



New Gatwick Flight Paths

FLIGHT PATHS FOR A SECOND RUNWAY
AT GATWICK AIRPORT

An initial assesment of the consequences by
Charles Lloyd

NB the flight paths shown here refer to a full scale second runway to the south of the existing runway as referred to in Gatwick's Master Plan 2019 Plan References 20, 22 & 31.

Not to Gatwick's current proposal turning the taxi-way into a runway.

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FLIGHT PATHS FOR A SECOND RUNWAY AT GATWICK AIRPORT

Summary

Gatwick Airport's submission to the Airports Commission contains indicative flight path proposals for its second runway scheme.

Analysis of these proposals shows that:

- numerous communities in southeast England, most of which are currently tranquil and sought after for that reason, would be newly impacted by significant aircraft noise;
- many communities that are already exposed to aircraft noise, up to 25 miles from the airport, would suffer significantly intensified noise;
- Gatwick's runway operation and flight path proposals mean there would be no opportunity for respite for these communities;
- some arriving aircraft would fly lower than currently, for longer. Some would not be able to perform a Continuous Descent Approach, a standard noise reduction practice in the industry;
- using Gatwick's own figures, by 2040 the second runway would double the size of the airport's noise contours and quadruple the population within the 54dB contour from 7,700 to 31,100.¹ By way of contrast, the Airports Commission suggested that if a third runway was developed at Heathrow a noise envelope should be agreed which "could stipulate that the total number of people affected by noise should be no higher than it is today";² and
- intensive night flights would continue at Gatwick. High levels of night noise would impact approximately four times more people by 2040 than today. Heathrow, by contrast, has agreed that it will not operate night flights.

Evaluation

Evaluation of Gatwick's proposals against the Government's aviation noise policies show that it has failed to achieve key policy objectives in a number of significant respects. For example:

- the Government expects airports to "make particular efforts to mitigate noise... in the case of proposals for new airport capacity" and says that in those cases "it would be appropriate to consider new and innovative approaches such as noise envelopes or provision of respite...". Gatwick has not offered a noise envelope and has put forward a scheme design that sacrifices respite in order to achieve marginally greater capacity;
- the Government expects airports to set suitable noise controls such as "minimum height requirements... and adherence to continuous descent approach". Gatwick's operational proposals for a second runway will preclude the use of these techniques in some cases, thereby increasing noise;
- Gatwick is not proposing to "make extra efforts to reduce and mitigate noise from night flights". Instead, as discussed above, the number of people impacted by night flights would increase substantially.

Gatwick's capacity and operational proposals

Gatwick's submission to the Airports Commission³ states that its "conservative" aim would be to achieve 98 Air Transport Movements (ATMs) per hour and 560,000 ATMs per annum, with the potential to increase the former to 120 ATMs per hour. This compares to 55 ATMs per hour in peak periods and 268,000 ATMs per annum in 2015, an increase of nearly 110% in total annual aircraft movements and a doubling of flights at peak times.

NATS confirmed in a report to the Airports Commission that these levels of traffic would be operationally deliverable subject to implementation of its project to redevelop London's airspace, known as LAMP. Indeed NATS said: "the annual figure of ATMs is not considered to be [the] maximum or upper limit that can be operated from a revised Gatwick operation as proposed by the scheme promoter. The extension of peak operating hours would result in greater annual movements being delivered".

In order to maximise capacity, Gatwick proposes that its two runways should be operated in "simultaneous independent mixed mode". This means that both runways would be used for a mix of arrivals and departures, just as the single runway is now. This has important consequences for aviation noise. In particular Gatwick is not proposing to offer respite, in the way Heathrow does currently, by alternating the use of runways between arrivals and departures.

Gatwick considered an alternative "independent segregated mode" option for two-runway operation: one runway being used for arrivals and one for departures, as at Heathrow at present. This would have allowed runway alternation and respite. However, the layout of the airport, particularly the positioning of its current terminals to the north of the airport and the new runway to the south, meant that this option would have meant around half the aircraft using the new southern runway having to cross the existing runway in order to reach the existing terminals. Even if they were held at 'traffic lights' and then allowed to cross in bunches it would clearly slow down operations.

Alternatively Gatwick have proposed the use of 'End-Around Taxiways'.⁴ As the name implies aircraft using the new southern runway would be required to taxi round the end of the existing runway, passing under arriving aircraft. This procedure, although used in the United States, is untried in the UK, and could involve long taxiing distances.

