



# Gatwick Arrivals Review

## Recommendation IMM-20

Progress Report: January 2016 – January 2017

YOUR LONDON AIRPORT  
*Gatwick*

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# Foreword

The Independent Arrivals Review (IAR) initiated in August 2015 heralded a significant shift in Gatwick Airport Ltd's (GAL) approach to tackling issues around airspace and aviation noise. Gatwick has sought to address the issues identified in the IAR, and in the consequent action plan activities and implementation, with both vigour and pace.

This report provides an in-depth review of the activity and progress of the [GAL Arrivals Review Final Action Plan](#) published in June 2016 in response to the IAR.

A range of activities and a substantial amount of work has been undertaken by GAL, industry stakeholders and the Noise Management Board (NMB) and real progress has been made over the past year: in the reduction of noise disturbance from aircraft using Gatwick; the quality and transparency of information now available; the access available to communities and; the active engagement with aviation stakeholders. The headway made and objectives achieved in a relatively short period of time are significant, and I am pleased with the overall progress achieved so far.

Even so, it is also clear that there is much more work to be done both to follow-on from existing actions and to address fresh areas of concern.

With the NMB, GAL has helped craft a proposed workplan for 2017/2018 covering a range of further arrival activities, but also importantly broadening into issues around departures. Progress on these will be reliant on the wholehearted support of our closest industry partners as well as community groups to help shape and guide the programme. Notwithstanding the weight of effort placed on IAR action plan activities, GAL has continued to work on issues around departures and, although not part of the original recommendations or as yet formally adopted in the proposed NMB workplan, GAL is taking forward work on specific arrivals work streams. In particular, development of Fair and Equitable

Dispersal (FED), which forms an essential part of urgent work to address issues around the arrivals swathe, has been prioritised. It is clear this work package is extremely important for communities. As part of the NMB workplan for 2017/2018, GAL has also integrated proposals from the outputs generated by an insightful Continuous Descent Operations (CDO) workshop with industry, which are expected to yield tangible benefits in both the near and longer term.

The progress made so far has been accomplished through the willing support, commitment and proactive engagement of GAL's industry partners, regulators, policy makers and communities. Not only have we made significant progress against the range of action plan objectives, we have also established a fundamentally different way of addressing noise issues.

Through the NMB, I am confident we have a dynamic process and robust structure to help identify noise issues and develop creative solutions, through industry stakeholder collaboration strongly influenced by a robust process of community engagement. The NMB is now starting to identify tasks beyond the original work plan for the coming year as part of its continuous improvement approach. GAL will continue to encourage and support action by the NMB to develop and enhance noise management strategies.

GAL is encouraged that the efforts of the past year have yielded tangible benefits, and we are sure that with the continued support of all stakeholders, future work will lead to continued improvement in noise performance.



**Stewart Wingate**  
Chief Executive Officer  
Gatwick Airport Ltd

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# Executive Summary

## Background

In August 2015, Gatwick Airport Limited (GAL) commissioned an Independent Arrivals Review (IAR) for Gatwick. This review sought to consider whether:

- a) *Everything that can reasonably be done to alleviate the problems which local communities are raising is in fact being done, whether this involves action by the airport or by other parties most closely involved National Air Traffic Services (NATS), UK Civil Aviation Authority (UK CAA), the Department for Transport (DfT) or the airlines; and*
- b) *The mechanisms which Gatwick has adopted for providing information to the local community and for handling complaints have been fully adequate for the task.*

Led by industry experts, the IAR, in developing its findings and recommendations, engaged with the wide range of organisations, stakeholders and local communities who had an involvement or interest in reducing the noise disturbance from aircraft arriving at Gatwick.

The IAR, published in January 2016, recommended 23 specific steps to improve the management and mitigation of noise from arriving aircraft, and for better community engagement by GAL. GAL accepted all of the recommendations of the IAR, and in June 2016 published a Final Action Plan detailing how and when it was planned to address and implement each recommended action.

The recommendations included (IMM-20), the proposal that GAL publish a report of the progress with the implementation of the recommended actions, one year on, following the publication of the IAR.

This report accordingly provides details of the progress with these coordinated actions to January 2017. It also gives an overview of additional proposed noise mitigation strategies which are to be considered by the NMB for the 2017/2018 work plan.

The implementation of the IAR recommendations, taken as a whole, will reduce the noise impact of arrivals into Gatwick, and strengthen the airport's dialogue with its neighbours through improved communication and information.

The recommendations have already enabled better coordinated noise strategies, more transparent accountability for noise, the acceleration of planned longer term efficiencies to reduce noise impacts and, through the creation of a Noise Management Board (NMB), established a radically different and much more transparent process for regular review and update.

The Arrivals Review recommended the Balanced Approach to aircraft noise mitigation across four areas: reducing noise at source, improving land use planning and management, effective noise abatement operational procedures, and operating restrictions.

Detailed descriptions of the actions and the related delivery steps already taken or still underway, for each of the 23 recommendations, are provided at Appendix B of this report.

## Priority Recommendations

In developing the Final Action Plan and based on additional feedback from communities, GAL identified three priority areas which could deliver meaningful near term noise improvements, considered to be particularly important for initial focus. These priority areas are:

- Noise modification of the Airbus A320 series aircraft using Gatwick (IMM-01)
- Continuous Descent Arrivals (CDA) (IMM-05)
- A reduction in the minimum final approach ILS joining distance (IMM-10)

While these three areas have been given particular priority, work has already been completed, or is also on-going on the other recommended actions, many of which will also contribute to reducing the impacts of noise from aircraft using Gatwick.

The governance and oversight of noise matters at Gatwick by concerned stakeholders, including relevant aviation stakeholders and community representatives, is another important priority. The coordinated consideration and oversight of all the recommendations and other wider noise strategies, such as departures and ground noise, is now the responsibility of the NMB, which was constituted in June 2016.

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## Key developments since January 2016

The past year has seen a number of significant and positive developments in the management and mitigation of noise from arriving aircraft using Gatwick. These have arisen directly as a result of the acceptance by GAL of the findings and recommendations of the IAR. GAL has invested in additional staff and expertise to address the issues identified by the review, and to develop implementation plans closely coordinated with its fellow stakeholder organisations.

The progress and analysis of the past year has also highlighted the need for additional measures and the adoption of a continuous improvement culture when addressing aircraft noise disturbance.

GAL is fully committed to building on this progress through a policy of continuous improvement, which will depend on the continued cooperation and support of the stakeholders involved for which GAL is particularly grateful and, which has been vital in advancing the implementation and oversight of the many recommendations of the review which GAL cannot deliver alone. These stakeholders include:

- The Department for Transport (DfT), a Government Body that sets national policy;
- The Civil Aviation Authority (CAA), the national regulator that oversees the correct and consistent implementation of international, regional and national regulation and policies in the UK;
- Air Navigation Solutions (ANS), which operates the Gatwick air traffic control tower services;
- NATS who provide approach control services for aircraft arriving at Gatwick;
- Airline representatives through the Airline Operators Committee, including easyJet, the operator of more aircraft at Gatwick than any other airline.

The establishment of the NMB at Gatwick in June 2016, under the guidance of independent Chairmanship, has helped bring these organisations together with Community Noise Groups, for the first time within a formalised structure intended to address aircraft noise issues.

The purpose of the NMB is to develop, agree, oversee and maintain a coordinated noise management vision and consequent strategies for Gatwick, for all stakeholder organisations, intended to improve the situation for those affected by noise from aircraft using the airport. The initial focus of the NMB is the oversight of the implementation of the recommendations of the IAR.

## Implementation Progress in Priority Areas

- Noise modification of the Airbus A320 series aircraft using Gatwick (IMM-01)

More than half of the flights at Gatwick are conducted by the Airbus A320 series of aircraft. This family of airliners have a design characteristic which can cause increased airframe noise in the aircraft's approach phase of flight. Airbus has developed a Fuel Over Pressure Protector (FOPP) modification to eliminate these effects. The modification of these airliners, using the Airbus designed kit, is identified as a priority (IMM-01). This modification enables a significant reduction in the high-pitched whine compared with unmodified aircraft, and this is having a real impact in reducing noise disturbance. The objective of this recommendation is that all A320 series aircraft using Gatwick are fitted with the Airbus noise reduction kit.

In line with the recommendation, GAL has announced that with effect from 1st January 2018, higher noise charges will apply to any A320 family aircraft that does not have the FOPP modification. The charge has been set at a level which will provide a strong financial incentive to each airline to ensure that their aircraft fleet operating out of Gatwick has the FOPP modification. Several airlines have confirmed that they are accelerating their modification programmes as a result of this new charging structure.

Based on the information provided to GAL by its airline customers, four of the five largest operators of the A320 family aircraft will have their entire fleets modified by December 2017; these carriers account for approximately 90% of movements by A320 family aircraft at Gatwick. Further details of the modification progress (current and planned) for the largest operators of A320 family aircraft can be found in Appendix B.

- Continuous Descent Arrivals (CDA) (IMM-05)

Four of the IAR recommendation centred on improvements to CDAs (IMM-05, 06, 07 and 08) and focused on increases to the commencement height, improvements to the definition of CDA and the procedure as a whole, specifically with regards to best practice.

The commencement height for CDA conformance measurement was increased from 6,000 ft to 7,000 ft on the 1st August 2016 (IMM-05) with very high rates of compliance now being achieved.

As part of the IMM-06 planning, a CDO workshop was hosted by GAL on the 21st October 2016, with aviation professionals and community representatives present. The objective of the workshop was to

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determine other practical steps that could address the remaining CDA recommendations, further improve CDA compliance and to identify other operating steps able to reduce noise from arriving aircraft. The workshop has resulted in a number of initiatives now being progressed by GAL, including several proposed strategic actions that form part of the 2017/2018 work plan, to be considered by the members of the NMB when setting priorities.

- A Reduction in the Minimum Final Approach Joining Distance (IMM-10)

The reduction in the minimum ILS (final approach track) joining point distance was widely identified by residents as a priority and communicated as such during the arrivals review process.

These requests to the IAR had arisen from an increased concentration of arriving flight tracks that had occurred following the approach stabilisation initiative of 2013.

The intention of the IMM-10 recommendation is to, as far as possible, increase the arrivals dispersal to more closely emulate the circumstances prior to 2013. Following detailed planning with NATS and the CAA, the IMM-10 ILS minimum joining point change was accordingly introduced on August 15th 2016.

Measurement and analysis has since clearly indicated the achievement of a sustained reduction in traffic concentration at the 11-nautical mile (nm) point. The number of aircraft joining at this previously concentrated location has been reduced when compared to the prior year, on average by more than 25%. (25% August (after change), 29% September, 25% October, 34% November), 28% December.

Even so, it is also evident that much more work is necessary as regards the fair and equitable dispersal of aircraft before they reach the ILS. This complex dispersal issue has been at the centre of NMB debate since it was constituted, and is a focus of on-going NMB work and a top priority for GAL.

The achievement of a fair and equitable basis to deliver an effective dispersal of flights and respite mechanisms was discussed in the IAR and led to the longer-term recommendation Aspire 21. This is intended to eventually permit the systemised, predictable and consistent dispersal of flights through the use of P-RNAV routes to the ILS. This option is not currently expected before 2022, because of related airspace changes at other London airports.

