

GATWICK AIRPORT ARRIVALS REVIEW

FINAL REPORT

Executive Summary

The Independent Arrivals Review (IAR) initiated in August 2015 heralded a significant shift in Gatwick Airport Ltd's (GAL) approach to tackling issues around aviation noise. GAL has sought to address the issues identified in the IAR, and in the consequent action plan activities, in collaboration with industry partners with both vigour and pace. The report of the Review, published in January 2016, made 23 Recommendations designed to improve the management and mitigation of aircraft noise, to improve the transparency and detail of information available to communities, and to enhance community engagement methods.

Among the recommendations was the establishment of the Noise Management Board (NMB), whose primary objective was the oversight of the implementation of the Final Action Plan published by Gatwick in June 2016 in response to the IAR. The NMB constituted in June 2016 has now met eight times and has sponsored workshops for: Continuous Descent Operations, Fair and Equitable Dispersal, Land Use Planning, Departures and Reduced Night Noise. Members include all the institutional and industry stakeholders able to influence changes to aircraft and airport operations, and both elected county council representatives, as well as community noise groups and the statutory Gatwick Airport Consultative Committee (GATCOM).

This report provides a review of the activity and progress of the GAL IAR Final Action Plan at a point at which many of the recommendations have culminated and marks the transition to a dynamic workplan setting out key initiatives and priorities developed in agreement with and overseen by the NMB.

A range of activities and a substantial amount of work has been undertaken by GAL, industry stakeholders and the NMB in delivery of these IAR recommendations. Progress has been made since the interim report (IMM20) was published in January 2017 in the reduction of noise disturbance from aircraft using Gatwick; the quality and transparency of information now publicly available; the access to institutional representatives by communities and; the active engagement with aviation stakeholders.

The headway made and objectives achieved in this relatively short period of time are important. Even so, it is also clear that there is much more work to be done both to follow-on from existing IAR recommendations 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 arrivals related activities, but also importantly broadening into issues around departures. Progress on these will be reliant on the wholehearted support of our 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 also continued to work on issues around departures, much of which is

now included in the NMB workplan. The NMB has also taken forward work on specific arrivals work streams that have now been adopted as NMB priorities.

While this report marks the completion of the Arrivals Review Final Action Plan, the areas that would benefit from further work have been clearly identified and prioritised in agreement with NMB Members. The resulting workplan has been scheduled through to the end of 2018 and will be further adapted to incorporate new work areas as the existing priority activities are completed.

The following table provides an update on the progress made on implementing the recommendations made by the IAR since the publication of the Imm-20 progress report in January 2017¹ and the agreement of the refined NMB workplan in June 2017.

¹ <https://www.gatwickairport.com/globalassets/gatwick---arrivals-review---update-d1-web.pdf>

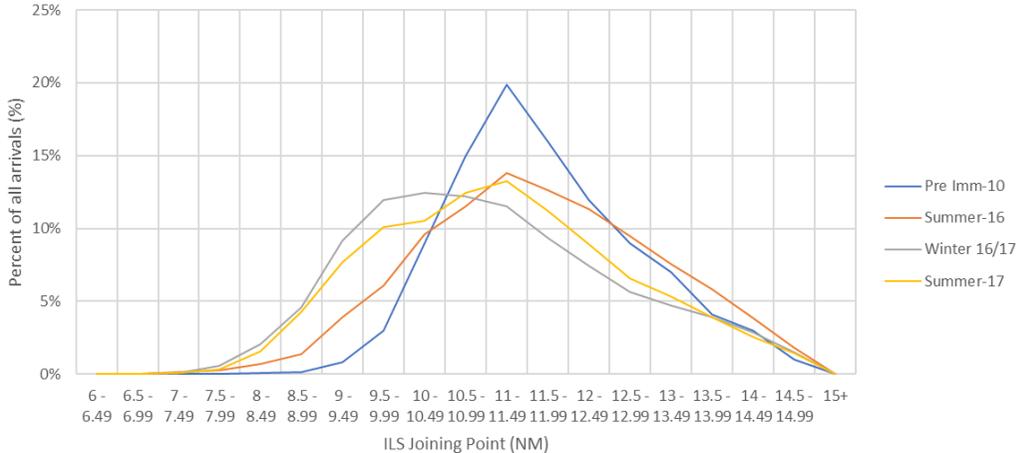
Independent Arrivals Review Recommendation	Progress since January 2017 as reported in Imm-20																									
Imm-01 A320 series modification	<p>Status: Complete</p> <p>Progress: The new charging regime has been implemented and will be applied from January 2018². GAL has been tracking airline modification programs, and to September 2017, over 300 aircraft have been modified. Modification progress is routinely monitored by GAL and reported to the NMB as part of NMB 2017/2018 workplan Activity 1. Since June 2017, airlines have continued to modify existing A320 family aircraft and the latest figures are reported in the NMB progress report.</p> <p>Supporting data:</p> <div> <p style="text-align: center;">Status of FOPP modifications as a percentage of total A320 family</p> <table border="1"> <caption>Data for Status of FOPP modifications as a percentage of total A320 family</caption> <thead> <tr> <th>Quarter</th> <th>Modified (%)</th> <th>Planned modified (%)</th> <th>Unmodified (%)</th> <th>Planned unmodified (%)</th> </tr> </thead> <tbody> <tr> <td>Q1 17</td> <td>32</td> <td>0</td> <td>68</td> <td>0</td> </tr> <tr> <td>Q2 17</td> <td>58</td> <td>0</td> <td>42</td> <td>0</td> </tr> <tr> <td>Q3 17</td> <td>62</td> <td>0</td> <td>38</td> <td>0</td> </tr> <tr> <td>Q4 17</td> <td>65</td> <td>0</td> <td>35</td> <td>0</td> </tr> </tbody> </table> </div>	Quarter	Modified (%)	Planned modified (%)	Unmodified (%)	Planned unmodified (%)	Q1 17	32	0	68	0	Q2 17	58	0	42	0	Q3 17	62	0	38	0	Q4 17	65	0	35	0
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Imm-02	Status: Complete																									