Since segregated mode would have reduced maximum capacity by some 6% and would have made a new Gatwick runway look inferior to one at Heathrow it was rejected by the airport.

NATS' submission to the Airports Commission also stated that some flights might not be able to be offered a Continuous Descent Approach and that in some cases aircrafts' final approach might be longer and possibly lower than current operations. Both of these would result in additional noise for communities under arriving aircraft.

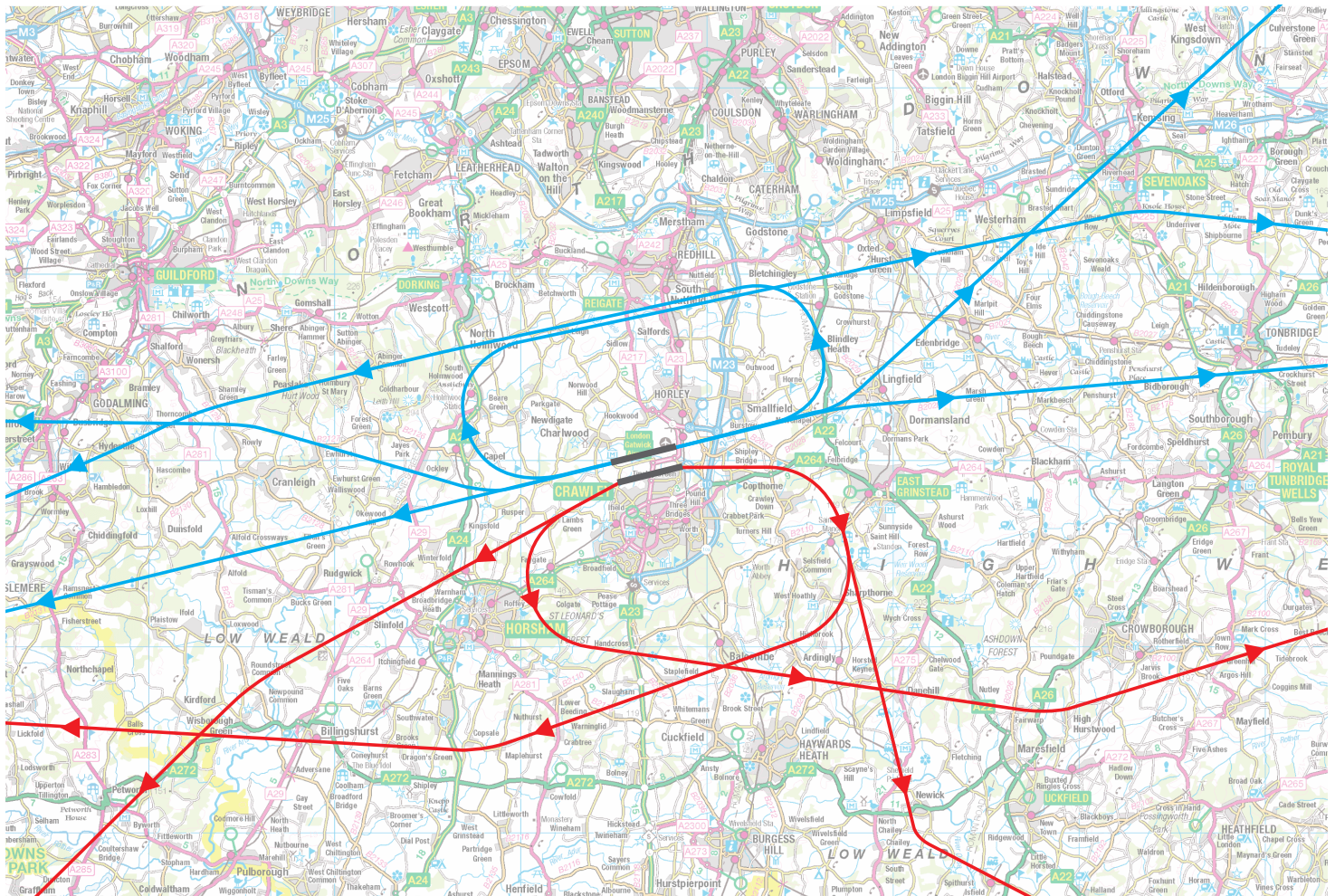


New departure flight paths

New departure routes would be required to support an additional runway at Gatwick.