Today, it is not yet possible to achieve such an aspirational level of consistency and predictability of arrivals into London's airports. The vectoring of arriving aircraft between the airborne holding point (navigation fix) and the ILS centreline for the final approach, is a manual process. It is delivered through the professional judgment of NATS approach radar controllers, who, by making use of sophisticated

support tools, pass heading, altitude and speed instructions to the aircraft, to achieve the required separation minima, and thus provide a safe and expeditious arrivals sequence.

The challenge as a result is to identify and agree systemised solutions and procedures that can be made available at Gatwick in the relatively near-term prior to P-RNAV implementation.

Discussion of the actual versus desired distribution of aircraft in the so called 'arrivals swathe' is a core and complex priority of continuing NMB work, taking into account the Airspace Design Guidance recently published by the CAA: Noise Mitigation Considerations when Designing PBN Departure and Arrival Procedures (CAP 1378).

Most recently, we have been working with communities and aviation stakeholders to develop a FED definition paper. This FED paper has been used to frame initial discussions which have necessarily focussed on arrivals but which will quickly broaden to include all aspects of FED, including departures. We are working with communities to define the geographical areas to which the agreed fair and equitable principles will be applied and the measures that we might use to establish traffic distribution. A plan has been agreed between communities and aviation stakeholders, in order to increase the pace of this important work, to develop the data and analysis on arrivals. The outcomes of this work will inform the feasibility of, and options available to, mitigate the issues around arrivals swathe traffic distribution.

While the dispersal concepts are now better understood by all stakeholders, their application requires significantly more precise guidance to be available to enable airspace managers, aircraft operators and regulators to develop effective solutions.

GAL will continue to support and encourage, as a top priority, the refinement of this essential guidance and the development of improved solutions.

This further work will help to define how aircraft should be dispersed from a noise and respite perspective, and will inform the identification and implementation of operational systems and procedures that can better achieve the fair and equitable distribution of flights sought by communities.

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## Community engagement

Community engagement has been a vital aspect of the IAR, as well as the follow up work. Residents and organisations concerned about aircraft noise have responded to the publication of the IAR, action plans and final action plans.

In line with IAR recommendations, GAL has actively encouraged and supported the improved, and jointly coordinated, strategic management of noise topics and related community engagement and communication with NATS, CAA, DfT and ANS on issues related to noise from aircraft using Gatwick. In the past year this has focused on the establishment and facilitation of the NMB which was constituted in June 2016 and which has since met three times. The NMB provides community oversight of the implementation of the IAR recommendations.

GAL has hosted a series of airport tours for parish and town councillors and neighbourhood groups. Over 100 councillors attended and were given the opportunity for a behind the scenes insight into how the airport is operated, including an overview of noise and airspace management.

Gatwick has implemented an enhanced industry leading complaints system, and supporting policy, which provides a fully transparent, single conduit, web-based system through which complaints may be registered using 'live' aircraft tracking functionality. Members of the public may also interrogate the system to derive in-depth detail on complaint statistics and aircraft flight profiles, helping to generate increased awareness and greater understanding around aircraft noise. Gatwick is continuing to improve the system based on community feedback.

## Looking ahead

Reducing the effects of aircraft noise requires the active support and collaboration of the air traffic control providers, airspace designers, aircraft and airport operators, regulators policy, makers and communities. Much has been achieved since the IAR report was published. Even so, it is also clear that there is still much more work to be done.

GAL will continue to lead, support and encourage continuous improvement, through collaboration with all stakeholders and use of transparent policies and processes for noise management.

The agreed initial focus of the NMB has been the oversight of the implementation of the 23 recommendations of the arrivals review. These recommendations have in some cases led the NMB to define further work, some of which is already underway, such as defining the meaning of fair and equitable dispersal of flights, so that solutions can be planned.

In addition, as recommendations have been implemented, the potential need for further work has been identified in a number of areas, with proposals received from GATCOM and Community Noise Groups. These focused on the following areas:

- Consideration of specific Noise Abatement Departure Procedures and additional noise mitigation methods related to departures
- Further initiatives to deliver a fairer and more equitable dispersal of flights
- Night noise respite and the potential introduction of P-RNAV night arrivals routes
- Establishment of NMB mechanisms for continuous improvement

The process by which further work is prioritised and addressed has been considered and is now agreed by the NMB.

GAL will continue to encourage and support further work by the NMB to develop and enhance noise management strategies.

A further GAL update report will be issued in January 2018.

# Appendix A

## Arrivals Review Dashboard (part 1)

Recommendation	Status
<b>Imm-01 A320 Series Noise Modification</b> New charging regime agreed and to be applied from January 2018. Airline modification programs underway. Progress to be routinely monitored by GAL and reported to NMB.	Due by January 2017
<b>Imm-02 DfT Engagement on A320 Series Noise Modification</b> Recommendation complete. DfT had engaged with Airbus and the European Commission and committed to explore possibilities to reach international agreements.	Complete
<b>Imm-03 Joint review of Land Use Policy</b> A workshop was held on the 10th November. Follow-on initiatives are being taken forward by GAL.	Complete
<b>Imm-04 Information booklet</b> Booklet has been drafted and circulated to NMB, GATCOM, NATMAG for comment. Publication expected March 2017.	Due by August 2016
<b>Imm-05 Increase in CDA commencement to 7,000ft</b> Implemented and awaiting approval from the DfT to make permanent.	Due by December 2016
<b>Imm-06 Further CDA improvement initiative</b> Recommendation complete through a CDO workshop. Follow-on initiatives defined in the 2017/2018 workplan.	Complete
<b>Imm-07 CDA from 8,000ft</b> Discussed at a CDO workshop. Implementation in isolation is not possible due to airspace constraints. GAL engaging with NATS to explore options. Will be addressed in the 2017/2018 workplan.	Due by December 2016
<b>Imm-08 CDA taxonomy</b> Part of CDO workshop. Being scoped with the CAA.	Due by January 2017
<b>Imm-09 Route spacing design criteria</b> Recommendation complete. CAP 1378 published.	Complete
<b>Imm-10 Change to Minimum ILS Joining Point</b> Recommendation implemented on 15th August 2016 with 6 month monitoring period. Implementation extended to May 2017. Performance review required in February 2017, prior to decision to make permanent. Further work to address the arrivals swathe incorporated in the 2017/2018 workplan.	Due by December 2016



## Arrivals Review Dashboard (part 2)

Recommendation	Status
<p><b>Imm-11 Runway direction protocol</b></p> <p>Proposal ready for implementation, but a decision deferred by the NMB to NMB/5.</p>	Due by December 2016
<p><b>Imm-12 Night arrivals KPI</b></p> <p>Recommendation complete with expanded scope. Monitoring report circulated to NMB Members. Ongoing monitoring through NMB.</p>	Complete
<p><b>Imm-13 XMAN</b></p> <p>XMAN review, analysis and recommendation completed. Report to be presented at NMB/5.</p>	Complete
<p><b>Imm-14 Time Based Separation (TBS)</b></p> <p>TBS review and analysis ongoing. Report through NMB.</p>	Due by December 2016
<p><b>Imm-15 Research on aircraft height perception</b></p> <p>Research scope being prepared.</p>	Due by December 2017
<p><b>Imm-16 Additional community engagement manpower</b></p> <p>Recommendation complete.</p>	Complete
<p><b>Imm-17 Enhanced complaints policy</b></p> <p>Recommendation complete. Policy published and web tool deployed. Evolution of tool to address feedback received as part of continuous improvement.</p>	Complete
<p><b>Imm-18 Noise Management Board</b></p> <p>Recommendation complete.</p>	Complete
<p><b>Imm-19 Response to Arrivals Review</b></p> <p>Recommendation complete.</p>	Complete
<p><b>Imm-20 Progress report</b></p> <p>Recommendation complete.</p>	Complete
<p><b>Aspire-21 P-RNAV to the ILS</b></p> <p>Analysis and planning began in Q1 2017 through continuous improvement work.</p>	To start in Q1 2017
<p><b>Aspire-22 Change to holding areas</b></p> <p>Future work.</p>	To start in Q1 2017
<p><b>Aspire-23 AMAN and DMAN (Arrivals Management and Departures Management)</b></p> <p>Review analysis and recommendations. Report through NMB.</p>	Due by December 2016

# Appendix B

## FINAL ACTION PLAN – STATUS OF RECOMMENDATIONS

### RECOMMENDATION Imm-01 A320 Series Noise Modification

“That as an indication of GAL commitment to noise reduction, and a further tangible indication to local communities that the noise impact of the airport is taken seriously, and to incentivise an accelerated noise modification by all airlines using A320 family aircraft at Gatwick, GAL should establish an earlier sunset date for unmodified Airbus 320 family aircraft using the airport of December 31st 2017. With an appropriate noise penalty applied for non-compliant aircraft immediately thereafter.”

#### Implementation Plan

**Current Status:** New charging regime agreed and to be applied from January 2018. Monitoring of airline modification programs underway. Progress to be routinely monitored by GAL and reported to NMB.

Action plan activities	Status
<p>1. GAL having accepted the recommendation, to engage with airlines to discuss the analysis of the processes and obligations that are to be undertaken relative to the phase out date of 31st December 2017.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> April 2016</p>	<p><b>Complete</b> – Over the last 12 months GAL has undertaken a phased review of the structure of aircraft noise charges. Following an extensive period of consultation with its airline customers, GAL has announced that a new structure of charges will take effect from 1st April 2017. A particular feature of this new structure is that with effect from 1st January 2018, higher noise charges will apply to A320 family aircraft that do not have the FOPP modification.</p>
<p>2. To identify the relevant commercial and legal steps necessary in order to deliver a workable solution.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Complete</b> – As above.</p>
<p>3. GAL will be engaging with airlines through the next statutory airport charges consultation in October 2016.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> October 2016</p>	<p><b>Complete</b> – GAL has formally conducted and concluded its consultation on the structure of charges with the airline community.</p>
<p>4. Publish the rules of application for all operators.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> January 2017</p>	<p><b>Complete</b> – The financial incentive will be formally set out in GAL’s 2017/2018 Conditions of Use, which will be published by 31st January 2017.</p>

## A320 Family Series Noise Modification Status Table

The following table presents the status of the A320 family FOPP modification programs. All airlines operating from Gatwick with A320 family aircraft are requested to provide quarterly updates to GAL.

Airline	% and number of aircraft with FOPP modification at 1st January 2017	Number of aircraft in fleet and planned completion by
easyJet	66% (169)	257 (December 2017)
British Airways	56% (73)	130 (September 2017)
Monarch	6% (2)	31 (June 2017)
Vueling	27% (30)	109 (December 2017)
Thomas Cook	33% (7)	21 (tbc)
Aer Lingus	0%	34 (28 by December 2017)
Iberia Express	0%	21 (December 2017)
Small Planet Airlines	Awaiting Information	
WOWAir	44% (4)	9 (tbc)
Turkish Airlines	Awaiting Information	
Air Malta	0%	8 (5 December 2017)
TAP Air Portugal	53% (23)	43 (tbc)
Aegean Airlines	Awaiting Information	
Wizz Air	Awaiting Information	
Tunisair	Awaiting Information	

Responsible for: (A320 family movements at gatwick)

95%

99%

### Further continuous improvement work

GAL has written to every operator of the A320 family of aircraft at Gatwick to reaffirm the intention of the IAR, and its recommendation to incentivise their retrofit programme and to report progress quarterly. Updates will be provided at each NMB meeting.