² https://www.gatwickairport.com/globalassets/publicationfiles/business_and_community/all_public_publications/2017/2017-18-conditions-of-use---final---sent-30jan17.pdf

Independent Arrivals Review Recommendation	Progress since January 2017 as reported in Imm-20
DfT engagement on A320 series modification	Progress: DfT had engaged with Airbus, the European Commission and have committed to explore possibilities to reach international agreements. DfT were encouraged by GAL to write to European counterparts as part of NMB continuous improvement work.
Imm-03 Joint review of Land Use Policy	Status: Complete Progress: A workshop was held on the 10th November 2016. Follow-on initiatives are being taken forward by GAL as part of its internal engagement program.
Imm-04 Information booklet	Status: Complete Progress: Information booklet was published on 7 th June 2017 and has been circulated to the National Association of Estate Agents. https://www.gatwickairport.com/globalassets/business--community/b_7_aircraft-noise/gatwick---noise-doc-2017.pdf
Imm-05 Increase in CDA commencement to 7,000ft	Status: Complete Progress: Following an evaluation period which commenced in August 2016. DfT approval was provided in January 2017 following satisfactory feedback from the Community Noise Groups and the increased CDA commencement altitude was formally implemented in the Casper Noise and Track Keeping (NTK) system. The Gatwick Aerodrome Information Publication (AIP) has also been updated in accordance with international process.
Imm-06 Further CDA improvement initiative	Status: Incorporated as part of the NMB 2017/2018 Workplan Progress: A CDO workshop identified further options to improve. The options were further refined, and a project plan developed in a follow-on workshop. These activities have been included on the NMB 2017/2018 workplan as: <ul style="list-style-type: none"> • Activity 9 Review and update the CDO definition; • Activity 10 Review speed limitations on approach; • Activity 11 Review noise abatement information provided to airlines by commercial flight plan service providers; • Activity 12 Improve collaboration between airlines to align CDO standard operating procedures and noise training.

