based Navigation (PBN) SID for Route 4 departures at Gatwick Airport under the guidance and requirements detailed in CAP 1616. This project is not connected in process to any previous airspace changes.

Route 4 is a departure route for aircraft taking off in a westerly direction from Runway 26 and then turning approximately 180° to track east just to the south of Reigate and Redhill in Surrey.

The objectives of this ACP are to design and implement new RNAV SIDs for Route 4 that:

- Improve further, where practicable, aircraft and passenger safety.
- Limit and seek to reduce, where possible, the environmental impact on local communities in the vicinity of the Route 4 SIDs.
- Enable further improvements in safety and noise reduction through the application of more efficient FASI-South operating procedures and opportunities.
- · Provide long term predictability of flight paths.

1.2.1 Design Principles

During Stage 1 of the CAP 1616 process, change sponsors are required to establish a list of Design Principles by which the subsequent route options are designed upon. As per CAP 1616, GAL produced a set of Design Principles which was agreed by the CAA following stakeholder engagement in Stage 1. Table 2 below describes the agreed list of Design Principles.

| Design Principle | | |
|------------------|--|--|
| 1 | Route 4 options will be designed safely with full regulatory compliance | |
| 2 | Designs should be built to facilitate dispersion below 7000ft | |
| 3 | New Route 4 designs options should give due regard to the historic routings in use prior to the introduction of RNAV routes in 2012 | |
| 4 | Route 4 designs should seek to minimise the adverse impact of noise on previously unaffected populations and seek to reduce the total number of people overflown | |
| 5 | Designs should seek to minimise the impact of noise on particularly sensitive areas | |
| 6 | Route 4 designs should enable transition to a vertical profile that allows an efficient, and potentially faster, climb to higher altitudes | |
| 7 | Designs that seek to provide respite should not overfly previously unaffected populations | |
| 8 | Route 4 designs should not be constrained by the existing NPR to 4000ft | |

Table 2 Design Principles



1.3 New Context

The sub-sections below set out the key areas of 'New Context' that have occurred since the previous iteration of the Stage 2 documentation was submitted in February 2020.

1.3.1 Baseline Definition

In most cases, the baseline will be the 'Do Nothing' option and will largely reflect the current operation. However, as per CAP 1616, Appendix E, Paragraph E21 in certain cases, doing nothing is not a feasible option in reality. and in such cases, the change sponsor must set out its informed view of the future and the minimum changes required to address the issues identified – a 'Do Minimum' option. For this ACP it is necessary to set the baseline at the 'Do Minimum' situation, as Do Nothing is not an option; the current conventional procedure cannot be maintained due to the previous history of Route 4 as explained and detailed in Submission 2 of the Initial Options Appraisal which can be found on the CAA Airspace Change <u>portal</u>. In considering the informed view of the future, GAL has assumed that a short-term solution (in the form of a CAP 1781 RNAV substitution) can be successfully implemented prior to the implementation of a more permanent solution, which would be delivered as part of this ACP.

Consequently, an RNAV replication of the conventional SID is the Do Minimum Option which will serve as the baseline against which all the future options are compared, projected forward to the point of implementation and at implementation plus ten years.

1.3.2 NPR Positioning

This paragraph summarises the key stakeholder concerns at the time of the first Gateway. A good deal of skepticism is apparent regarding the CAP 1616 process itself. Concerns remain over whether, or not, the ACP is being constrained or not by the NPR and there is clear disagreement about what a "historic 2012" route means, and what it should mean. This is a key factor that influences individual groups' perceptions of how each presented option gives due regard to historic routing, or not. Similarly, there is a clear divide between those who would like the NPR changed and those who would like it to remain where it is. There is a concern that dispersal may force more noise on those already experiencing this impact due to Route 3. It should be remembered that at the time of the original work, the CAA was open to considering a final route that did not track down the centerline of the published NPR swathe, as described in CAP 1912 (Ref 2).

Subsequent to stakeholder engagement that the NPR was incorrectly portrayed, the sponsor received clarification from the CAA, July 2022, that: "the CAA can confirm that the Route 4 Noise preferential Route (NPR) as described in the currently promulgated UK AIP EGKK AD 2.21 Noise Abatement Procedures......is correct. Other communications suggesting that there is another source of definitive information regarding the NPR are incorrect."



2 Options Development

2.1 Design Options

In accordance with CAP 1616, Paragraph 125 [Ref 1], an ACP change sponsor is required to develop a Comprehensive List of options that addresses the Statement of Need and are aligned with the Design Principles agreed during Stage 1. The assessment, as to how each design option meets the individual Design Principles, is contained within the DPE document, available separately on the CAA Airspace Change <u>portal</u>.

The sub-sections below provide a description and illustration of the options contained within the Comprehensive List developed by GAL. Please note that these designs remain broadly similar to those presented as part of previous submissions (Gateway 1), but have taken the most recent stakeholder feedback into consideration for Gateway 2

2.1.1 Option 0 - Current Conventional 6M 6V RNAV Replication

Following the early February 2022 on-line Focus/Engagement Groups, the feedback received suggested the baseline procedure should be slightly further north in a position more representative of the current 2021 conventional procedure, this position is that most closely aligned with the 2012 conventional procedure, to which we must give 'due regard'. Option 0 now represents this and, as the Do Minimum baseline, is also an Option in its own right for consideration during the Initial Options Appraisal.

The black line shown on the map is the proposed route and the orange shaded area is the anticipated dispersion from that route. The blue/purple area is the Noise Preferential Route¹ (NPR) Swathe, drawn +/- 1.5km around the NPR promulgated by Department for Transport (DfT) and published by Gatwick Airports Limited (GAL) in the most current Aeronautical Information Publication (AIP)².

This is the currently flown LAM 6M 6V Standard Instrument Departure (SID) as published in the UK AIP 2016. Following an initial turning waypoint (not below 1500ft max 220 KIAS) aircraft fly the turn conventionally which results in inherent dispersion. For airspace, waypoint DET D31 is flown not below 3200ft and waypoint DET D29 not above 4000ft, where the speed restriction of 220 KIAS is raised to 250 KIAS.

¹ Noise Preferential Routes (NPRs) provide volumes of pre-defined airspace within which Standard Instrument Departure Routes are established which aircraft must follow on departure from an aerodrome and so provide some certainty as to which areas will be exposed to aircraft activity.

² In October 2021, the NPR definition for Gatwick's Route 4 was updated upon instruction by DfT, correct for the impact of magnetic variation.



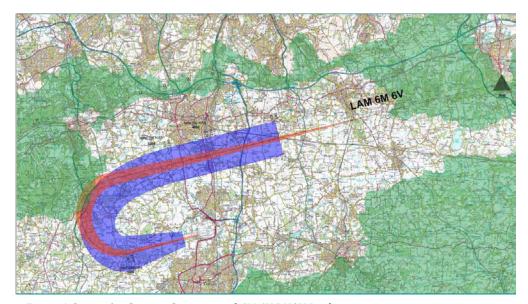


Figure 1 Option 0 – Current Conventional 6M 6V RNAV Replication

It is worth highlighting that Option 0 (previously referred to as Option B) is not a new option. Since the previous unsuccessful Stage 2 Gateway, Option 0 has been established as the 'Do Minimum baseline'. In addition, what was Option 0 in previous documentation is now Option 8.

2.1.2 Option 1 – Fly-by Fly-by (LAM1X)

The black line is the proposed route; the orange shaded area is the anticipated dispersion from that route; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the most current AIP.

This was the LAM 1X SID as previously published in the UK AIP 2013. Aircraft fly straight ahead and make the first turn at KKW04 not below 2500ft. Two 90° turns at the fly-by waypoints KKW04 and KKN06 result in aircraft tracking 079° (True) following the turn. The turn is coded Track to Fix which results in a relatively small degree of dispersion in the turn. Aircraft must be below 4000ft at waypoint KKE14 where the speed restriction of 220 KIAS is raised to 250 KIAS. Aircraft remain on track 079° (True) to SUNAV at 5000ft.

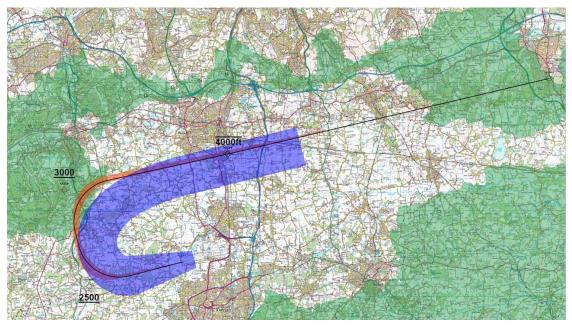




Figure 2 Option 1 – Fly-by Fly-by (LAM1X)

2.1.3 Option 2 – Fly-over Fly-by (LAM 2X) Direct SUNAV

The black line is the proposed route; the orange shaded area is the anticipated dispersion from that route; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the most current AIP.