In relation to the A320 FOPP modification, the charges have been set at a level which will provide a strong financial incentive to each airline to ensure that their aircraft fleet operating out of Gatwick have the FOPP modification. Several airlines have confirmed that they are accelerating their modification programmes as a result of this new charging structure.

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## RECOMMENDATION Imm-02 Engagement on A320 Series Noise Modification

“That GAL to engage with DfT, consider proposing to the European Commission the establishment of a sunset date of December 31st 2020 for the operation in Europe of Airbus 320 series aircraft without the Fuel Over Pressure Protector (FOPP) cavity vortex generator noise modification.”

### Implementation Plan

**Status:** Recommendation complete. DfT had engaged with Airbus

Action plan activities	Status
<p>1. GAL to write to DfT and propose that this recommendation be adopted as UK policy, and that the UK should then seek support at EASA for the introduction of a rule of this type in the EU and for the European Common Aviation Area, with the aim to discontinue the operation of non-modified aircraft.</p>	<p><b>Complete</b> – a letter was sent to Kate Jennings, Head of Aviation Policy at the Department for Transport (DfT) on the 25th August 2016.</p>
<p>2. GAL to follow up with DfT, who in turn will be requested to report regularly to the NMB.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Complete</b> – Kate Jennings provided a response to the letter on the 22nd September 2016 and noted the DfT’s engagement with the European Commission.</p>

### Further continuous improvement work

GAL, along with the NMB, will continue to engage with the DfT, and DfT will report on any further developments to the NMB.

## RECOMMENDATION Imm-03 Joint review of Land Use Policy

“That planning authorities for communities impacted by aircraft noise from Gatwick, coordinate to conduct their own joint review of the application of land use policy in context of Gatwick aircraft noise, with the objective of identifying steps that will enable the increase of its effective use and the improvement of the aircraft noise awareness for existing and potential land users.”

### Implementation Plan

**Status:** A workshop was held on 10th November. Follow on initiatives are being taken forward by GAL.

Action plan activities	Status
<p>1. GAL has written to all relevant local planning authority contacts, setting out the arrivals review findings for Land Use Planning and encouraging their feedback. This letter from GAL, and a progress report will be included in the report of review in January 2017.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Complete</b> – This action has been addressed by GAL’s Land Use Planning Workshop which took place on the 10th November 2016.</p> <p>Therefore, there was no letter sent, as the correspondence and information through the workshop has superseded this.</p>
<p>2. Make contact with the GOG representative at Crawley Borough Council to explore a proposal for a working group to address this issue. GOG membership includes officer representatives from Crawley; Reigate and Banstead; Mole Valley; Mid Sussex; Horsham; Tandridge; West Sussex; East Sussex and Surrey.</p> <p>GAL will also ask GOG for advice on the best route for the involvement of Kent County Council and the Districts/Boroughs of West Kent.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Complete</b> – Covered through GOG’s and Sevenoaks DC attendance at the Land Use Planning Workshop.</p>
<p>3. Review current land use planning guidance on noise (including Planning Noise Advice Document Sussex, March 2013) and liaise with councils to advise on additions to set specific standards for new housing affected by Gatwick Airport.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Complete</b> – A specialist environmental consultancy (ERM), reviewed current best practice and developed a detailed plan for coordination and support of planning authorities on aircraft noise matters. This was presented at GAL’s Land Use Planning workshop.</p>
<p>4. Include on the Agenda for the NMB.</p>	<p><b>Complete</b> – will be included on the NMB agenda through the Dashboard update</p>

### Further continuous improvement work

Following the Land Use Planning workshop, several actions were identified that GAL will take through to the 2017/2018 workplan. These are:

- GAL to progress further the idea of providing a Planning Portal (as demonstrated at the workshop). Each authority will have a unique log in, with access to pre-defined layers within the system these would show GAL noise contours, aircraft tracks and other relevant planning information.
- GAL and Local Authorities to work on ‘standard’ planning wording for authorities to share and incorporate into their local plans, although these are all at different stages.

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## RECOMMENDATION Imm-04 Information booklet

“That Gatwick develop, publish and maintain with annual updates, an information booklet intended for planning authorities, home buyers, estate agents and conveyancing solicitors, to provide reference information on flight routes, terminology and other aspects of the airport operation relevant to communities. NATS and the CAA should also be encouraged to participate and to verify those elements of the content that reflect their own areas of activity.”

### Implementation Plan

**Status:** Booklet has been drafted and circulated to NMB, GATCOM, NATMAG for comment. Publication expected March 2017.

Action plan activities	Status
<p>1. Following a desktop review of best practice at other airports, a booklet will be developed and published by GAL in accordance with the recommendation. NATS, ANS and CAA will be given the opportunity to provide any relevant input from their side to make the information as complete and accurate as possible.</p>	<p><b>Complete</b> – The draft document was circulated in November 2016 to NMB members in advance of NMB/3, as well as to GATCOM and NATMAG.</p> <p>This document will be published online and distributed widely, and is expected to be available in March.</p>
<p>2. In addition, GAL will liaise with GOG and will seek contact with The National Association of Estate Agents (NAEA) so as to establish a) what information would be useful to homebuyers and tenants, and b) how to distribute the booklet effectively to these groups.</p>	<p><b>Complete</b> – Draft was circulated to GOG and NAEA, NAEA have provided contributions to the document.</p> <p>The document will be distributed online and in print as noted above.</p>
<p>3. GAL will consult NMB about the content of the booklet periodically.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> August 2016</p>	<p><b>Complete</b> – Any updates to the information booklet will be brought to the NMB.</p>

### Further continuous improvement work

The information booklet will be subject to regular reviews and updates by GAL to ensure it remains current. Any major changes to the document will be brought to NMB meetings for review prior to publication.

## RECOMMENDATION Imm-05 Increase in CDA commencement to 7,000ft

“That as soon as possible, the altitude for commencement of CDA at Gatwick should be increased to 7000 feet (FL070).”

### Implementation Plan

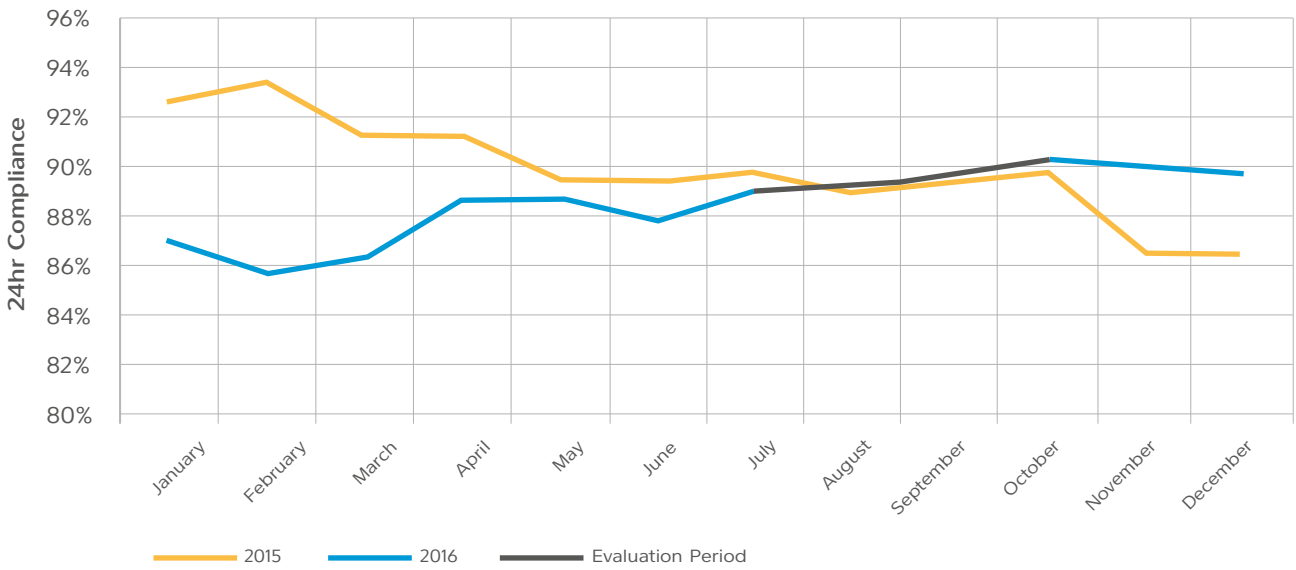
**Status:** Implemented and awaiting approval from the DfT to make permanent.

Action plan activities	Status
<p>1. GAL will continue to collaborate with NATS as part of a request to take the necessary measures to raise the commencement of CDA to 7,000 ft by November 2016.</p>	<p><b>Complete</b> – GAL engaged with NATS, ANS, DfT and airlines via the Flight Operations Safety Committee (FLOPSC) to progress the implementation of the increased CDA commencement height.</p>
<p>2. GAL to approach CAA to seek their guidance on any related implementation requirements, such as changes to approach charts.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> July 2016</p>	<p><b>Complete</b> – GAL engaged with the CAA who supported GAL’s approach.</p>
<p>3. NATS to initiate CDAs at 7,000 ft or above.</p>	<p><b>Complete</b> – Implemented under a 3 month evaluation between the 1st August and the 31st October 2016. This included changes to the Casper NTK system.</p> <p>During the evaluation, 24Hr CDA compliance increased and remained high throughout (90%), reaching the highest levels seen since April 2015. There was no noticeable increase in community complaints and no issues were reported by aircrews.</p> <p>The evaluation was submitted by the DfT in November 2016. DfT requested community feedback. Awaiting decision.</p>
<p>4. Include on the agenda of the NMB.</p> <p><b>Responsibility:</b> GAL/NATS <b>Complete:</b> 2016</p>	<p><b>Complete</b> – GAL engaged with the CAA who supported GAL’s approach.</p>

### Additional information

The following chart provides an overview of the 24hr CDA compliance in 2015, 2016 and in the 3-month evaluation period. The chart shows the percentage of flights operating at Gatwick that have achieved a CDA approach in accordance with the definition as listed in the AIP. Following the commencement of the evaluation period, CDA compliance increased to its highest levels in 2016 and this has been maintained following the end of the evaluation.

Figure 1 - Yearly variation in CDA compliance



### Further continuous improvement work

The evaluation was submitted by the DfT in November 2016. DfT requested community feedback. Awaiting decision.



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## RECOMMENDATION Imm-06 Further CDA improvement initiatives

“That GAL collaborates with NATS, CAA and airlines, within 12 months, to agree incremental improvements to the application of CDA procedures at Gatwick.”

### Implementation Plan

**Status:** Recommendation complete through a CDO workshop. Follow-on initiatives defined in the 2017/2018 workplan.

Action plan activities	Status
1. Complete a feasibility study on possible improvements by December 2016.	<b>Complete</b> – A CDO workshop took place on 21st October 2016, attendees including NATS, airlines, BALPA, CAA, GAL and community members.  Options for CDA improvement were discussed and assessed with an output paper developed and circulated to the NMB.
2. Agree an ideal end state for CDA. <b>Responsibility:</b> GAL <b>Complete:</b> December 2016	<b>Complete</b> – The options developed from the CDO workshop have formed part of the continuous improvement workplan for 2017/2018.
3. Progressive implementation of agreed improvements. <b>Responsibility:</b> GAL to agree with, Airlines, NATS, ANS, CAA <b>Complete:</b> May 2017	<b>Underway</b> – The options identified in the CDO workshop will be proposed to the NMB for approval. If approved, the recommendation will be implemented within the 2017/2018 workplan.
4. Include on the agenda of the NMB.	<b>Complete</b> – The 2017/2018 workplan will be presented to the NMB at their 5th meeting in April 2017.