Independent Arrivals Review Recommendation	Progress since January 2017 as reported in Imm-20
Imm-07 CDA to 8,000ft	<p>Status: Incorporated as part of the NMB 2017/2018 Workplan</p> <p>Progress: Increasing the CDA commencement altitude to 8,000ft will require modification to the current holding stacks which would require an airspace change. Major airspace change is planned as part of LAMP 2 and this activity has been included within the NMB 2017/2018 workplan, Activity 6: Develop requirements for future London airspace change.</p>
Imm-08 CDA taxonomy	<p>Status: Incorporated as part of the NMB 2017/2018 Workplan</p> <p>Progress: The CDO workshop identified that instead of introducing a CDA taxonomy, a revised CDO or low noise approach metric/definition should be developed. The revised metric would provide a new target to improve arrivals performance. This task has been included on the NMB 2017/2018 workplan as Activity 9: Development of a low noise approach KPI (<i>Previously: Review and update the CDO definition</i>).</p>
Imm-09 Route spacing design criteria	<p>Status: Complete</p> <p>Progress: CAA published CAP1378 providing PBN Airspace Design Guidance for Noise Mitigation Considerations for Arrivals and Departures procedures. Due to the technical nature of the CAP, a summary paper was produced for the NMB to guide future activities.</p>
Imm-10 Change to Minimum ILS Joining Point	<p>Status: Complete</p> <p>Progress: Recommendation implemented on 15th August 2016 with a 6-month monitoring period extended to May 2017. NMB/5, in April 2017, was presented with analysis showing improvements in the distribution across the ILS joining points with reductions of peak concentration. The NMB supported the adoption of the recommendation and the procedure became permanent on 15th May 2017.</p> <p>It is recognised that for some community members, Imm-10 has not resulted in the changes that they had expected. However, the 8 NM minimum ILS joining point provides an additional 2 NM of flexibility to controllers vectoring aircraft to the ILS, expanding the potential distribution of aircraft, subject to suitable traffic levels. This aspect is an important pre-cursor to, and baseline for, future work to advance the development and implementation of Fair and Equitable Distribution solutions across the arrivals swathe away from the ILS. This work is being undertaken within the following activities on the 2017/2018 NMB workplan:</p> <ul style="list-style-type: none"> • Activity 7 Scoping and feasibility assessment of NATS FED initiatives;

Independent Arrivals Review Recommendation	Progress since January 2017 as reported in Imm-20																																																																																																				
	<ul style="list-style-type: none"> Activity 8 Scoping and feasibility assessment of follow on FED initiatives. <p>Continuous Improvement: NMB 2017/2018 workplan Activities 7 and 8.</p> <p>Supporting data: The following figures show the average ILS joining point distribution for westerly and easterly arrivals to runway 26 and 08 respectively. The data is presented here as averages based upon the airport scheduling seasons.</p> <div> <p style="text-align: center;">Westerly arrivals (runway 26) average ILS joining point distribution per season</p> <table border="1"> <caption>Estimated data for Westerly arrivals (runway 26) average ILS joining point distribution per season</caption> <thead> <tr> <th>ILS Joining Point (NM)</th> <th>Pre Imm-10 (%)</th> <th>Summer-16 (%)</th> <th>Winter 16/17 (%)</th> <th>Summer-17 (%)</th> </tr> </thead> <tbody> <tr><td>6-6.49</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>6.5-6.99</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>7-7.49</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>7.5-7.99</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>8-8.49</td><td>0</td><td>1</td><td>2</td><td>1</td></tr> <tr><td>8.5-8.99</td><td>0</td><td>2</td><td>4</td><td>2</td></tr> <tr><td>9-9.49</td><td>0</td><td>3</td><td>6</td><td>3</td></tr> <tr><td>9.5-9.99</td><td>1</td><td>5</td><td>8</td><td>5</td></tr> <tr><td>10-10.49</td><td>3</td><td>8</td><td>11</td><td>8</td></tr> <tr><td>10.5-10.99</td><td>8</td><td>11</td><td>12</td><td>11</td></tr> <tr><td>11-11.49</td><td>19</td><td>12</td><td>12</td><td>13</td></tr> <tr><td>11.5-11.99</td><td>15</td><td>11</td><td>11</td><td>12</td></tr> <tr><td>12-12.49</td><td>10</td><td>10</td><td>9</td><td>10</td></tr> <tr><td>12.5-12.99</td><td>8</td><td>8</td><td>7</td><td>8</td></tr> <tr><td>13-13.49</td><td>6</td><td>6</td><td>5</td><td>6</td></tr> <tr><td>13.5-13.99</td><td>4</td><td>5</td><td>4</td><td>4</td></tr> <tr><td>14-14.49</td><td>3</td><td>4</td><td>3</td><td>3</td></tr> <tr><td>14.5-14.99</td><td>2</td><td>3</td><td>2</td><td>2</td></tr> <tr><td>15+</td><td>0</td><td>6</td><td>0</td><td>0</td></tr> </tbody> </table> </div>	ILS Joining Point (NM)	Pre Imm-10 (%)	Summer-16 (%)	Winter 16/17 (%)	Summer-17 (%)	6-6.49	0	0	0	0	6.5-6.99	0	0	0	0	7-7.49	0	0	0	0	7.5-7.99	0	0	0	0	8-8.49	0	1	2	1	8.5-8.99	0	2	4	2	9-9.49	0	3	6	3	9.5-9.99	1	5	8	5	10-10.49	3	8	11	8	10.5-10.99	8	11	12	11	11-11.49	19	12	12	13	11.5-11.99	15	11	11	12	12-12.49	10	10	9	10	12.5-12.99	8	8	7	8	13-13.49	6	6	5	6	13.5-13.99	4	5	4	4	14-14.49	3	4	3	3	14.5-14.99	2	3	2	2	15+	0	6	0	0
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Imm-11 Runway direction protocol	<p>Status: Rejected by the NMB</p> <p>Progress: As reported in the Imm-20 report, significant benefit and impact analysis has been undertaken involving stakeholders from GAL, NATS, ANS and airlines regarding Imm-11 (Recommendation to implement a runway in use protocol during periods of nil or very low wind at Gatwick for noise sharing purposes). The analysis was presented to NMB/5 in April 2017 where a controlled evaluation was proposed to fully understand the benefits and impacts. The NMB was unable to reach a consensus with the community groups evenly divided Discussions were closed noting that the NMB had agreed to reject the IMM-11 proposal for an evaluation.</p> <p>Given the lack of NMB consensus and the view that other NMB workplan initiatives offer better noise management opportunities for all communities, it was agreed that a trial should not proceed at this time.</p>																																																								
Imm-12 Night arrivals KPI	<p>Status: Complete</p> <p>Progress: Recommendation complete with expanded scope. Ongoing monitoring through NMB as part of 2017/2018 workplan Activity 1.</p>																																																								