This option uses the same turn as described in Option 8, however, the track adjustment at KKE15 is removed and waypoint NEW 11 is placed on the course that aircraft would nominally roll out of the turn. Waypoint NEW09 maintains the requirement for aircraft to be above 3200ft at a point abeam the original KKE09 and NEW 11 maintains the restriction of aircraft not climbing above 4000ft at the point abeam KKE11. NEW11 lifts the speed restriction from 220 KIAS to 250 KIAS.

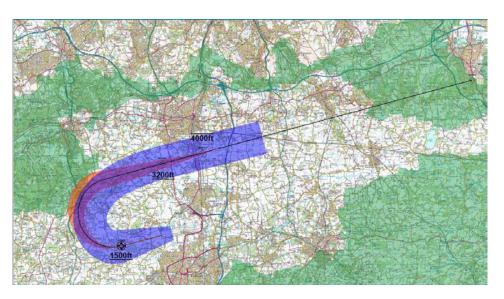


Figure 3 Option 2 - Fly-over Fly-by (LAM 2X) Direct SUNAV

2.1.4 Option 3 – Fly-by Fly-by (Apparent Dispersion Late in Turn)

The black line(s) is/are the proposed route(s); the orange shaded area is the anticipated dispersion from that route; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the AIP.

Aircraft fly straight ahead to KKXX01 and turn not below 1100ft. KKXX02 is the second of two 90° turns with a speed limit of 200 KIAS. Three waypoints are placed abeam each other at a distance of 278m with the intention of providing a degree of managed track dispersion. KKE 09 A, B and C provide different termination points for the paths following the turn although all are coded Course to Fix. This results in three courses being flown to different waypoints and these discreet paths are maintained to three waypoints KKE11 A, B C where the speed restriction of 220 KIAS is lifted to 250 KIAS and the three paths are coded Course to Fix to SUNAV at 5000ft resulting in a gradual narrowing of the apparent dispersion.



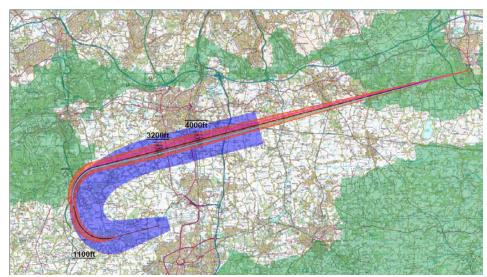


Figure 4 Option 3 – Fly-by Fly-by (Apparent Dispersion Late in Turn)

2.1.5 Option 4 - Fly-over Fly-by (Multiple Initial Turn Points)

The black line(s) is/are the proposed route(s); the orange shaded area is the anticipated dispersion from that route; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the AIP.

Option 4 utilises three initial turning points placed sequentially 400m apart. These waypoints are coded to ensure aircraft do not turn below 1500ft with the intention that there will be planned dispersion in the turn. The turn is designed to be flown with Course to Fix Path Terminators. Following the turn waypoint NEW09 maintains the requirement for aircraft to be above 3200ft at a point abeam the original KKE09 and NEW 11 maintains the restriction of aircraft not climbing 4000ft at the point abeam KKE11. NEW11 lifts the speed restriction from 220 KIAS to 250 KIAS.

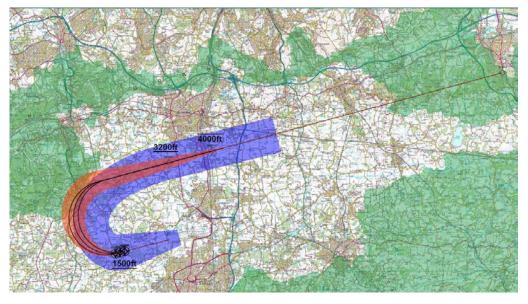


Figure 5 Option 4 – Fly-over Fly-by (Multiple Initial Turn Points)



2.1.6 Option 5 - Fly-by Fly-by (Lower Speed Vs Option 1)

The black line is the proposed route; the orange shaded area is the anticipated dispersion from that route; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the AIP.

Option 5 uses the same methodology as Option 1 which incorporates two 90° turns at fly-by waypoints followed by a direct track to SUNAV at 5000ft. The speed is reduced in the turn to 200 KIAS, and this results in the waypoints being placed closer together, as a result the turn is completed to the south of that designed in Option 1. The 200 KIAS restriction is lifted to 250 KIAS at NEW12 creating a point of acceleration.

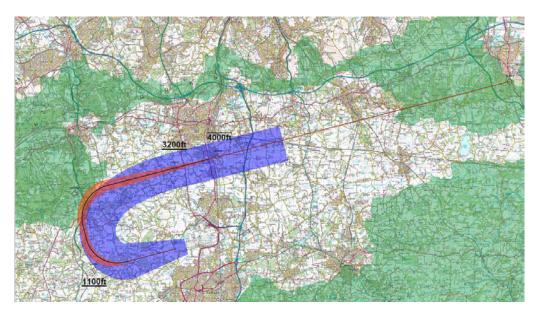


Figure 6 Option 5 – Fly-by Fly-by (Lower Speed Vs Option 1)

2.1.7 Option 6 - Fly-over Fly-by (Multiple Initial and Turn Points)

The black/pink/turquoise lines are the proposed route; the orange shaded area is the anticipated dispersion from those routes; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the AIP.

This option is an amalgam of Options 3 and 4 and is expected to result in a degree of track dispersion in, and following, the turn. Option 6 brings the paths to a common waypoint at KK11A and from there a concentrated track of traffic to SUNAV at 5000ft utilising a Track to Fix Path Terminator, unlike the Course to Fix used in Option 3 which leads to a more gradual concentrating of the tracks closer to SUNAV.

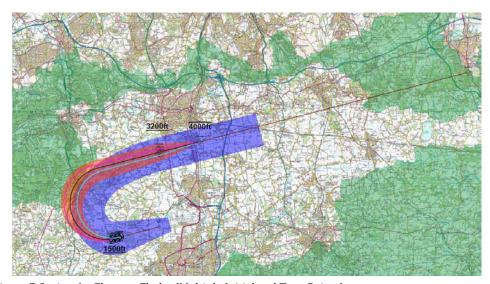


Figure 7 Option 6 – Fly-over Fly-by (Multiple Initial and Turn Points)

2.1.8 Option 7 - Constant Radius to Fix (Tracks Concentrated)

The black line is the proposed route; the orange shaded area is the anticipated dispersion from that route; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the AIP. At the Focus/Engagement Groups in February 2022, this option was presented as the new Option 7.

This option utilises a Constant Radius to Fix Path Terminator that will produce a concentrated track over the ground. KKW02 is coded as the first waypoint to ensure aircraft do not turn below 1500ft. Following the turn, waypoint KKE09 is flown not below 3200ft and KKE11 not above 4000ft. The speed restriction of 220 KIAS is raised to 250 KIAS at waypoint KKE 11. Aircraft adjust track at KKE15 by 3° before routing to SUNAV at 5000ft. Due to the degree of concentration this design will need further work ahead of the public consultation to more accurately depict a track over the ground that will minimise the numbers of people newly overflown. The indicative swathe depicted, and presented to key stakeholders, demonstrates the level to which traffic is expected to be concentrated on such a design.

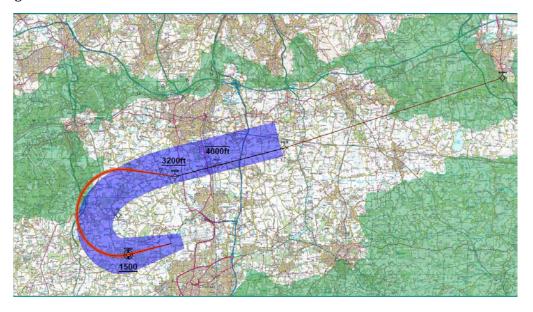


Figure 8 Option 7 - Constant Radius to Fix (Tracks Concentrated)



2.1.9 Option 8 - Fly over Fly-By (Was LAM 2X)

The black line is the proposed route; the orange shaded area is the anticipated dispersion from that route; and the blue/purple area is the NPR Swathe, drawn +/- 1.5km around the NPR as promulgated by DfT and published by GAL in the AIP. At the Focus/Engagement Groups in February 2022, this option was presented as Option 0.