### Additional information

ICAO documentation<sup>1</sup> adopted the term Continuous Descent Operations (CDO) to embrace the different techniques which can be applied to maximize operational efficiency, while still addressing local airspace constraints. These operations have been variously known as, Continuous Descent Arrivals / Approaches, Optimized Profile Descents, Tailored Arrivals and 3D Path Arrival Management.

To fully capture all potential improvements that could be made under this requirement, GAL expanded the scope of the workshop to cover CDO, not just CDA.

### Further continuous improvement work

Workshop delegates agreed that a number of improvement works could be undertaken by all stakeholders involved. In general, this included the following points with specific actions to be outlined in the 2017/2018 workplan.

- A better understanding all round of the sources of aircraft noise (ie engine/airframe) should be the foundation for generating improvements on CDO and Low Power/Low Drag.
- Changes to airspace to introduce PBN based P-RNAV routes, and support Noise Chapter 14 aircraft to take advantage of their ability to fly in a cleaner and quieter configuration.
- Provision of assistance to airlines to share data analysis and best practice, and so improve pilot training and awareness.

Much of this work will require long-term effort to deliver longer-term solutions and benefits. Although parts of this improvement work can be undertaken by GAL, much of the work will require external stakeholder engagement and ownership and will include engagement with the Future Airspace Strategy Industry Implementation Group (FASIIG).

<sup>1</sup> ICAO Document 9931 The Continuous Descent Operations Manual

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## RECOMMENDATION Imm-07 CDA to 8,000ft

“That GAL coordinates with NATS and CAA to raise the Gatwick CDA commencement altitude to 8000 feet when feasible.”

### Implementation Plan

**Status:** Discussed at a CDO workshop. Implementation in isolation is not possible due to airspace constraints. GAL engaging with NATS to explore options. Will be addressed in the 2017/2018 workplan.

Action plan activities	Status
1. Plan in parallel with Imm-06 as a means to, as soon as possible, further improve the manner in which CDAs are executed.	<b>Complete</b> – A CDO workshop took place on 21st October 2016, attendees included NATS, airlines, BALPA, CAA, GAL and community members.  Options for increasing the CDA commencement height were discussed and explored.
2. Commence analysis of the options available. <b>Responsibility:</b> GAL <b>Complete:</b> June 2016	<b>Underway</b> – The options were discussed in the CDO workshop with benefits and drawbacks identified. GAL is working with NATS, ANS and the CAA to identify and assess the options available for progression. The NMB will be advised on progress at its regular meetings
3. Agree an implementation plan.	<b>Underway</b> – GAL will develop an implementation plan following the publication of progress to the NMB.
4. NMB to receive reports of implementation. <b>Responsibility:</b> GAL/NATS <b>Complete:</b> plan to be agreed by December 2016	<b>Complete</b> – The NMB will be kept informed of progress as the 2017/2018 workplan is implemented.

### Additional information

The CDO workshop has highlighted that increasing the CDA height by an additional 1,000ft will involve an airspace change due to the height of the current holding stacks which serve Gatwick. This will involve considerable cost and effort which may detract from other Arrivals Review recommendations that could have a greater impact in the reduction of aircraft noise. GAL is currently evaluating options for implementation with technical stakeholders and will present its findings to the NMB for a decision. This will take place at NMB/5 in April 2017.

### Further continuous improvement work

Additional CDO improvements will take place in accordance with the outcomes identified in the CDO workshop.

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## RECOMMENDATION Imm-08 CDA taxonomy

“That GAL proposes a subsidiary CDA taxonomy, which includes the commencement altitude of the procedure, e.g. CDA 6000, be established by the CAA to improve the lay understanding and to better benchmark later improvements.”

### Implementation Plan

**Status:** Being scoped with the CAA.

Action plan activities	Status
<p>1. GAL to write to CAA and request a new and updated description of CDA in line with the recommendation.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> May 2016</p>	<p><b>Complete</b> – A CDO workshop took place on 21st October 2016, attendees including NATS, airlines, BALPA, CAA, GAL and community members.</p> <p>Options for a CDA taxonomy were discussed in the workshop. Additional engagement between GAL and the CAA continued after the workshop to further develop the definition.</p>
<p>2. The new definition to be used when available to benchmark further CDA improvements and to measure progress.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Underway</b> – GAL is in discussion with the CAA’s Environmental Research and Consultancy Department (ERCD) to identify potential options, and identify how best this can be implemented and used across the entire UK.</p>
<p>3. NMB to receive reports of implementation.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> January 2017</p>	<p><b>Underway</b> – The NMB will be kept informed on progress through reporting at regular meetings. Implementation reports will be developed once the definition has been agreed.</p>

### Further continuous improvement work

Additional CDO improvements will take place in accordance with the outcomes identified in the CDO workshop.

GAL has written to ERCD requesting a scope for the work to look at CDA taxonomy with a European focus, not just local to Gatwick.

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## RECOMMENDATION Imm-09 Route spacing design criteria

“That GAL considers proposing to the CAA, the establishment in airspace design criteria of a minimum distance between arriving tracks for aircraft, to deliver for arrivals both a meaningful dispersal and an opportunity for respite. This is likely to apply to aircraft before they have joined the final approach track, which for Gatwick will therefore be at 3000 feet or above.”

### Implementation Plan

**Status:** Recommendation complete. CAP 1378 published.

Action plan activities	Status
<p>1. GAL has been informed that both CAA and DfT are consulting on modifications to airspace change process and other policies. GAL proposes to contribute to this review by suggesting that a minimum distance between routes from a noise dispersal point of view could be developed. This new guidance could then be used to inform future airspace design.</p>	<p><b>Complete</b> – the Independent Arrivals Review report contributed to the CAA review.</p>
<p>2. CAA have published CAP 1378 providing PBN Airspace Design Guidance for Noise Mitigation Considerations for Arrivals and Departures procedures.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Underway</b> – Because of the highly technical nature of the CAP, following publication a briefing paper was provided at NMB/2. The summary paper was intended to assist NMB members in their development of a perspective for the CAP guidance, in the Gatwick noise management context.</p>
<p>3. NMB to receive a report by January 2017 of how this new guidance will inform the planning and analysis work for Recommendation Aspire 21.</p>	<p><b>Underway</b> – the NMB was provided with a briefing paper at NMB/2 to inform future work for Aspire -21.</p>

### Further continuous improvement work

None, this recommendation provides input to Aspire-21 which will develop and capture the plans and requirements for future route design.

## RECOMMENDATION Imm-10 Change to minimum ILS joining point

“That GAL explores with NATS the potential for aircraft to be vectored to be established on the ILS at a minimum of 8nm from touchdown outside of night hours, rather than the current 10nm. This adaptation to vectoring methodology will extend the arrival swathe 2nm further to the west for Runway 26, and east for Runway 08, and will increase the arrivals dispersal to more closely emulate the circumstances prior to 2013 change. Hence the arrival swathe would normally extend from a minimum of 8nm to 14nm, with aircraft joining on a straight in approach when traffic permits.”

### Implementation Plan

**Status:** Recommendation implemented on 15th August 2016 with 6 month monitoring period. Implementation extended to May 2017. Performance review required in February 2017, prior to decision to make permanent. Further work to address the arrivals swathe incorporated in the 2017/2018 workplan.

Action plan activities	Status
1. Complete a thorough analysis of the issues associated with this action item.	<b>Complete</b> – Analysis of the issues was contained in the GAL’s Final Action plan published on the 2nd June 2016.
2. Assess findings of analysis against feedback from the period of community engagement.	<b>Complete</b> – Analysis of the feedback provided by communities was contained in the Final Action plan as above.
3. GAL to request NATS to utilise the increased swathe from minimum 8nm to 14nm when straight in approach is not applied, for arrivals to both Runway 26 and Runway 08.  <b>Responsibility:</b> GAL <b>Complete:</b> May 2016	<b>Complete</b> – GAL engaged with NATS, ANS, CAA, and airlines via the Flight Operations Safety Committee (FLOPSC) to progress the implementation of the reduced joining point.  The Arrivals Review implementation steering group, consisting of representatives of GAL, NATS, ANS and the CAA regularly met monthly to discuss and progress implementation.  Once all required work was completed, GAL requested NATS, on 25th July 2016, to commence use of the 8 nm minimum joining point, with a planned implementation of the 15th August subject to approval from the CAA, which was subsequently granted and the evaluation commenced as planned.
4. NATS and ANS to complete the associated Safety Case for review and approval by CAA.	<b>Complete</b> – Extensive assessment and engagement between GAL, ANS, NATS and the CAA allowed the production, review and approval of the Safety Case in mid-August 2016.  The safety documentation allowed the evaluation to take place subject to the following conditions, these were provided to NMB/3 as a NATS information paper.  “Between 0601 and 2329 (local) Gatwick Directors have the option to position aircraft on to final approach to establish at 8nm or greater from touchdown provided that; 1. by positioning for an 8nm final the execution of this brings no detrimental impact on the requirement for an aircraft to be established on final approach in order to accomplish a stable approach and landing, and 2. the traffic levels are low, or 3. a runway arrivals spacing change request has been co-ordinated with Gatwick AIR.  Continuous descent approach procedures shall apply at all times. Between 0600 and 2330hrs local, aircraft making ILS or SRA approaches to any Gatwick runway, must be cleared for descent in accordance with the following profiles; Not below 3000ft QNH until within 11nm track distance from touchdown, Not below 2500ft QNH until within 9nm track distance from touchdown.”