Independent Arrivals Review Recommendation	Progress since January 2017 as reported in Imm-20
Imm-13 XMAN	<p>Status: Implementation as part of GAL Continuous improvement</p> <p>Progress: A deployment plan was proposed to implement XMAN by 2019 with ongoing works now transitioned into GAL's continuous improvement programme.</p>
Imm-14 Time Based Separation (TBS)	<p>Status: Implementation as part of GAL Continuous improvement</p> <p>Progress: Deployment plan for the implementation of a suitable TBS tool that could be incorporated within an integrated AMAN/DMAN system has been developed as part of the overall Airfield systems roadmap. The GAL/NATS AMAN/DMAN Data Trading project will move to operational evaluation and trial during early 2018. Agreement in principle has been reached to progress a new joint project that will deliver a fully time based operational system for Gatwick that integrates AMAN/DMAN, TBS and RECAT capabilities. Given the scope and complexity of the project 2020 remains a realistic delivery timeline.</p>
Imm-15 Research on aircraft height perception	<p>Status: Complete</p> <p>Progress: The research has been incorporated into the 2017/2018 NMB workplan as Activity 5. The scope of the works remains the same. The preliminary report of the research, which was undertaken in Q3 2017, will be issued in early 2018</p>
Imm-16 Additional community engagement manpower	<p>Status: Complete</p> <p>Progress: Additional manpower has been recruited by GAL and is now in position to provide greater capability for community engagement.</p>
Imm-17 Enhanced complaints policy	<p>Status: Complete</p> <p>Progress: Revised policy has been published and a web tool deployed. Evolution of tool to address feedback received is being undertaken as part of ongoing continuous improvement.</p> <p>http://noiselab.casper.aero/lgw/#</p>

Independent Arrivals Review Recommendation	Progress since January 2017 as reported in Imm-20
Imm-18 Noise Management Board	Status: Complete Progress: NMB has met eight times since its first meeting in June 2016. Minutes, agendas and Reports of meetings are published online on the NMB webpage (https://www.gatwickairport.com/nmb)
Imm-19 Response to arrival review	Status: Complete Progress: Published in June 2016. www.gatwickairport.com/nmb
Imm-20 Progress report	Status: Complete Progress: Published in January 2017 (https://www.gatwickairport.com/globalassets/gatwick---arrivals-review---update-d1-web.pdf)
Aspire-21 P-RNAV to the ILS	Status: Incorporated as part of the NMB 2017/2018 Workplan Progress: Incorporated as part of Activity 13 Reduced Night Noise (<i>Formerly Quiet Night Arrivals</i>), this activity will aim to implement carefully designed RNAV routes in the night period to reduce noise impacts.
Aspire-22 Change to holding areas	Status: Incorporated as part of the NMB 2017/2018 Workplan Progress: Relocating the holding stacks used for Gatwick 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. Major airspace change is planned as part of LAMP 2 and this activity has been included within the NMB 2017/2018 workplan, Activity 6: Develop requirements for future London airspace change.
Aspire-23 AMAN and DMAN	Status: Incorporated as part of the NMB 2017/2018 Workplan Progress: Deployment plan for the implementation of an integrated AMAN/DMAN could be incorporated with a TBS (Time Based Separation) tool has been developed as part of the overall Airfield systems roadmap. The GAL/NATS AMAN/DMAN Data Trading project will move to operational evaluation and trial during early 2018.