This is the previously published LAM 2X SID. Following an initial fly-over waypoint (not below 1500ft max 220 KIAS) aircraft fly the turn using a Course to Fix Path Terminator that results in a degree of dispersion during the turn. For airspace, waypoint KKE09 is flown not below 3200ft and KKE11 not above 4000ft. The speed restriction of 220 KIAS is raised to 250 KIAS at waypoint KKE 11. Aircraft adjust track at KKE15 by 3° before routing to SUNAV at 5000ft.

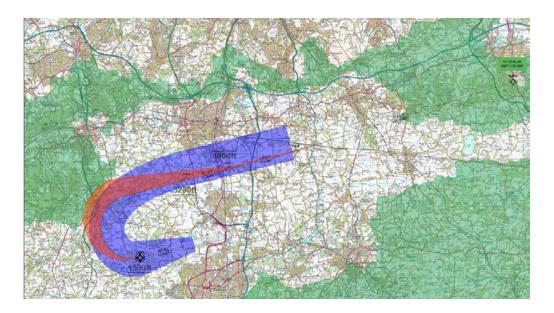


Figure 9 Option 8 - Fly over Fly-By (Was LAM 2X)

3 Stage 2 Stakeholder Engagement Activities

3.1 Stage 2 Engagement Requirements

Following the completion of Step 2A (Options Development), in complying with the CAP 1616 process, a change sponsor is required to carry out a round of engagement with key stakeholders to test their Design Options against the Design Principles (DPs) agreed at Stage 1. CAP 1616, Appendix C, Paragraph C27 states:

"As the change sponsor is required to design options that meet the design principles developed during Stage 1b, they must seek feedback from key stakeholders to test their hypotheses. The design principle evaluation should be signposted for stakeholders as this sets out how the design options have responded to the design principles. Bilateral meetings and smaller challenge groups are likely to be sufficient to ensure that stakeholder concerns have been properly understood and accounted for in designing options." [Ref 1]

In addition, the change sponsor must consider the feedback of stakeholders and "evidence stakeholders are content that their views have been captured and taken into account by the change sponsor" as per CAP 1616, Appendix C, Paragraph C28 [Ref 1]. It should be highlighted that according to CAP 1616, formal records of every meeting is not necessary depending on the "size and nature of meetings" (CAP 1616, Appendix C, Paragraph C28 [Ref 1]).

It must also be noted that during Step 2B Initial Options Appraisal (IOA), it becomes much clearer as to which stakeholders are impacted, as the proposed design options are analysed in more detail. As per CAP 1616, Appendix C, Paragraph C29, "this insight should be used to inform the development of the consultation strategy in Stage 3" [Ref 1].

3.2 Previous Stakeholder Engagement (Gateway 1)

Original Stage 2 engagement as part of the Route 4 modernisation project commenced with two Design Workshops held on 30th October 2019 and 21st November 2019. The first stakeholder event (held on 30th October 2019) featured several design envelopes for general comment. The subsequent workshop (held on 21st November 2019) included detailed route design options. In the latter workshop, large scale diagrams were produced to allow stakeholders to have a detailed look at the proposed designs.

At these two events, stakeholders were presented with the proposed design options (as they were at the time) and asked to provide feedback. Feedback was collated and summarised along with comments about how stakeholders felt about each option. A summary of stakeholder feedback (broken down by option) can be found in Appendix A2.

3.3 Recent Stakeholder Engagement (Gateway 2)

Following the previous unsuccessful attempts to implement a PBN SID for Route 4, GAL have recently conducted a significant amount of stakeholder engagement to understand stakeholder thoughts on the newly proposed options (as shown in Section 2). This engagement is in accordance with CAP 1616, Appendix C, Paragraph C27 and Paragraph C28 as detailed in Section 3.

In February 2022, stakeholders were invited to attend one of two focus groups which were held virtually via Microsoft Teams. The stakeholders who were invited were those who GAL had engaged with within Stage 1 of the CAP 1616 process and those who had been



previously engaged in 2019. The stakeholder list was also reviewed and updated following Gateway 1 due to the amount of time elapsed due to the pandemic and local elections. During the virtual meetings, stakeholders were provided with an update on progress and were presented with the newly amended design options (as shown in Section 2). The main change to the previous options set were:

- Option 0 became a stand-alone option, rather than the defined baseline following clarification from the CAA that the temporary RNAV procedure (2016) could not be used as a baseline for comparative purposes.
- Option 7 New replaced Option 7, ensuring that aircraft do not turn below 1,500ft. In addition and following stakeholder feedback, the new option was designed to laterally avoid the village of Beare Green by providing a more concentrated track between Beare Green and Capel.

Following both virtual meetings, stakeholders were issued with a Feedback form applicable to Option 7 New (as this is the only option which had significantly changed) and asked to provide feedback, using the form shown in Figure 10 below.

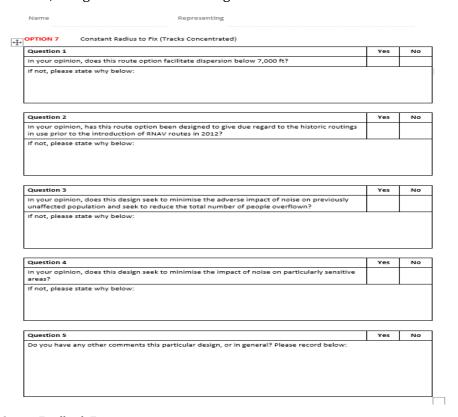


Figure 10 Option Feedback Form

Stakeholders were requested to submit their feedback via a dedicated email address within a month after the last focus group (i.e., 2^{nd} March 2022). This period was then extended to 15^{th} April 2022 in order to provide further time for stakeholders to provide feedback once the NPR had been depicted on maps

A summary of the responses is detailed within Appendix A3. More detailed feedback and engagement including correspondence with stakeholders following the latest Focus Groups (February 2022) can be found in Appendix A4.



3.4 Hazard Identification

In accordance with standard aviation safety practice and the Air Navigation Solutions Ltd (ANSL) Safety Management System (SMS), a Hazard Analysis and Risk Assessment Procedure (HARP) workshop was held on 12th December 2019.

| Table 3 below provides a list of the HARP workshop attendee | Table 3 below | provides a | list of the | HARP wo | orkshop | attendees |
|---|---------------|------------|-------------|---------|---------|-----------|
|---|---------------|------------|-------------|---------|---------|-----------|

| Name | Organisation | Role |
|------|--------------------------|------|
| | ANSL | |
| | DFS (ANS Parent Company) | |
| | easyJet | |
| | Osprey CSL | |
| | Osprey CSL | |
| | Osprey CSL | |

Table 3 HARP Workshop Attendees

The outcome of the HARP workshop is captured within the HARP Record and is used to inform the Safety Case Part 1 Report. However, due to the sensitive nature of this material, it is standard practise not to publish this report within the public domain. A non-technical safety assessment summary is included as part of the IOA.

3.5 Regulatory Engagement

As part of the CAP 1616 process, the change sponsor is required to engage with the CAA as and when appropriate to facilitate progressing through the various stages and steps within the process. This engagement has taken place with the nominated Case Officer/Technical Regulator at the CAA.

At times, it was necessary for GAL to engage directly with the CAA on an ad-hoc basis. The aim of this was to provide some additional clarity on the CAP 1616 process. It must be noted that the CAA are only able to provide guidance based on the contents of CAP 1616. The main ad-hoc engagement items are listed below.

- Progress updates following Judicial Review.
- Confirmation of defined baseline (Do Minimum vs Do Nothing).
- Confirmation of the defined NPRs as published in the UK AIP.