<p>5. Confirm planned implementation date</p>	<p><b>Complete</b> – As noted above, once all required work was completed, GAL requested NATS on 25th July 2016 to commence use of the 8 nm minimum joining point, with a planned implementation of the 15th August subject to approval from the CAA, which was subsequently granted and the evaluation commenced as planned.</p>
<p>6. The NMB will monitor the impact to verify that the intended fairer and more equitable dispersal is being achieved.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> December 2016</p>	<p><b>Underway</b> – GAL and NATS have been closely monitoring the evaluation in accordance with the regime agreed with the CAA for the previous six months. Monthly reports have been produced and circulated to the CAA, DfT, ANS and NATS. Regular updates have been provided to the NMB.</p> <p>The initial evaluation period will be completed on the 14th February 2017. GAL has requested a 3-month extension to this period to allow for a full and fair assessment of the data collected over the entire six month period.</p> <p>It is recognised that although the implementation of IMM-10 has resulted in the re-distribution of traffic across the ILS joining point, a number of aspects require further examination, and community members have recommended additional work which will be progressed through the 2017/2018 workplan.</p>

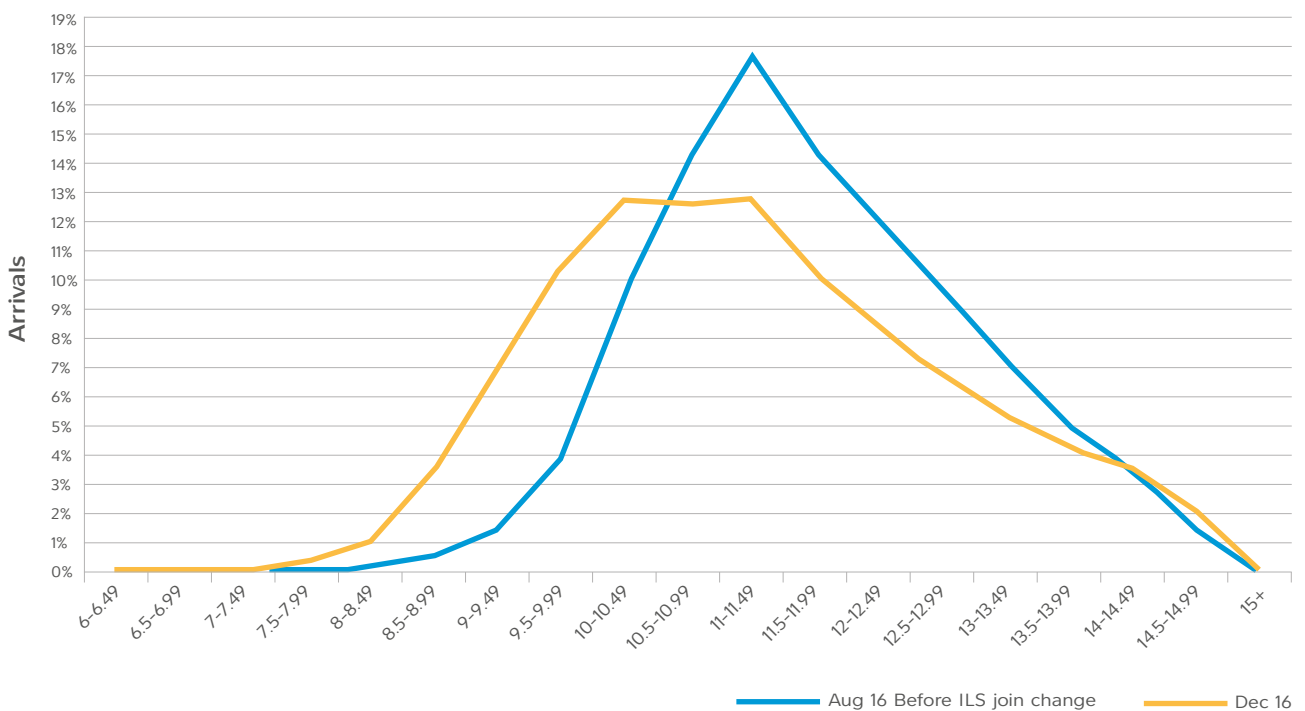
### Additional information

Figure 2, below, shows a comparison between joining point data from the month of July 2015 (before the August 15th change) versus the month of December (2016).

Since the implementation of the 8 nm minimum joining point, the previously seen peak joining at 10 nm to 11 nm has reduced significantly and the distribution has spread over a wider portion of the ILS centre-line.

**Figure 2 - Joining point usage**

December 2016 vs. August 2016 before ILS joining point change, both directions



The reduction of the minimum ILS (final approach track) joining point distance was widely identified by residents as a priority and communicated as such during the arrivals review process. These requests to the IAR had arisen from an increased concentration of arriving flight tracks that had occurred following the approach stabilisation initiative of 2013.

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The intention of the IMM-10 recommendation was to; as far as possible, increase the arrivals dispersal to more closely emulate the circumstances prior to 2013. Following detailed planning with NATS and the CAA, the IMM-10 ILS minimum joining point change was accordingly introduced on August 15th 2016.

Measurement and analysis has since clearly indicated the achievement of a sustained reduction in traffic concentration at the 11 nm point. The number of aircraft joining at this previously concentrated location has been reduced when compared to the prior year, on average by more than 25%. [25% August (after change), 29% September, 25% October, 34% November, 28% December].

### Further continuous improvement work

It is evident that much more work is necessary as regards the fair and equitable dispersal of aircraft before they reach the ILS. This complex dispersal issue has been at the centre of NMB debate since its inception, and is a priority focus of on-going NMB work.

The achievement of a fair and predictable basis to deliver an effective dispersal of flights and respite mechanisms was discussed in the IAR and led to the longer-term recommendation; Aspire 21. This is intended to eventually permit the systemised, predictable and consistent dispersal of flights through the use of P-RNAV routes to the ILS.

Today, such a level of consistency and predictability is not possible. The vectoring of arriving aircraft between the airborne holding point (navigation fix) and the ILS centreline for the final approach, is a manual process. It is delivered through the skill and judgment of NATS approach radar controllers, who pass heading, altitude and speed instructions to the aircraft, to achieve the required separation minima, providing a safe and expeditious arrivals sequence.

The challenge as a result is to identify and agree near-term solutions that can be made available prior to P-RNAV implementation.

The further work will help to define how aircraft should be dispersed from a noise and respite perspective and will inform the identification and implementation of operational systems and procedures that can, as far as possible, deliver the fair and equitable distribution of flights sought by communities.

## RECOMMENDATION Imm-11 Runway direction protocol

“The development, publication and implementation by GAL of an operating protocol to define the occasions when a change of landing direction will be implemented at Gatwick for noise reasons, if weather, safety requirements and other conditions permit. The objective of the protocol being to achieve a more even split of arrivals, and to fragment the otherwise continuous use of one runway direction or another because of long term weather patterns. The impact should be monitored by GAL and the results regularly reviewed by the NMB. The target implementation of the protocol should be during 2016 following engagement with airlines, air traffic control and communities.”

### Implementation Plan

**Status:** Proposal ready for implementation, but a decision deferred by the NMB to NMB/5.

Action plan activities	Status
1. GAL will establish a draft implementation plan for an initial discussion with the NMB.	<p><b>Complete</b> – This task has proven to be significantly more complex than expected for a wide range of operational and safety reasons. To develop a full understanding of the potential behind this recommendation, a full analysis of the opportunities in which this protocol could be used along with the benefits and drawbacks was developed prior to submission to the NMB.</p> <p>This analysis was developed in consultation with GAL, NATS, ANS and Airlines through engagement with FLOPSC and directly with airlines.</p> <p>An understanding of the number of days in which this protocol could be used, and of how it would be operationally deployed, used and monitored was developed.</p> <p>All results were recorded in a working paper which was provided to NMB members in advance of NMB/3 which took place in November.</p>
2. After securing NMB endorsement GAL will, in full cooperation with ANS, airlines and NATS, initiate the work to establish a noise protocol for runway selection.	<p><b>Complete</b> – Through the works identified above, GAL developed the draft protocol. All results were recorded in a working paper which was provided to NMB members in advance of NMB/3 which took place in November.</p>
3. GAL will obtain the meteorological data needed to quantify the potential runway usage impact of the protocol.	<p><b>Complete</b> – Data analysis using data for 2015 determined typically it would be possible to choose the runway direction for 18 overnight periods between approx. 2030 and 0500 local. This was included in the working paper provided to NMB/3.</p> <p><b>Note</b> – The figure of 18 days is subject to seasonal variations in weather patterns and traffic levels at the airport. Although weather may permit the change, safety and operational factors may prevent the protocol from going live and the number of days in which the protocol is implemented might be lower than this figure.</p>
4. The draft protocol will consider and take account of any related impacts of recommendation Imm-10.	<p><b>Complete</b> – The introduction of this protocol will have no effect on recommendation IMM10 as the protocol will be enacted in the overnight period when aircraft are required to join no closer than 10 nm. This requirement is noted in section 2.21 of the Gatwick AIP.</p>
5. The outcomes of this work will be discussed at NMB. <b>Responsibility:</b> GAL <b>Complete:</b> September 2016	<p><b>Underway</b> – The protocol was presented to NMB/3 for decision but it was decided it should be deferred to NMB/5 in April 2017. GAL developed additional data analysis to show the benefits and drawbacks of implementation.</p>
6. If endorsed, use of the new protocol at Gatwick Airport. <b>Responsibility:</b> GAL <b>Complete:</b> December 2016	<p><b>Underway</b> – The protocol will be discussed again at NMB/5 when the NMB will be requested to provide a decision.</p>



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### Further continuous improvement work

Further work is subject to approval of the protocol by the NMB in April 2017. If the protocol is approved at NMB/5 it will be introduced under a monitored evaluation. When conditions are suitable, the protocol will be initiated and the evaluation will monitor the benefits and drawbacks to determine if they are in line with expectations. Monitoring reports will be developed and presented to the NMB.

## RECOMMENDATION Imm-12 Night arrivals KPI

“That the Gatwick Flight Performance Team (FPT) introduce a KPI, enabling the monitoring and reporting of the number of flights delayed from planned daytime arrival into a night movement (after 23:30 local) and that GAL initiate measures to identify and agree steps, including enhanced use of time based operations, with airlines and with the airport’s scheduling committee for implementation within 12 months, to effectively and progressively reduce unplanned night arrivals at Gatwick.”

### Implementation Plan

**Status:** Recommendation complete with expanded scope. Monitoring report circulated to NMB Members. Ongoing monitoring through NMB.

Action plan activities	Status
1. GAL to engage with airlines and other airport stakeholders to develop and define the KPI.	<b>Complete</b> – GAL engaged with airlines and other stakeholders to develop the KPI and its usage. The KPI metric has been designed to fit into the existing structure currently in place to manage the night quota period. The metric will report on the total planned and actual use of the movements allocation in the Night period. A working paper outlining the process and how the KPI will be used was submitted at NMB/3 which endorsed the proposed KPI. GAL has now implemented the reporting regime and will report regularly to the NMB.
2. GAL to collect data and report the KPI.	<b>Complete</b> – To provide an overview of the process on offer the working paper submitted to NMB/3 included data collected between January to October 2016.  As noted above, following endorsement by the NMB GAL implemented its reporting regime and will report regularly to the NMB. The data for the whole of 2016 is provided below.
3. GAL to report to NMB on a) the data collected and b) proposals to encourage better adherence to schedule.	<b>Complete</b> – As noted above, GAL will report on the data collected regularly to the NMB.  Additional activities to manage the night quota period fall under the existing management procedures which include the following proactive actions, these were outlined in the working paper: <ul style="list-style-type: none"> <li>• Weekly calls with airlines and ACL<sup>3</sup> to monitor usage and dispensations.</li> <li>• The issue of letters to a number of airlines regarding over-quota utilisation and requesting remediation plans.</li> <li>• Supporting ACL fining of airlines for off slot operations and enforcing rules for airlines without allocation to prevent night operations by regular offenders. This can include temporary night flight bans or aircraft impoundment.</li> <li>• Employing ACL to check airline schedules to see that they are realistically achievable.</li> </ul> <p>In addition, GAL has recognised that the failure to turnaround on time contributes to Gatwick based carriers accumulating delay over the day such that their evening arrivals get pushed into the Night Period. In order to mitigate the impact of delayed turnarounds GAL has:</p> <ul style="list-style-type: none"> <li>• Tabled a proposal to impose a minimum 40 minute scheduled turnaround time where airlines do not achieve their currently scheduled 30 minute turnarounds.</li> <li>• Deployed GAL ground handling turnaround teams to help improve airline turnaround efficiency.</li> </ul>

<sup>3</sup> Airline Coordination Limited (ACL) an independent party assigned to manage schedules and slot allocation at 28 UK airports - <http://www.acl-uk.org/>

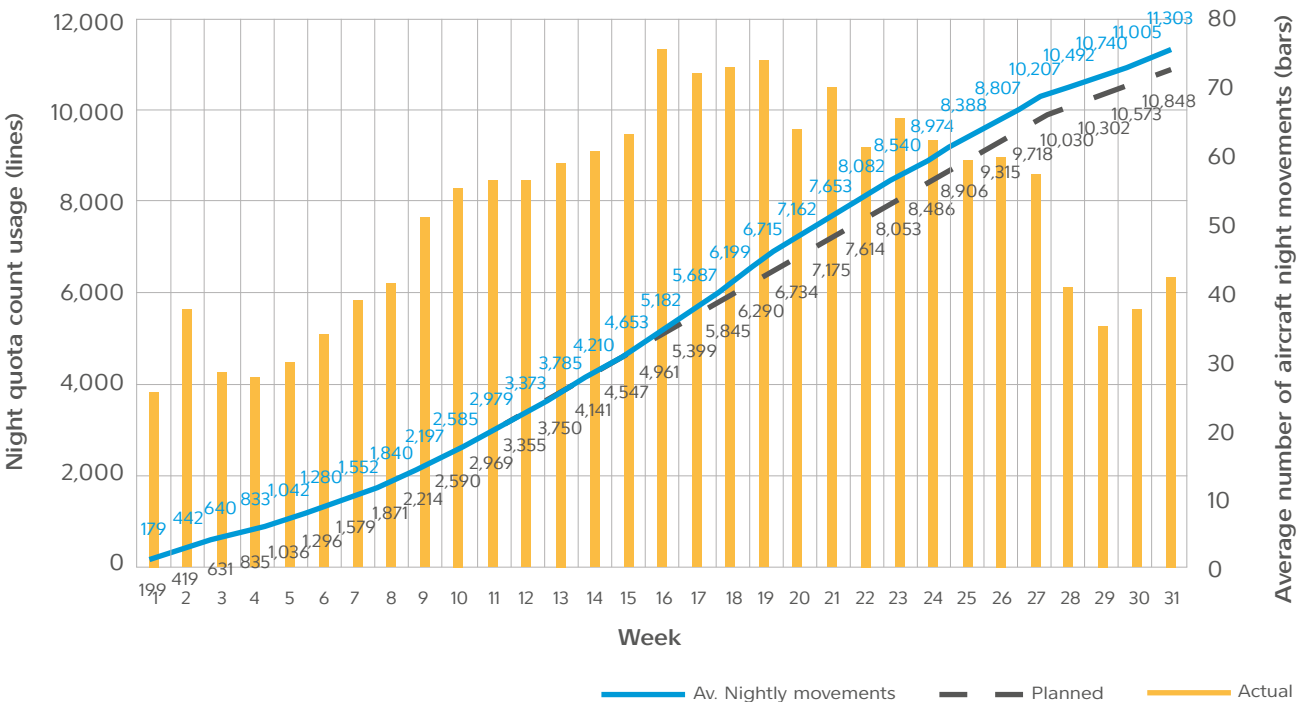
<p>4. GAL to evaluate opportunities to reduce the number of late daytime arrivals and to introduce measures that deliver improved night performance.</p>	<p><b>Complete</b> – GAL has evaluated the opportunities to reduce the number of late daytime arrivals and deliver improved night performance as outline above.</p> <p>As the quota system is set and managed by the DfT it is subject to regular consultations. DfT has begun its consultation on Night Flights as part of a review of Airspace Policy. In preparation for this consultation, Gatwick has announced that it will not request an increase to the Night Jet quota movements.</p> <p>Additional information is on the Department for Transport's, Airports and Aviation Policies webpage.</p>
<p>5. GAL to report regularly and publish data on KPI's to NMB.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> December 2016</p>	<p><b>Underway</b> – GAL will publish KPI data along with a short report detailing the steps undertaken to manage the quota at each NMB meeting.</p> <p>An overview of the response provided to NMB/3 is outlined below.</p>

### Additional Information

Night Quota performance reports will be presented to each NMB meeting. The following two charts outlines the usage of the night quota period over the summer 2016 and winter 2016/17 periods to date.

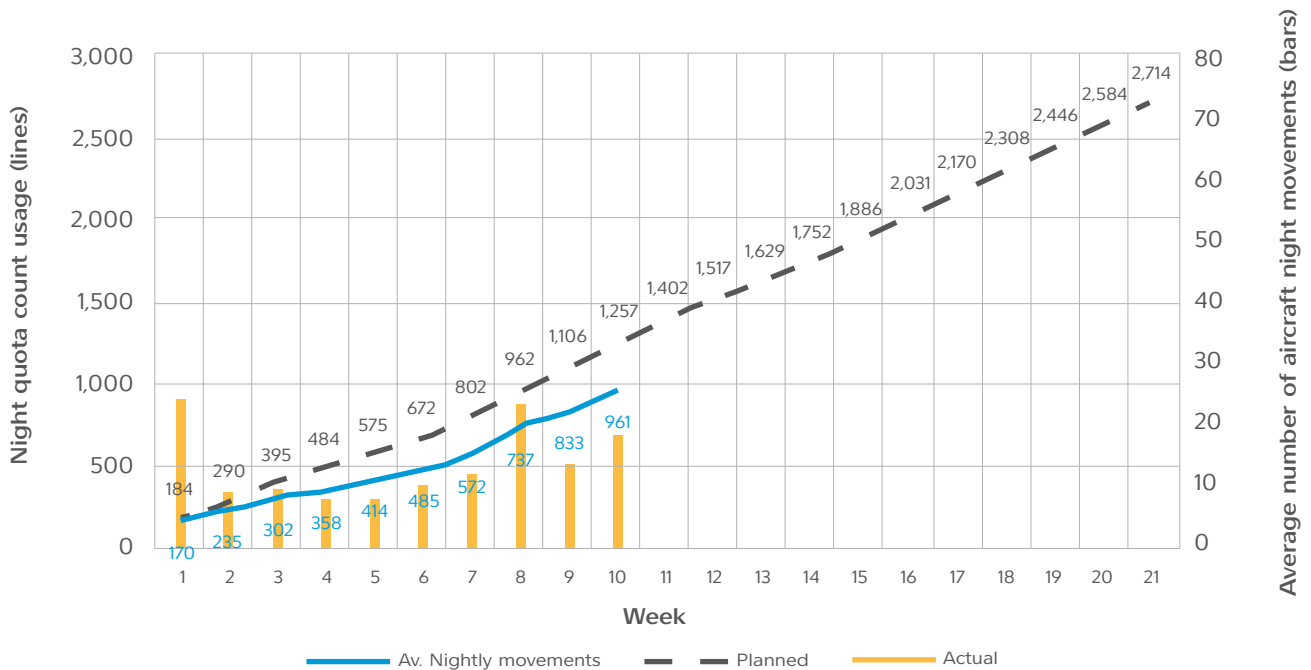
**Figure 3 - Summer 2016 Night Quota**

Gatwick Airport - Summer 2016 Night Quota - Movements Cumulative Quota Use Versus Capacity



## Figure 4 - Winter 2016/17 Night Quota

Gatwick Airport - Winter 2016/17 Night Quota - Movements Cumulative Quota Use Versus Capacity



The following report accompanies the night quota charts and outlines how GAL manages the night quota period:

“As part of our active management of the Airport’s night quota, there exist established processes of monitoring, reporting and engagement. There is regular, proactive dialogue with airlines and our airfield team to ensure that the night time slot quota is not breached. This includes daily reports which are circulated to the airside operations managers, the operational team and our scheduling team. There are also weekly performance reports sent to all airlines with an allocated night quota, and a weekly telephone conference with all interested parties where current usage and outstanding issues are discussed.

In response to an increased demand for night slots and the on-going capacity issues in European Airspace, we were in a position at mid-summer 2016 where our forecasts indicated a high probability of exceeding our available night quota for the season.

In response the airport hosted several face to face meetings with the Department for Transport and airlines to explore the issues and the options available. As a direct consequence a number of flights were re-scheduled from the night-quota period into the day-time and about 50 flights due to operate later in the season were cancelled.

In circumstances where an airline without an allocation has regularly misused night-times slots the Airside Operations Manager has the sanction of refusing permission for the aircraft to operate, which ultimately means passengers have to be disembarked from the aircraft. This occurred on at least four occasions during the summer following written warnings issued to several carriers in response to continued unauthorised use of night quota.

Additionally the use of night quota is actively policed in the form of financial sanctions and future slot restrictions by the airport’s independent slot co-ordinator, Airport Coordination Limited.”

### Further continuous improvement work

Further improvement work will continue regarding management of the night quota period.

The proposed KPI metric has been designed to fit into the structure currently in place to manage the night quota period. The metric will report on the total planned and actual use of the movements allocation in the night period.

The figure will be produced and presented to the NMB at every meeting. It will be joined with a short report outlining the actions that Gatwick has undertaken to manage the night quota period.

The presentation of a night quota usage trend chart along with the presentation of the actions that Gatwick has taken is intended to provide transparency in how the process is managed and reported.

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## RECOMMENDATION Imm-13 XMAN

“That within 6 months, NATS and GAL conduct a joint investigation to establish and agree whether XMAN is an effective tool to reduce arrival holding at Gatwick and if so, to agree and publish within 9 months when XMAN can be deployed for Gatwick and what results are expected.”

### Implementation Plan

**Status:** XMAN review, analysis and recommendation completed. Report to be presented at NMB/5.

Action plan activities	Status
<p>1. GAL to contact NATS, ANS, easyJet and other leading airlines to set out the Independent Arrivals Review findings for operational efficiencies, and to propose that GAL should lead review of the feasibility of XMAN for Gatwick including the identification of expected benefits.</p>	<p><b>Complete</b> – GAL contacted relevant stakeholders and agreed to conduct a review of the feasibility of XMAN and quantify the expected benefits. GAL also agreed to review alternative options that could achieve the same objective of reducing arrival holding to ensure all possibilities were considered.</p>
<p>2. If XMAN is validated as a beneficial tool for Gatwick arrivals, a deployment plan should be developed and published. The results of the analysis and its findings will be included in the progress report of the review recommendations in April 2017.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> December 2016</p>	<p><b>Complete</b> – A feasibility / options study and benefits assessment was conducted for XMAN as well as alternative solutions for reducing arrival holding.</p> <p>XMAN was found to be a solution that would reduce arrival holding and it is feasible to implement in the current operation.</p> <p>A deployment plan was proposed to implement XMAN by 2019.</p>
<p>3. Regular updates should be provided to the NMB</p>	<p><b>Complete</b> – Updates to be provided to NMB through Dashboard updates.</p>

### Additional information

Alternative solutions were assessed as part of this work which included ATC solutions such as time based flow management and 4D trajectory based operations. These are not feasible in the current operation, however relevant elements should be considered in a future concept of operations (i.e. greater than 5 years) to achieve optimal trajectories in the London TMA.

Additional airline solutions exist which aim to achieve times at a fix which could be used in parallel with XMAN. However, the aim will involve factors specific to the airline which may not include a reduction in arrival holding.

### Further continuous improvement work

To be carried forward into 2017/2018 workplan.

## RECOMMENDATION Imm-14 Time Based Separation (TBS)

“GAL and NATS should evaluate the potential efficiency benefits of an earlier implementation of advanced Time Based Separation (TBS) technology (timescale for completion of evaluation within 12 months).”