4 References

| Ref No | Source | Link |
|-----------|--------|---|
| 1 | CAA | CAP 1616 CAP1616: Airspace change: Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information (caa.co.uk) |
| 2 | CAA | CAP 1912 CAP1912: Report on the CAA's Decision on the Post Implementation Review of London Gatwick's Airspace Change Proposal – Runway 26 Route 4 RNAV-1 Standard Instrument Departure Procedures |

Table 4 References



A1 Stage 2 Focus Group Attendees

A1.1.1 31st October 2019 Attendees

| Name | Organisation |
|------|-------------------------------|
| | GAL |
| | GAL |
| | ANSL |
| | Osprey CSL |
| | Osprey CSL |
| | Osprey CSL |
| | Waverley Borough Council |
| | Waverley Borough Council |
| | Brockham Parish Council |
| | Horley Town Council |
| | GACC |
| | CAGNE |
| | Mole Valley District Council) |

| easyJet |
|------------------------------------|
| Salfords and Sidlow Parish Council |
| Newdigate Parish Council |
| Plane Justice |
| Betchworth Parish Council |
| National Police Air Service (NPAS) |
| Plane Wrong |
| Heathrow Airport |
| Heathrow Airport |
| Capel Parish Council |
| Tandridge District Council |
| Surrey County Council |
| Route 4 No More |
| Mole Valley District Council |
| Plane Justice |

A1.2.1 Gatwick 2019 Attendees

| Name | Organisation |
|------|------------------------------------|
| | GAL |
| | GAL |
| | ANSL |
| | Osprey CSL |
| | Waverley Borough Council |
| | GATCOM |
| | Brockham Parish Council |
| | Horley Town Council |
| | GACC |
| | CAGNE |
| | Mole Valley District Council |
| | Salfords and Sidlow Parish Council |

| _ | Gatwick | |
|---|---------|---|
| - | | Newdigate Parish Council |
| | | Plane Justice |
| | | Betchworth Parish Council |
| | | Plane Wrong |
| | | Leigh Parish Council |
| | | Heathrow Airport |
| | | Tandridge District Council |
| | | Surrey County Council |
| | | Route 4 No More |
| | | Mole Valley District Council |
| | | Plane Justice |
| | | Crawley Borough Council |
| | | Reigate & Banstead Borough Council |
| | | Reigate & Banstead Borough Council |
| | | Outwood Parish Council |
| | | Quiet Outwood |
| | | Quiet Outwood |
| | | Tandridge District Council Surrey County Council Route 4 No More Mole Valley District Council Plane Justice Crawley Borough Council Reigate & Banstead Borough Council Reigate & Banstead Borough Council Outwood Parish Council Quiet Outwood |

A1.3.1 Gatwick Tst February 2022 Attendees

| Name | Organisation |
|------|---|
| | GAL |
| | ANSL |
| | Osprey CSL |
| | Osprey CSL |
| | Osprey CSL |
| | Mole Valley District Council |
| | Betchworth Parish Council |
| | Gatwick Area Conservation Campaign (GACC) |
| | Brockham Parish Council |
| | Kenley Aerodrome |
| | Betchworth Parish Council |
| | Mole Valley District Council |
| | Plane Justice |
| | Southdown Gliding Club |
| | Horsham District Council |
| | Heathrow Airport |

| Heathrow Airport |
|-------------------------------------|
| Surrey County Council |
| Reigate and Bansted Borough Council |
| Guildford Borough Council |
| Mole Valley District Council |
| Sevenoaks District Council |
| Route 4 No More |
| Newdigate Parish Council |
| Qatar Airways |
| London Biggin Hill Airport |
| Charlwood Parish Council |
| MOD DAATM |
| Nutfield Parish Council |
| West Sussex County Council |
| GATCOM and NATMAC |
| Tandridge District Council |
| |

A1.4.1 Gatwick Znu February 2022 Attendees

| Name | Organisation |
|------|----------------------------|
| | GAL |
| | ANSL |
| | Osprey CSL |
| | Osprey CSL |
| | Osprey CSL |
| | GATCOM |
| | Surrey County Council |
| | Tandridge District Council |
| | Waverly District Council |
| | Horley Town Council |
| | CAGNE |

| - | Plane Justice |
|---|-----------------------------------|
| | Salford and Sidlow Parish Council |
| | Plane Wrong |



A2 October/November 2019 Focus Group Feedback Summary

| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
|------|--|---|---|---|---|---|---|---|---|
| | Mole Valley District Council (MVDC) | Unable to make comment due to lack of information. | Unable to make comment due to lack of information. | Unable to make comment due to lack of information. | Unable to make comment due to lack of information. | Unable to make comment due to lack of information. | Unable to make comment due to lack of information. | Unable to make comment due to lack of information. | Unable to make comment due to lack of information. |
| | Betchworth Parish Council | Option is supported based on well- established NPRs. | Outside NPR and is closer to Route 3 creating an "intolerable" level of noise for those under Route 3. In addition, there has been no identification of historic/legacy routings other than the NPR. Option is not supported. | Outside NPR and is closer to Route 3 creating an "intolerable" level of noise for those under Route 3. In addition, there has been no identification of historic/legacy routings other than the NPR. Option is not supported. | Outside NPR and is closer to Route 3 creating an "intolerable" level of noise for those under Route 3. In addition, there has been no identification of historic/legacy routings other than the NPR. Option is not supported. | Outside NPR and is closer to Route 3 creating an "intolerable" level of noise for those under Route 3. In addition, there has been no identification of historic/legacy routings other than the NPR. Option is not supported. | Outside NPR and is closer to Route 3 creating an "intolerable" level of noise for those under Route 3. In addition, there has been no identification of historic/legacy routings other than the NPR. Option is not supported. | Outside NPR and is closer to Route 3 creating an "intolerable" level of noise for those under Route 3. In addition, there has been no identification of historic/legacy routings other than the NPR. Option is not supported. | Option is supported based on well- established NPRs. |
| | Salfords and Sidlow Parish Council | | Option 1 is supported as it is the nearest achievable replication of | Option 2 is not supported due to the height of aircraft as they begin the turn | Option 3 is not supported due to the height of aircraft as they begin the | Option 4 is not supported as it does not replicate the 2012 route | Option 5 is not supported as the altitude at which the turn is commenced | This option is partially supported as the respondent praised the | Option 7 was not supported due to the turning height and the fact |

| | Catwick. | | | | | | | | |
|------|--------------------------------|--|---|--|---|---|-----------------------------|---|---|
| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
| | | | the 2012 route and is the only option achieving 2,500ft before the start of the turn. | (1,500ft). This response also suggests that the option should be moved further away from the NPR centreline as it does not reflect the requirements to replicate the 2012 route. | turn (1,100ft). In addition, the respondent believes the turn is "too tight" adding that the dispersion at 4,000ft is misleading as aircraft may be radar vectored by this point. | and that the altitude at which the turn is commenced is deemed to be too low. | is deemed to be too low. | turning point farthest out but did not support the other turning points located closer to the runway. In addition, the respondent believed that the turning altitude was too low. | that the respondent believes it is too far south when compared to the 2012 route. |
| | easyJet | easyJet believed that this option was designed well adding an additional comment regarding an increased bank angle to 20/30 degrees plus an increase in speed. | - | - | - | - | - | - | easyJet confirmed that it supported Option 7 based on the radius to fix. |
| | Waverley Borough Council | No comment | No comment | No comment | No comment | No comment | No comment | No comment | No comment |

| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
|------|--------------|---|---|---|---|--|---|--|---|
| Name | Organisation | Option 0 | Option 1 | Option 2 | option 3 | Option 4 | Option 3 | Option 0 | Option 7 |
| | Plane Wrong | Option 0 was supported by Plane Wrong on the basis that it is contained within the existing NPRs. | Place Wrong believed that Option 1 was too close to Route 3 minimising the potential for dispersion. In addition, they mad specific reference to the impacts on newly overflown populations, the Surrey Hills AONB and a local hospital. This option was not supported. | Place Wrong believed that Option 2 was too close to Route 3 minimising the potential for dispersion. In addition, they mad specific reference to the impacts on newly overflown populations, the Surrey Hills AONB and a local hospital. This option was not supported. | Place Wrong believed that Option 3 was too close to Route 3 minimising the potential for dispersion. In addition, they mad specific reference to the impacts on newly overflown populations, the Surrey Hills AONB and a local hospital. This option was not supported. | Place Wrong believed that Option 4 was too close to Route 3 minimising the potential for dispersion adding that there was no need for additional desperation over the AONB when compared to Option 0. In addition, they mad specific reference to the impacts on newly overflown populations, the Surrey Hills AONB and a local hospital. This option was not supported. | Place Wrong believed that Option 5 was too close to Route 3 minimising the potential for dispersion adding that depending on the wind direction and strength, aircraft could be blown considerably further north of the NPR. In addition, they mad specific reference to the impacts on newly overflown populations, the Surrey Hills AONB and a local hospital. This option was not supported. | Place Wrong believed that Option 6 was too close to Route 3 minimising the potential for dispersion adding that there was no need for additional desperation over the AONB when compared to Option 0. In addition, they mad specific reference to the impacts on newly overflown populations, the Surrey Hills AONB and a local hospital. This option was not supported. | It is commented that this route is far too concentrated and is therefore not supported. |