### Implementation Plan

**Status:** TBS review and analysis ongoing. Report through NMB.

Action plan activities	Status
<p>1. GAL to contact NATS, ANS, easyJet, BA and other major airlines setting out the Independent Arrivals Review findings for operational efficiencies; and to propose a review of the feasibility of TBS for Gatwick, including the identification of expected benefits.</p>	<p><b>Complete</b> – GAL contacted relevant stakeholders and agreed to conduct a review of the feasibility of TBS and quantify the expected benefits. GAL also agreed to review alternative options that could achieve the same objective of improved arrival spacing efficiency to ensure all possibilities were considered.</p>
<p>2. If TBS is validated as a beneficial tool for Gatwick arrivals prior to 2023, a deployment plan should be developed and published.</p>	<p><b>Complete</b> – A feasibility / options study and benefits assessment was conducted for TBS, as well as alternative solutions for improving arrival spacing efficiency.</p> <p>A TBS tool supporting delivery of separation to 4DME (i.e. current operating method) was found to be a solution that would improve arrival spacing efficiency. It was also feasible to implement, although there was a dependency with integrated AMAN/DMAN to allow the tool to be aware of the departure sequence.</p> <p>XMAN was found to be a solution that would reduce arrival holding and it is feasible to implement in the current operation.</p> <p>A deployment plan was proposed to implement XMAN by 2019.</p> <ul style="list-style-type: none"> <li>A deployment plan for the implementation of a suitable TBS tool that could be incorporated within an integrated AMAN/DMAN system will be developed as part of the overall Airfield systems roadmap. We anticipate this plan will be developed by end Q1/17, although we understand that current NATS system development &amp; resourcing priorities prevent delivery of an integrated TBS tool until 2020 at the earliest.</li> </ul>
<p>3. The analysis and findings will be included in the progress report of the review recommendations in January 2017.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> December 2016</p>	<p><b>Complete</b> – Findings have been included in this January 2017 progress report.</p>
<p>4. Regular updates will be given to NMB</p>	<p>Updates provided to NMB through Dashboard updates.</p>

### Additional information

Alternative solutions were assessed as part of this work, which included a potential pre-cursor to TBS involving a Final Approach Wind Service to assist the Tower Controllers in setting the most appropriate spacing. However, this is unlikely to provide a benefit hence it is not recommended to be pursued.

### Further continuous improvement work

To be carried forward into 2017/2018 workplan.

## RECOMMENDATION Imm-15 Research on aircraft height perception

“To better inform stakeholders, independent academic research should be undertaken to validate the reasons why arriving aircraft are often perceived by residents to be lower than in the past, and to identify measures to establish the actual facts in a controlled analysis with community involvement.”

### Implementation Plan

**Status:** Research scope being prepared.

Action plan activities	Status
<p>1. GAL to commission an independent audit of the height information provided by the Gatwick Noise and Track Keeping system, building on the work of the CAA 2014 report (CAP1246), this audit to be completed in 2016.</p>	<p><b>Ongoing</b> – An independent paper to be developed confirming the validity of Casper height reports in line with CAP 1246.  <a href="https://publicapps.caa.co.uk/docs/33/CAP%201378%20APR16.pdf">https://publicapps.caa.co.uk/docs/33/CAP%201378%20APR16.pdf</a></p>
<p>2. If this audit confirms that aircraft heights are accurately reported, GAL to seek and obtain expressions of interest from recognised academic experts to conduct academic research (possibly by funding one or more PhD projects) to identify and evaluate the factors influencing the perceptions of aircraft height found in communities affected by aircraft noise.</p>	<p>ERM drafting a proposal for the research project to be undertaken with assistance and input from community NMB members.</p>
<p>3. GAL to seek guidance from the NMB on suitable Terms of Reference and objectives for the research work and its reporting This should include inter alia, provision for community engagement.</p>	<p>Update to be provided at NMB/5.</p>
<p>4. Taking into account guidance from the NMB, any resulting academic study should publish a report no later than the end of 2017.</p> <p><b>Responsibility:</b> GAL</p> <p><b>Complete:</b> Height verification 2016 Academic Research and Report 2017</p>	<p>Will be undertaken in 2017/2018 workplan.</p>

### Further continuous improvement work

To be carried forward into 2017/2018 workplan.

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## RECOMMENDATION Imm-16 Additional community engagement manpower

“That GAL allocates additional manpower, as soon as possible, to strengthen the Airport’s community engagement capability.”

### Implementation Plan

**Status:** Recommendation complete.

Action plan activities	Status
<p>1. GAL to identify the requirement for additional manpower and to put recruitment steps into place.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Complete</b> – Additional manpower has been recruited by GAL and is now in position to provide greater capability for community engagement.</p>
<p>2. GAL to report progress at the NMB.</p>	<p><b>Complete</b></p>



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## RECOMMENDATION Imm-17 Enhanced complaints policy

“That Gatwick should establish an enhanced complaints policy and fully transparent procedure, as soon as possible, using an on-line form as the primary medium, requiring sufficient detail to allow the location (postcode) of the complainant, the date and time of day of the incident, such that the aircraft in question can be identified and established with the location, to allow empirical data to be developed and analysed so that noise mitigation action can be taken. There should be no limit to the number of complaints per household. For residents not possessing computer access, postal submissions should be accepted, but should be required to contain the basic information outlined above.”

### Implementation Plan

**Status:** Recommendation complete. Policy published and web tool deployed. Evolution of tool to address feedback received as part of ongoing continuous improvement.

Action plan activities	Status
1. GAL should draft an updated noise complaints handling policy whilst seeking feedback from local communities and GATCOM and the NMB. The final policy to be presented to GATCOM and the NMB, and then published.	<b>Complete</b> – GAL developed the complaints handling policy following Casper software enhancement feedback. This took account of inputs from NATMAG, GATCOM and NMB, and the policy document was published in November 2016.
2. GAL to report progress at the NMB.	<b>Complete</b> – Enhanced software has been developed for GAL's Casper online complaint and flight tracking tool. This was implemented on the 30th September 2016.
3. A regular report of complaints handling findings shall be provided to the NMB. <b>Responsibility:</b> GAL <b>Complete:</b> December 2016	<b>Complete</b> – The complaints policy and an initial overview of complaints received was provided at NMB/3. It was proposed that future continuous monitoring is undertaken by NATMAG due to their current remit to review complaints figures.

### Further continuous improvement work

The recommendation has now been implemented and IMM-17 removed as a routine NMB agenda item. The Gatwick Noise and Track Monitoring Advisory Group (NATMAG) has responsibility for performance monitoring of the complaints handling system and reviews complaint statistics through its regular meetings.

Following initial implementation, the Policy was evolved to accommodate feedback from NMB, GATCOM and NaTMAG including, for example the introduction of a freepost address for those without access to the internet. Gatwick continues to welcome feedback on the Casper system functionality and work is continuing to improve mobile device functionality and to review the accessibility/signposting of Casper via the Gatwick website.

## RECOMMENDATION Imm-18 Noise Management Board

“The establishment of a Noise Management Board (NMB) by summer 2016, to be operated under independent Chairmanship and comprising representatives from each of the institutions able to effect change for Gatwick arrivals, as well as the chair of the Airport Consultative Committee (GATCOM), and both elected council members and residents’ representatives.”

### Implementation Plan

**Status:** Complete.

Action plan activities	Status
<p>1. Following analysis of feedback from many respondents, a planning meeting was held on 18th May 2016 for invited participants to discuss NMB membership and develop a final draft Terms of Reference for consideration and adoption by the NMB at its meeting on 21st June 2016.</p>	<p><b>Complete</b> – Constitution and Terms of Reference were adopted by the NMB in their third meeting on the 15th November 2016.</p> <p>The NMB terms of reference and code of conduct can viewed on the NMB webpage as noted below.</p>
<p>2. Participants at the NMB planning meeting welcomed an increase to the community group representation to four NMB seats, and agreed that these should reflect a rural, urban, departure and arrival representation. Community Groups at the meeting agreed to develop a consensus on how the increased representation on the NMB will be utilised and to inform the chair by 14th June. If no consensus is forthcoming, an interim solution will be used until a permanent representation can be jointly agreed.</p>	<p><b>Complete</b> – The Noise Management Board is made up of a wide range of industry experts and stakeholders. There are 13 seats on the Board, some of which are shared between a voting member and an alternate (back-up) member who have one vote and attend alternate meetings. The NMB has representation from the following members:</p> <ul style="list-style-type: none"> <li>• Gatwick Airport Ltd,</li> <li>• Civil Aviation Authority,</li> <li>• National Air Traffic Services,</li> <li>• Air Navigation Solutions (the providers of air traffic services in the control tower at Gatwick),</li> <li>• Airlines,</li> <li>• Chair of GATCOM (Gatwick Airport Consultative Committee),</li> <li>• East Sussex and West Sussex County Councils,</li> <li>• Surrey and Kent County Councils,</li> <li>• The High Weald Councils Aviation Action Group (HWCAAG ) and Association Parish Councils Action Group (APCAG),</li> <li>• Communities Against Gatwick Noise Emissions (CAGNE) and Plane Wrong,</li> <li>• East Sussex Communities for Control of Aircraft Noise (ESCCAN) and Tunbridge Wells Anti Aircraft Noise Group (TWAANG),</li> <li>• Gatwick Obviously Not (GON) and Pulborough Against Gatwick Noise Emissions (PAGNE).</li> </ul>
<p>3. Hold the first NMB meeting on 21st June 2016.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> June 2016</p>	<p><b>Complete</b> – The NMB held its first meeting on the 21st June 2016. Minutes from the meeting are available online at the NMB website as noted below.</p>

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## Additional information

The NMB has a webpage which is dedicated to providing clear and transparent information for our local communities who want to find out more information about the NMB and be kept up to date with discussions and actions from the Board. Those interested are also able to read relevant papers, agendas, minutes, terms of reference and membership details.

The link to the webpage is <http://www.gatwickairport.com/business-community/aircraft-noise-airspace/airspace/noise-management-board/>

The NMB chairman has written a report on the progress made by the NMB in the past year, this is contained in Appendix C.

**The NMB meets quarterly and has the following scheduled 2017 meeting dates:**

- NMB/4: 31 January
- NMB/5: 05 April
- NMB/6: 14 June
- NMB/7: 6 September
- NMB/8: 15 November

## Further continuous improvement work

The Noise Management Board was constituted in June 2016 with an initial focus on the implementation of the Arrivals Review recommendations. In the course of implementing these recommendations, the need for further work has already been identified in a number of areas. Proposals have also been received from GATCOM and from Community Groups.

Progress on the Aspirational Recommendations of the Arrivals Review is yet to be reported. It is possible that additional follow on issues will be identified, requiring the attention of the NMB and the active participation and contribution of its member organisations.

It is evident from the number of topics and reports to be considered at NMB meetings, that the NMB and its membership is for the time being fully occupied with the existing initial work plan. However, recognising the continuous improvement objectives of the NMB, further work areas have been identified.

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## RECOMMENDATION Imm-19 Response to Arrivals Review

“That Gatwick should publish not later than March 31st 2016, a description of the steps that it is intended to take in response to the Arrivals Review report, and which if any of the recommendations it plans to pursue.”

### Implementation Plan

**Status:** Complete.

### Additional information

Through the publication of the:

- Proposed Action Plan on 31 March 2016, and
- Final Action Plan June 2016,

This recommendation has been implemented.

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## RECOMMENDATION Imm-20 Progress report

“In the interests of improved community relations that; GAL publish not later than January 31st 2017 a report of overall progress towards delivery of the steps recommended in this report, including relevant status updates from CAA and NATS, with where appropriate the basis for any related decisions.”

### Implementation Plan

**Status:** Complete.

Action plan activities	Status
<p>1. GAL and other organisations, as appropriate, to progress recommendations through the next 12 months in line with each agreed action plan and within its associated timescale.</p>	<p><b>Complete</b> – Following the publication of the proposed and final action plans, GAL has been regularly engaging with ANS, NATS, the DfT and the CAA to implement the recommendations. This engagement has been through the formal Arrivals Review steering group which meets monthly as well as regular bilateral meetings as required.</p>
<p>2. To maintain a close liaison with the Arrivals Review Implementation Manager, to support the preparation of a detailed report of actions taken by GAL and the progress reported by other stakeholders, including the NMB, NATS, ANS, CAA, DfT, airlines and others as appropriate.</p>	<p><b>Complete</b> – The Arrivals Review Implementation Manager, supported by specialist consultants, has facilitated and engaged directly with the relevant stakeholders in meetings.</p> <p>Regular progress reports have been developed and shared with the NMB. This report provides a formal update on progress made in the last year.</p>
<p>3. Produce a full, publicly available, report of overall progress. This would be presented first to the NMB/4.</p> <p><b>Responsibility:</b> GAL <b>Complete:</b> January 2017</p>	<p><b>Complete</b> – As noted above, this report provides a formal update on progress made in the last year. It has been publicly released at NMB/4 on 31st January 2017 and is available online at the NMB website and Gatwick Airport’s Noise webpage.</p>

This document completes this recommendation.

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## RECOMMENDATION Aspire-21 P-RNAV to the ILS

“The adoption of carefully designed routes from the approach holding fixes used for Gatwick, to the ILS final approach tracks, provides real opportunity to reduce noise, to disturb fewer people, to deliver fair and equitable dispersal of noise, and, to deliver well defined respite measures. The London Airspace Management Programme should be developed by NATS and GAL to incorporate alternative proposals to those published in 2013, as soon as reasonably possible, for consultation, agreement and implementation for Gatwick arrivals.”

### Implementation Plan

**Status:** Analysis and planning began in Q1 2017 through NMB continuous improvement work.

Action plan activities	Status
1. GAL to write to NATS, ANS, CAA and DfT advising them of the recommendation and inviting them to discuss it.	<b>Complete</b> – GAL has briefed NATS, ANS, CAA and DfT on the recommendation of the IAR.
2. GAL, with support of the NMB, to develop and understand the related issues to inform implementation planning for GAL.  <b>Responsible:</b> GAL <b>Timescale:</b> Task to begin Q1 2017	<b>Underway</b> – GAL is actively evaluating the options to deliver these aspirational and technology objectives.

### Additional information

The introduction of new routes is subject to community input and the definition of the principles of fair and equitable distribution. This is currently being progressed through the establishment of an NMB working group.

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## RECOMMENDATION Aspire-22 Change to holding areas

“That the Gatwick holding areas should be higher, or should be relocated to enable holding aircraft to dwell over water, rather than over Sussex.”

### Implementation Plan

**Status:** Future work.

Action plan activities	Status
1. GAL to write to NATS, ANS, CAA and DfT advising them of the recommendation and inviting them to discuss it.	<b>Complete</b> – GAL has briefed NATS, ANS, CAA and DfT on the recommendation of the IAR.
2. GAL, with support of the NMB, to establish design objectives to reflect DfT policy, CAA guidance and NATS advice.  <b>Responsible:</b> GAL <b>Timescale:</b> Task to begin Q3 2016	<b>Underway</b> – GAL is evaluating the options to deliver these aspirational and technology objectives.

### Additional information

Relocating the holding stacks used for Gatwick in particular is expected to require the redesign of routes for aircraft using Gatwick, Heathrow and Southampton Airports, as well as changes to restricted airspace east of the Isle of Wight reserved for military live firing exercises. While this is an aspirational objective of Gatwick, these changes are subject to airspace change consultation, and are outside the remit of GAL to determine. Such changes are therefore not expected to occur before 2022 at the earliest.

## RECOMMENDATION Aspire-23 AMAN and DMAN (Arrivals Management and Departures Management)

“That the requirements specification of any system upgrade to, or replacement of, any sequencing tools must take full account of the need to integrate the AMAN at Swanwick and DMAN at Gatwick, such that they are each fully informed of, and take into account the capacity allocations of both arrival and departure functions.”

### Implementation Plan

**Status:** Review analysis and recommendations. Report through NMB.

Action plan activities	Status
<p>1. GAL to write to NATS and ANS, advising them of the recommendation and inviting their guidance on how best to align procurement of a single replacement system.</p>	<p><b>Complete</b> – GAL have contacted NATS and ANS regarding how best to align procurement of an integrated AMAN/DMAN system.</p> <p>A phased approach was agreed. Initially, sequence data would be shared between Swanwick and Gatwick. This allows the display of the other party's data on their own system (i.e. AMAN data displayed on the DMAN screen at Gatwick and vice versa) to improve situational awareness for the Supervisors, in terms of departure and arrival demand.</p> <p>This would be followed by the implementation of an integrated AMAN / DMAN based on lessons learnt from the first phase.</p>
<p>2. GAL, with support of the NMB, to establish design objectives with NATS and ANS.</p>	<p><b>Underway</b> – GAL, NATS and ANS have analysed the current issues regarding a lack of integration between the AMAN at Swanwick and the DMAN at Gatwick. It is difficult to plan optimal runway usage without both systems having mutual knowledge of arrivals and departures. Without this mutual transparency, decision making becomes much more reactive.</p> <p>Design objectives are being developed for the first phase of the implementation (data sharing using current systems). This will result in a prototype that can be assessed in Summer 2017. Output from this can feed the development of an integrated AMAN/DMAN.</p>

### Additional information

Considerations for design objectives for an integrated AMAN/DMAN have been documented. These will need to be developed into design objectives for the second phase.



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# Appendix C

## Remarks from the Independent Chairman of the Noise Management Board

The Noise Management Board (NMB) for Gatwick was constituted on June 21st 2016. It will be evident from the contents of this report that the policies, procedures and strategic directions related to the management of aircraft noise are extremely complex, and that the multi-layered interaction between the many organisations able to deliver any change in the effects of aircraft noise is equally challenging.

The NMB has brought these diverse, and sometimes disconnected, organisations together with Community Noise Groups for the first time within a formalised structure. In the view of some commentators, this level of joint strategic noise collaboration would have previously been inconceivable. The initial focus of the NMB has been oversight of the implementation of the recommendations of the Independent Arrivals Review.

The purpose of the NMB is to develop, agree, oversee and maintain a coordinated noise management vision and consequent strategies at Gatwick, for all stakeholder organisations, intended to improve the situation for those affected by noise from aircraft using Gatwick.

This includes joint and coordinated reports through the NMB on progress of the implementation of these agreed strategies and, facilitation of consistent communication across all stakeholder organisations, using independently verifiable data and transparent policies within a common governance structure.

The NMB is helping to ensure that community concerns about aircraft noise are fully understood by key stakeholder organisations considering issues that may affect such noise management around Gatwick.

These objectives are being achieved through the progressive development of consensus across the NMB constituency. This coordination is improving the alignment of responsibilities and, the relevant initiatives and priorities of the key organisations able to influence change in the effect of noise from aircraft using Gatwick. It is also helping Community Noise Groups to refine and develop their own perspectives and priorities.

It is now a little more than six months since the NMB met for the first time. The constitution and governance structure and related processes are in place. Given the number of organisations involved, and a great diversity of views represented, this is already a significant milestone. My thanks for this achievement are due to the pragmatic and constructive attitudes of the members.

Good progress has been made in developing an understanding of the recommendations of the Arrivals Review, how and why these can be usefully progressed in practice to deliver the improvements intended, and in their actual delivery.

While, a great deal has been achieved, it is also plain that there is still a lot more work to do, in achieving both the letter and the spirit of each recommendation.

A key consideration is the development of a common view of the interpretation of 'Fair and Equitable Distribution' (FED) of flights. This is a good example of the on-going focus of the continuous improvement working group of the NMB. This work will help airspace planners, air traffic controllers and pilots to design and operate systems using mechanisms and procedures that can align more closely with community objectives.

The NMB has also begun to consider what its additional priorities and focus will be after the delivery of the Arrivals Review recommendations has been achieved. I expect the work plan for the following 12 months will be agreed in April.

I will continue to do my utmost to ensure continued and sustained progress to the noise reduction objectives of the NMB.

**Bo Redeborn**  
Independent Chairman

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# Glossary

<b>AIP</b>	Aeronautical Information Publication
<b>AMAN</b>	Arrivals Management
<b>ANS</b>	Air Navigation Services
<b>ATC</b>	Air Traffic Control
<b>BALPA</b>	British Airline Pilots' Association
<b>CAA</b>	Civil Aviation Authority
<b>CAP</b>	Civil Aviation Publication
<b>Casper</b>	Gatwick Airport's noise and flight tracking computer system
<b>CDA</b>	Continuous Descent Arrival
<b>CDO</b>	Continuous Descent Operation
<b>DfT</b>	Department for Transport
<b>DMAN</b>	Departures Management
<b>DME</b>	Distance Measuring Equipment
<b>EASA</b>	European Aviation Safety Agency
<b>ERCD</b>	Environmental Research Consultancy Department (CAA)
<b>EU</b>	European Union
<b>FASIIG</b>	Future Airspace Strategy Industry Implementation Group
<b>FED</b>	Fair and Equitable Dispersal
<b>FLOPSC</b>	Flight Operations Performance and Safety Committee
<b>FOPP</b>	Fuel Over Pressure Protector
<b>FPT</b>	Flight Performance Team
<b>Ft</b>	Feet
<b>GAL</b>	Gatwick Airport Ltd

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<b>GATCOM</b>	Gatwick Airport Consultative Committee
<b>GOG</b>	Gatwick Officer's Group
<b>IAR</b>	Independent Arrivals Review
<b>ICAO</b>	International Civil Aviation Organisation
<b>ILS</b>	Instrument Landing System
<b>IMM</b>	Recommendation number (taken from Arrivals Report; Immediate)
<b>KPI</b>	Key Performance Indicator
<b>LUP</b>	Land Use Planning
<b>NADP</b>	Noise Abatement Departure Procedure
<b>NAEA</b>	National Association of Estate Agents
<b>NATMAG</b>	Noise and Track Monitoring Advisory Group
<b>NATS</b>	formerly known as National Air Traffic Services
<b>Nm</b>	Nautical Mile
<b>NMB</b>	Noise Management Board
<b>NTK</b>	Noise & Track Keeping
<b>PBN</b>	Performance Based Navigation
<b>P-RNAV</b>	Precision Area Navigation
<b>SMART</b>	Specific Measurable Achievable Realistic Timely (objectives)
<b>TBS</b>	Time Based Separation
<b>TMA</b>	Terminal Manoeuvring Area
<b>ToR</b>	Terms of Reference
<b>QNH</b>	Atmospheric pressure adjusted to sea level

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