| | | atwick | | | | | | | |
|------|---------------|--|---|--|--|--|---|--|---|
| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
| | Plane Justice | Plane Justice assumed that this option had been formally discounted. | Plane Justice considered Option 1 to be the best way forward, once some alterations (increased bank angle) were made. | It was commented that this option does not present any benefits in terms of dispersion and is misrepresentative of the 2012 routing. As such, this option was not supported. | It was viewed that although this option "gave some regard" to the 2012 routing, as it contains a lower altitude turn (1,100ft) it would have an adverse impact on the villages of Capel and Newdiagte. Plane Justice also expressed some concerns as to whether this option could affect radar vectoring patterns which in turn would affect the communities of Horley and Outwood. This option was not supported. | It was viewed that although this option "gave some regard" to the 2012 routing, as it contains a lower altitude turn (1,100ft) it would have an adverse impact on the villages of Capel and Newdiagte. Plane Justice also expressed some concerns as to whether this option could affect radar vectoring patterns which in turn would affect the communities of Horley and Outwood. In addition, specific concern was raised regarding the | Plane Justice believed that Option 5 is the closest replication of the historic 2012 routing. However, it was commented that this option does appear to overfly communities not previously affected. Concerns were also raised regarding dispersion during the turn. This option was not supported. | It was stated that the respondent felt that this option did not consider the historic 2012 routing and would overfly areas not previously overflown. In addition, concern was raised about the lack of dispersion and the adverse impacts on the AONB along with the villages of Capel and Newdigate. This option was not supported. | Plane Justice believed that this option would have severe adverse impacts on communities that are not currently overflown and "flies in the face" of the judicial review decision. This option was not supported. |

| | | atwick . | | | | | | | |
|------|--------------------------------|----------|---|----------|---|--|--|---|---|
| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
| | | | | | | overflight of the AONB. Concerns were also raised regarding dispersion during the turn. This option was not supported. | | | |
| | Quiet Outwood | | Quiet Outwood strongly supported Option 1 as it appeared to be the closest to the historic 2012 routing. It was suggested that the far West/Easterly portions were brought further South by increasing the bank angle by "a few degrees". | - | - | - | - | - | Option 7 was strongly rejected because Quiet Outwood believed that no respite could be achieved, increasing the overall concentration above the village of Outwood. |
| | Newdigate Parish Council | - | Newdigate Parish Council did not support this option on the basis that it | - | It is commented that dispersion within this | The respondent believed that this option is a "poor attempt" | Newdigate Parish Council believed that this option was too | The Newdigate Parish Council stated that this was their preferred | Newdigate Parish Council believed that this option was too |

| | | atwick | | | | | | | _ |
|----------------|-------------------------|-------------------------|--|------------|---|--|---|---|---|
| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
| | | | is too concentrated meaning there is no respite for those overflown. | | option would only occur after the turn. Meaning there is increased concentration at a lower altitude. The respondent also adds that this route differs from historical routings and impacts on sensitive areas including local schools. | at replication of the historical swathe and provided greater concentration. This option was not supported. | concentrated and would cause a greater frequency of overflight. They also made specific reference to overflight of the AONB and local schools. This option was not supported. | option based on wider airspace constraints, with specific reference to upper airspace re-designed as part of FASI-S. The council believed that this option provided maximum dispersion, suggesting that dispersion could be continued further to the east. Having said that, they stated that any concentration of traffic below 4,000ft would be unacceptable. | concentrated and would cause a greater frequency of overflight. They also made specific reference to overflight of the AONB and local schools. This option was not supported adding that they felt that this option "ignores" the judicial review decision. |
| Mike George | Horley | No comment | No comment | No comment | No comment | No comment | No comment | No comment | No comment |
| | Reigate and Banstead | Reigate and Banstead | Option 1 was not supported | - | Option 3 was not supported | - | - | - | - |

| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
|------|--------------------|---|--|--|---|---|---|--|--|
| | Borough | Borough Council supported Option 0 recognising that it was within the NPR swathe. However, they added that the NPR swathe should be more dispersed rather than concentrated towards Salfords, like the level of dispersion shown in Option 3. | given its proximity to a nearby hospital. | | given its proximity to a nearby hospital. | | | | |
| | Route 4 No More | Route 4 No More stated that they had assumed this option had been "taken off the table" based on the Judicial Review case. | Route 4 No More supported Option 1 providing that "a few tweaks" were made to bring the option "marginally further south back into the | In their response, Route 4 No More commented that although there did appear to be some dispersion within this option, it was not representative of "legacy patterns", | In their response, Route 4 No More commented that although there did appear to be some dispersion | In their response, Route 4 No More commented that although there did appear to be some dispersion | Route 4 No More acknowledged that this option could potentially provide some dispersion if the turning altitude could | It was commented that this option does represent the legacy tracks adding that the eastbound leg should be removed. It | It was commented that this option does not comply with the legacy tracks and "completely disrespects" the 2012 court |

| Liatwick | | | | | | | | | |
|----------|--------------|---|---|---|--|---|---|---|---|
| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
| | | | current swathe". They added that this was the preferred option over the others based on the levels of dispersion at lower altitudes. | making the impact of noise on those already overflown worse. | within this option, more could have been done to minimise the impact on those currently not overflown by providing radar vectors from the most northerly line across the swathe, as it 2012. | within this option, the impact of noise was likely to be worse due to the tighter and closer turns. | be raised to 2,500ft as in Option 1. It was also stated that this option only "partially" overflies areas of the AONB. | was also stated that this option only "partially" overflies areas of the AONB. | order. The respondent believed that this option was a return to how aircraft used to fly in the 1960's, undermining the concept of airspace modernisation. |
| | GACC | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. | GACC stated that they could not support any of the proposed options as they would impact on both those currently overflown and those not currently overflown. |

| Name | Organisation | Option 0 | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Option 6 | Option 7 |
|------|--------------|--|--|---|---|---|---|---|---|
| | ANS | ANS comment that this route is like current operations and therefore3 has a very minimal impact. | ANS commented that there are more areas are overflown resulting in an increase of the total number of people overflown as well as more sensitive areas. They added that the two 90° turns will increase the departure separation required thus reducing the optimal number of movements on the runway. | ANS stated that ATC would be required to increase the departure separation than is currently used therefore reducing the number of movements on the runway. | ANS stated that ATC would be required to increase the departure separation than is currently used therefore reducing the number of movements on the runway. | ANS stated that ATC would be required to increase the departure separation than is currently used therefore reducing the number of movements on the runway. In addition, they added that there were too many variables specific to this option. | ANS commented that the two 90° turns will increase the departure separation required thus reducing the optimal number of movements on the runway. They went on to state that lower speeds would mean that aircraft would be on the departure tracks for longer. | ANS stated that ATC would be required to increase the departure separation than is currently used therefore reducing the number of movements on the runway. In addition, they added that there were too many variables specific to this option. | ANS supported this option, acknowledging that this option keeps the noise dispersal localised to the main areas as the dispersal is minimal. In addition, ANS stated that, for the reasons of maximum runway utilisation and low probability of a loss of separation between subsequent departures, this design is the preferred overall. The near continuous turn provides consistency of the track and therefore separation is easier to judge. |

YOUR LONDON AIRPORT

Gatwick

Gatwick Table 5 October 7 November 2019 Focus Group Feedback Summary by Option

A3 February 2022 Focus Group Feedback Summary

| Name | Organisation | Consolidated Response Summary |
|------|--|---|
| | CAGNE | CAGNE commented that Route 4 continues to be flown outside the NPR in a more northerly direction towards Brockham and Betchworth, adding that prior to 2014, these villages were not overflown by GAL traffic as they are in close proximity to Heathrow traffic. In addition, the CAGNE refers to GAL's impact on the environment. |
| | Beare Green Council | Beare Green Council acknowledged that Option 7 provides a "fairer path" compared to Option 7 New, however, they state that both options do not facilitate dispersion whilst utilising modern aircraft technology with reference to the "slightly different" coding mechanisms used within aircraft Flight Management Systems. They add that Option 7 New overflies more houses, the Surrey Hills AONB and a nearby school, suggesting that larger turns would mitigate the impact on these areas. |
| | CAGNE Committee | The CAGNE Committee member discusses the fact that the Route 4 design options are assessed in isolation, when compared to GAL FASI-S and adjacent airport proposals, arguing that the overall picture in terms of noise is not considered. This response reference similar points to those raised within the CAGNE response received from Faye Ewbank (summarised above). In addition, the CAGNE Committee member requests that historic NPR track keeping data is provided. Furthermore, within this response Options 4 and 6 are supported if they remain within the confines of the current NPR. |
| | Plane Wrong | Within their response, Plane Wrong state that they can only support Option 0, suggesting that other routes presented are outside the current NPR, will overfly many people and encroaches on the Surrey Hills AONB, with additional reference mad to a nearby hospital. |
| | Mole Valley District Council (MVDC) | In their response, MVDC state that Option 7 cannot facilitate dispersion whilst utilising modern aircraft technology with reference to the "slightly different" coding mechanisms used within aircraft Flight Management Systems. In addition, they state that the newest version of Option 7 provides a "fairer path" compared to the previous Option 7 New. The response references that it is believed more people shall be overflown and that there will |

| Gatwick | | |
|---------|---|--|
| | | be an adverse impact on the Surrey Hills AONB and a local school while also naming villages that would be overflown that are not at present. |
| | Betchworth Parish Council | In the opinion of the Betchworth Parish Council representative, Option 7 New does not facilitate dispersion and further concentrates outbound traffic adding that the route lies outside the existing NPR, expressing additional concerns regarding movement of the NPR. Additional points are raised regarding the Surrey Hills AONB along with the proximity to Route 3. |
| | Reigate and Banstead Borough Council | In their response, Reigate and Banstead Borough Council believe that the route options presented restrict dispersion, having a greater impact on noise receptors on the ground adding that it is believed more houses would be overflown. The response expresses specific concerns regarding increased power settings (and therefore noise) required to complete the turns within Option 7 New. Reigate and Banstead Borough Council have expressed interest in receiving the detailed shape files of each option to identify the noise impacts in more detail and goes further to ask about how this will be impacted by the GAL Northern Runway project. |
| | Tandridge District Council | Tandridge District Council commented that the new proposed Option 7 may cause "detrimental harm to the communities that this route option could fly over than previously seen". The council states that they remain concerned about the impact of noise and air quality on local residents and businesses. In addition, it is requested that the routes and content is simplified to aid understanding by the public. |
| | Plane Justice | Plane Justice believe that Option 7 New is more concentrated that therefore allows for very limited dispersion adding that they believe that this new route "bears no resemblance to the historic routings". It is believed that the new proposed route would overfly more residential areas specifically naming a large new housing development. Additionally, Plane Justice state that they believe the new proposed route does not seek to minimise the impact of noise on any sensitive locations, specifically mentioning the Surrey Hills AONB. In their response, Plane Justice provide a detailed breakdown of specific pages within previous and recent documentation. An example, being reference to Option 0 shown as the "unlawful" flight patterns presented in 2016. Plane Justice conclude by highlighting that they believe the issues identified as part of the ACP Statement of Need should be considered as part of the proposed designs. |

| Gatwick | | |
|-----------|---------------------------------------|--|
| Ed Winter | Individual | This response was submitted on an individual basis based on the formal Plane Wrong response, containing very similar points (see Plane Wrong response summary above). |
| | Nutfield Conservation Society | Th response submitted by the Nutfield Conservation Society highlights the issue of dispersion on the assumption that this does not take place prior to the A23 road due to NPR limitations adding that they feel it would be inappropriate to comment on noise impacts within other areas. Nutfield Conservation Society also acknowledge the removal of the DET/LAM VORs and understand the need for change, highlighting that previous engagement has stated that this will not have fundamentally change aircraft tracks. |
| | Waverley Borough Council | Waverley Borough Council express concerns over the dispersion of traffic below 7,000ft along with the fact that it is unable to determine the cumulative impact of other routes. It is also commented that Option 7 New is less closely aligned with the historic route, leading to a greater area over which a 180-degree turn could be flown. The response makes specific refence to impacts on the Surrey Hills AONB and tranquillity in a more generic sense. Waverley Borough Council added that they declared a climate emergency in September 2019, saying that the proposed options are contrary to this and that they believe the "promotion of continued air travel is unsustainable". |
| | Route 4 No More | The response from Route 4 No More indicates that new communities would be overflown as a result of the proposed new options acknowledging that the new designs reflect the current routing. |
| | Salfords and Sidlow Parish Council | From their response, it is understood by Salfords and Sidlow Parish Council that dispersion could take place between 4,000ft and 7,000ft, which is not unique to Option 7. It is believed that the proposed Option 7 New does not meet DP 3 or 4 due to the overflight of new communities when compared to the 2012 routings. The council believe that DP 6 should not be adhered to at the expense of populations overflown and that DP 8 in not acceptable. |
| | Nutfield Parish Council | The response submitted by Nutfield Parish Council makes specific reference to the response issued by Nutfield Conservation Society and includes the same points. See Nutfield Conservation Society response for details. |

Table 6 February 2022 Focus Group Feedback Summary

Following the February 2022 Focus Groups, GAL sent out the following response to stakeholders. The remaining correspondence within this Appendix are the responses to the email below.

Dear Stakeholder.

Please receive the final presentation, shortlisted options, updated maps and further option descriptions relating to the Route 4 2018 ACP-2018-86 engagements held on 1st and 2nd February 2022. Please find below links to folders which contain the presentation and a feedback form as well as the updated, detailed options slides and descriptions.

Final Presentation incl. copy of the feedback form

Options slides and descriptions

We will extend the feedback period to allow sufficient time for you to review and provide feedback. Please send the completed feedback form and any other relevant feedback to this email address by Friday 15th April 2022.

Thank you for participating in Gatwick's Route 4 Airspace Change Proposal. If you have any questions about our Airspace Change then please do not hesitate to get in touch with us via this email address.

Best wishes,

Gatwick Route 4 Airspace Change Team



" alt="gatwick logo new">



Once GAL had received feedback from stakeholders, the following email was sent out to all stakeholders.

From:

Sent on: Friday, May 20, 2022 11:16:00 AM

To: Undisclosed recipients:;

Subject: [EXTERNAL] Route 4 ACP 2018 Focus Group Engagement Feedback

CAUTION: This email originated from outside of the organisation. Do not follow guidance, click links, or op-

Thank you for your response to our 18 March 2022 stakeholder engagement, your comments will be used to inform the documents being developed for Stage 2 of the ACP.

We shall be in touch in the future as the project moves forward and we look forward to involving you during the consultation stage.

Best wishes,

YOUR LONDON AIRPORT

Powered by GLOBAL INFRASTRUCTURE PARTNERS



Based on the nature of their responses, CAGNE, Plane Justice and Plane Wrong received further explanatory emails in addition to the one shown above. These additional emails along with responses from all stakeholders are included in the sub-sections below.

Gatwick
In addition to the above correspondence, the change sponsor sent the following email to all stakeholders which is aimed at 'signposting' where all of the completed Stage 2 documentation can be found:



Please note, any references to an attached response in the correspondence below are summarised in Appendix A3.

YOUR LONDON AIRPORT Gatwick A1.1.1 CAGNE

From:

Sent on: Saturday, February 5, 2022 11:08:38 AM

To: CC:

Subject: [EXTERNAL SENDER] Route 4

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Route 4 continues to be flown outside the NPR, more northerly over Brockham and Betchworth. Historically these villages were never under Gatwick flight paths and this situation should be returned to pre-2014 paths specifically because Heatlrow already impacts the skies here unfortunately. The land/sky grab being undertaken by Gatwick airport is outrageous when we are facing a climate emergency.

rom:

Sent on: Wednesday, June 1, 2022 1:58:16 PM

To: CC:

BCC:

Subject: RE: [EXTERNAL SENDER] Route 4 feedback

Thank you for your response to our Gatwick Route 4 Airspace Change (ACP-2018-86) stakeholder engagement, your comments will be used to inform the documents being developed for Stage 2 of the ACP.

This ACP is primarily concerned with Gatwick's FASI-S Airspace Change and will keep this engagement within the boundaries already set.

We trust that the mapping we issued on 18 March 2022, that included the NPR with the separate options addressed your request.

We shall be in touch in the future as the project moves forward and we look forward to involving you during the consultation stage.

Best wishes.

-----Original Message-----

From:

nt: 13 February 2022 17:24

To:

Subject: [EXTERNAL SENDER] Route 4 feedback

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Please find attached the feedback on Route 4 airspace changes

Thank you

A1.2.1 Gatwick Plane Justice

| Microsoft Exc | thance Server converted from html: |
|--------------------|---|
| From: | |
| Sent on: | Wednesday, June 1, 2022 2:20:59 PM |
| To: | |
| CC: | |
| BCC: | |
| Subject: | Response to Route 4 Engagement Options, Presentation and Feedback Materials |
| Attachment | : Gatwick R.4 Airspace Change Team 14.04.2022.pdf (213.91 KB), Option 7 Stakeholder Feedback 14.04.2022.pdf (182.44 KB) |
| We shall check the | If response to eahnlich's route 4 almostic change (ACP-2015-66) stakeholder engagement, your comments will be used to inform the documents being developed for stage 2 of the ACP as a datase of the AIP publication with regards to the promatigation of the NRP suitable and durify, if necessary, in our stage 2 submission documents. It in the future as the project moves forward and we look forward to involving you during the consultation stage. |
| Best wishes, | |
| GAL Foute 4 ACP 1 | No. |
| YOUR L | ONDON AIRPORT Galwick |
| rune ed by | © Million VINCI ♦ |
| | SNAL SENDER RE Route 4 Engagement Options, Presentation and Feedback Materials - Caution, this is an external email. Unless you recognice the sender and know the content is asis, so not elick links or open attachments |
| Hi there, | |
| | ne Justice's response to the Route 4 2018 ACP February Engagement Meetings. This comprises the Option 7 Feedback Form and our letter of 14 th April. including us as Stakeholders in this process. |
| | including to as a store-colores in this process. This email from a colores a colores for the store |
| Regards. | |
| Envand on hab | naif of Plane Justice Limited |
| From: | ist of Plante Joseph Limited |
| Sent: 18 March | 3 2022 12:11 |
| To: | |
| | 4 Engagement Options, Presentation and Feedback Materials takeholder, |
| | receive the final presentation, shortlisted options, updated maps and further option descriptions relating to the Route 4 2018 ACP-2018-86 engagements held on 1st and 2nd February 2022. Please find below links to folders which contain the presentation and a feedback form as well as the updated, detailed options sides and description |
| | resentation incl. coay of the feedback form soldies and descriptions |
| | Leatent the feedback period to allow sufficient time for you to review and provide feedback. Flease send the completed feedback form and any other relevant feedback to this email address by Friday 15 th April 2022. |
| | execution in the recoverable good or district states from your determine any pot or received any quarter for execution and any other receivant in the recoverable of |
| Best w | |
| Gatwic | IX Route 4 Airspace Change Team |
| YOUR L | ONDON AIRPORT |
| | Gatwick |
| Powered by | |
| | |



From: Sent on:

Saturday, February 19, 2022 4:10:59 PM

To:

CC:

Subject: [EXTERNAL SENDER] Route 4 Airspace Change

Attachments: RE Route 4 Airspace Change Engagement Session meeting link Wednesday 1600.msg (28.5 KB), RE Route 4 Airspace Change Engagement Presentation and stakeholder feedback form.msg

(26.5 KB), RE Route 4 Engagement Presentation and stakeholder feedback form.msg (50 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Hello,

I have not received a reply to my 4 emails (attached), can you please confirm when you will respond?

As of 19th February the Minutes of the Stakeholder Meetings have not been issued, can you please confirm when the Minutes will be issued?

In light of the delay to issuing the Minutes will you be extending the Feedback return date of 2nd March?

Regards,

For and on behalf of Plane Justice Limited

A1.3.1 Gatwick Plane wrong

From:

Sent on: Wednesday, March 2, 2022 11:11:47 PM

To:

Subject: [EXTERNAL SENDER] Route 4 feedback

Attachments: Option 7 NEW Stakeholder Feedback PW 2.docx (30.26 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

I attach feedback from Plane Wrong.

Best Regards

Chairman

From:

Sent on: Friday, April 15, 2022 9:00:46 PM

To:

CC:

Subject: [EXTERNAL SENDER] Re: Route 4 Engagement Options, Presentation and Feedback Materials

Attachments: Route 4 KML screen shot 2022-04-15 (6).png (6.7 MB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

I have attached the Plane Wrong response. Your mailbox will not accept all of my attachments in one email. I have therefore split into 3 emails.

From:

Sent on: Friday, April 15, 2022 8:13:35 PM

To:

CC:

Subject: [EXTERNAL SENDER] Re: Route 4 Engagement Options, Presentation and Feedback Materials

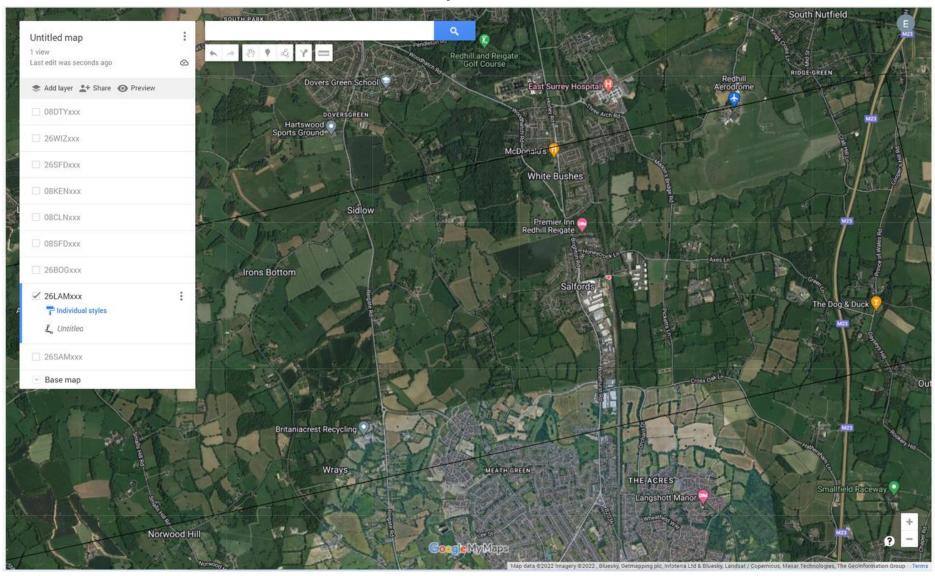
Attachments: Route 4 KML screen shot 2022-04-15 (5).png (6.37 MB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

I have attached the Plane Wrong response. Your mailbox will not accept all of my attachments in one email. I have therefore split into 3 emails.. Best Regards,

Plane Wrong

The screensnot below is the KML attachment referred to in the correspondents above.





Morning

Thanks for sharing your concern below.

I have passed straight on to the team to confirm that this is being investigated. You'll be aware that they are in the process of reviewing all the feedback received and I have asked that this also be included. As you identify below, the depiction of the NPR will need to be correct.

From

sent: 10 May 2022 15:2

To:

Subject: [EXTERNAL SENDER] Route 4 NPR

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments



On 18th March the Route 4 ACP team circulated a set of charts with the Route 4 options including a depiction of the NPR swathe. In the Plane Wrong response we pointed out that the NPR swathe as shown is in error by approx 1000m. I have not had any response and I am not sure how long it will take for the stakeholder responses to be reviewed, so I thought it prudent to contact you directly. If the option charts circulated for comment are showing the NPR in the incorrect position that clearly has a major effect on the validity of the responses.

I have attached a number of screenshots.

In 2019, in response to an FOI request, the CAA gave Plane Wrong copies of the latitude / longitude coordinates of the Gatwick NPRs along with KML files in order to plot these accurately on digital maps.

I have attached a number of screenshots to show the differences between the historic position of the NPRs, and that depicted on the Route 4 options charts. Those annotated KML are the historic position, using the CAA files, which is identical to that shown on WebTrak and all GAL noise publications. Those annotated ACP are the positions used in the Route 4 ACP options charts.

The charts are -

ACP 1 / KML 1 showing the full extent of the NPR

ACP 2 / KML 2 showing the detailed comparison near East Surrey Hospital. The KML chart shows the discrepancy as 938m.

ACP 3 / KML 3 showing the detailed comparison in the area of Leigh. The KML chart shows a discrepancy of 916m.

ACP 4 / KML 4 showing the detailed comparison on the northern half of the turn. It clearly shows a discrepancy which will obviously vary depending on specific location in the turn. Similarly there will be discrepancies in the southern half of the turn.

The narrative accompanying the option charts states -

The black line shown on the map is the proposed route and the orange shaded area is the anticipated dispersion from that route. The blue/purple area is the Noise Preferential Route1 (NPR) Swathe, drawn +/-1.5km around the NPR promulgated by Department for Transport (DFT) and published by Gatwick Airports Limited (GAL) in the Aeronautical Information Publication (AIP)2. KIAS.

1 Noise Preferential Routes (NPRs) provide volumes of pre-defined airspace within which Standard Instrument Departure Routes are established which aircraft must follow on departure from an aerodrome and so provide some certainty as to which areas will be exposed to aircraft activity.
2 In October 2021, the NPR description for Gatwick's Route 4 has been updated on request by DFT, to correct for the impact of magnetic variation over time. The actual NPR track over ground has not changed.

| believe that the error has been caused by plotting the DET published radial rather than using the DET R 258.18°T on which the NPR is predicated. At the DET 32D position the ground distance between each 1° radial is around 1000 m therefore even if updates were absolutely accurate errors of up to 500m would always exist. The latitude / longitude definition of the NPR is surely the most sensible way to plot the accurate position over the ground, especially with the DET VOR about to be decommissioned.

Best Regards





From:

Sent: 25 May 2022 12:40

To:

Subject: RE: [EXTERNAL SENDER] Route 4 NPR

Afternoon

I can provide feedback but no definitive response tat this stage. The team are continuing to look at the questions you have raised on the NPR.

I personally met with Osprey and ANS last week specifically to discuss the NPR definition with them. There is still more work to do so not sure when we will have a complete response but it is a priority (and it is not being ignored). The team will feed back to you but will also necessarily include the questions and the results of their research in the material they are producing for the submission to the CAA.

Sorry I can't provide an answer yet but when the research is completed you will have a response from the team.

SOTT Y T CO.

From:

Sent: 25 May 2022 11:31

Io:

Subject: Re: [EXTERNAL SENDER] Route 4 NPR

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

,

Can you give me any feedback on my question on the accuracy of the NPR? Best regards



← Reply ≪ Reply All → Forward
Tue 28/05/202

CAUTION: This email originated from outside of the organisation. Do not follow guidance, click links, or open attachments unless you recognise the sender and know the content is safe

Hello

The CAA can confirm that the Route 4 Noise preferential Route (NPR) as described in the currently promulgated UK AIP EGKK AD 2.21 Noise Abatement Procedures dated 1 November 2021, "Straight ahead until I-WW DME 2.3 then turn right to intercept DET VOR RDL258 by DET DME 31 to DET DME 15" is correct. Other communications suggesting that there is another source of definitive information regarding the NPR are incorrect.

Kind regards,



Follow us on Twitter: @UK_CAA



Waverley Borough Council A1.4.1

Sent on: Wednesday, February 16, 2022 12:12:15 PM

To:

Subject: [EXTERNAL SENDER] Route 4 Engagement Presentation and stakeholder feedback

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Dear Route 4 ACP Team

Thank you for your time on 2nd February presenting the route 4 options.

The feedback from Waverley Borough Council at this time is that we would require higher resolution maps to fully appreciate the extent of any impacts from changes in the air space routes. The ones during the presentation (and later provided on email) are difficult to zoom in to, to see the extent of the proposed

Please could future maps be presented in a detailed format that would be easier to share with stakeholders so that the possible impacts can be better appreciated.

Kind regards

Monday, Wednesday and Friday (morning) in the Environmental Protection Team (including Animal Welfare)

Tuesday, Thursday and Friday (afternoon) in the Food And Health and Safety Team Waverley Borough Council

Gatwick

From:

Sent on: Friday, February 25, 2022 3:16:38 PM

To: CC:

[EXTERNAL SENDER] Gatwick Airport Route 4 Consultation Subject:

Attachments: Gatwick Airport Rout 4 Consultation Response Covering Letter.pdf (119.85 KB), Option 7 Stakeholder Feedback 21 Nov FG v1.0.pdf (108.63 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Dear Sir/Madam,

Please find attached Waverley Borough Council's response to the Route 4 consultation for Gatwick Airport.

Regards,

Waverley Borough Council

www.waverley.gov.uk

From:

Sent on: Friday, April 8, 2022 2:41:50 PM

To: CC:

Subject: [EXTERNAL SENDEK] Gatwick Airport - Route 4 Consultation Response

Attachments: Gatwick Airport Route 4 Consultation 08 04 2022.pdf (105.22 KB), Option 7 Stakeholder Feedback 21 Nov FG v1.0.pdf (108.63 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Dear Sir/Madam,

Please find attached a copy of Waverley Borough Council's response to the proposals for Route 4 at Gatwick Airport.

Should you have any questions regarding our response, please do not hesitate to contact me.

Regards,



Waverley Borough Council

A1.5.1 Gatwick Nutnera Conservation Society

From:

Sent on: Monday, February 28, 2022 3:11:30 PM

To:

Subject: [EXTERNAL SENDER] Nutfield Conservation Society - Response

Attachments: Option 7 Stakeholder Feedback 21 Nov FG v1.0 (Final).docx (31.05 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Please find attached NCS response Thank you

A1.6.1 Gatwick Sallorus and Sidlow Parish Council



A1.7.1 Gatwick Route 4 No More

From:

Sent on: Wednesday, April 13, 2022 4:14:34 PM

To: Subject:

[EXTERNAL SENDER] Fwd: Options 7, 0 & 8 Stakeholder feedback - R4NM

Attachments: R4NM Option 0 7 & 8 Feedback forms.pdf (69.44 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Sirs

Please find attached our stakeholder feedback forms which our team have completed.

As you have changed the design of Option 0 please substitute this newer form for the previous one.

Please acknowledge safe receipt.

Kind regards

From:

Sent on: Thursday, February 24, 2022 8:11:22 PM

To:

Subject: [EXTERNAL SENDER] Re: Route 4 Engagement Presentation and stakeholder feedback form

Attachments: Option 7 Stakeholder Feedback 21 Nov FG v1.0.docx (24.18 KB), 71248 067 Focus Group 2022 FINAL version.pdf (4.08 MB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

We are still awaiting the minutes of the meetings held on 1st and 2nd February with a request to respond by 2nd March 2022. It is the evening of 24th February as I type this.

Have we been missed from the circulation.

It will be impossible for us to respond by 2nd March ie less than a week.

What is happening please?

A1.8.1 Gatwick Nutrield Parish Council

From:

Sent on: Tuesday, March 8, 2022 10:32:27 AM

To:

Subject: [EXTERNAL SENDER] FW: Route 4 Engagement Presentation and stakeholder feedback form

Attachments: Option 7 Stakeholder Feedback 21 Nov FG v1.0 (Final) NPC.docx (27.11 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Dear Route 4ACP Team

Nutfield Parish Council back and support Nutfield Conservation Society in their response to the above feedback form - we attach our support.

Many thanks

Kind Regards

A1.9.1 Gatwick Move valley District Council (Beare Green)

From:

Sent on: Tuesday, February 15, 2022 4:23:16 PM

To:

Subject: [EXTERNAL SENDER] Route 4 Option 7 and 7 New - response

Attachments: GAL_CAA Option 7(s) Stakeholder Feedback 21 Nov FG v1.0.doc (56 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

НІ

This is my response to the questionnaire in respect of Route 4

Options 7 and 7 new version.

This is my personal response, although I have shared it with officers at Mole Valley and I anticipate that they will respond in due course.

Kind regard



From:

Sent on: Thursday, April 14, 2022 11:25:48 AM

To:

CC:

Subject: [EXTERNAL SENDER] Response from MVDC on Route 4 options

Attachments: Updated MVDC response on Route 4 (April 22).pdf (261.01 KB), MVDC Response to Route 4 Options - December 2019.pdf (210.66 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Hi

Further to the circulation of additional information from GAL on 18 March 2022, please find attached MVDC's updated response to the Route 4 Engagement session held on 1 and 2 February 2022. MVDC's initial response to the eight route options (0-7) for Route 4, dated 10 December 2019, has also been attached which forms part of MVDC's overall response.

Kind regards

A1.10.1 Gatwick Betchworth Parish Council

From:

Sent on: Wednesday, March 2, 2022 4:35:14 PM

To:

Subject: [EXTERNAL SENDER] RESPONSE FROM BETCHWORTH PARISH COUNCIL

Attachments: Option 7 NEW Stakeholder Feedback BPC 1.docx (29.55 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Please find attached the response from Betchworth Parish Council.

Kind Regards

This email has been scanned by BullGuard antivirus protection.

For more info visit

A1.11.1 Relgate and Banstead Borough Council

From:

Sent on: Monday, February 28, 2022 4:21:13 PM

To:

Subject: [EXTERNAL SENDER] Reigate and Banstead response to Route 4 Option 7

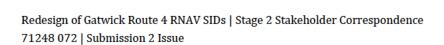
Attachments: Route 4 Option 7 RBBC Feedback Response 280222.pdf (105.35 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Hi,

Please find attached a response to your questionnaire on the route 4 option 7 on behalf of Reigate and Banstead Borough Council.

Regards,





A1.12.1 Tandridge District Council

From:

Sent on: Wednesday, March 2, 2022 2:23:37 PM

To:

CC:

Subject: [EXTERNAL SENDER] RE: Route 4 Engagement Presentation and stakeholder feedback form

Attachments: Option 7 Stakeholder Feedback 21 Nov FG_TDC Comments.docx (28.58 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Dear Route 4 ACP Team,

Thank you for allowing us the opportunity to attend the Route 4 stakeholder engagement session on 1st and 2nd February. Please see attached completed feedback form on behalf of Tandridge District Council.

Kind regards,