The precise routes of future departure flight paths would be a matter for detailed design, but Gatwick's indicative proposals, as set out in its submission to the Airports Commission, are illustrated in the map below.

The lines on this map show the potential centre lines of each flight path. The areas affected by noise would of course be much wider.



Proposed Gatwick wide-spaced runway routes

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Existing Routes

New Routes

0 2 4 8 12 16 20 Kilometres

PROPOSED FLIGHT DEPARTURE ARRANGEMENTS:

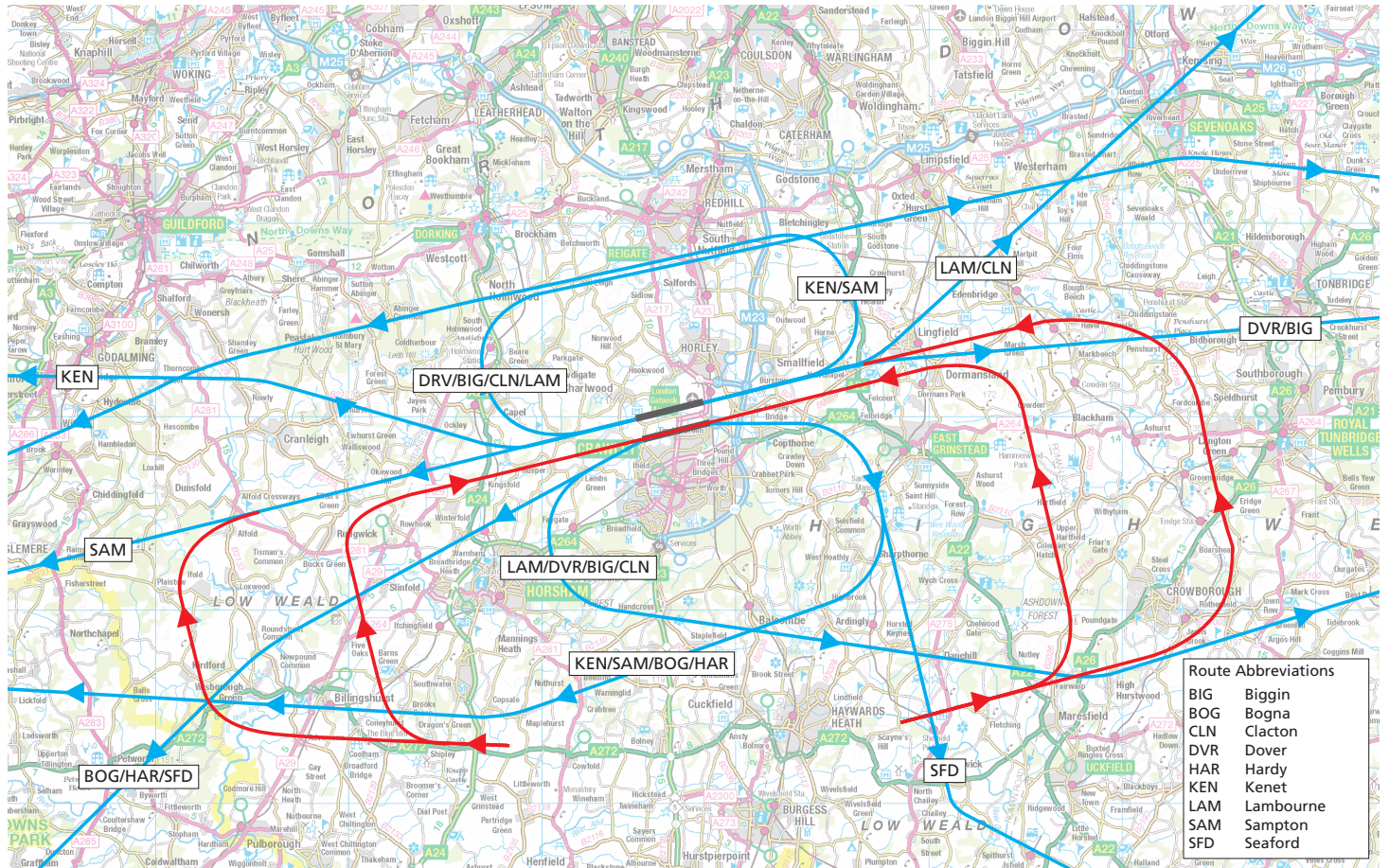
- All aircraft departing to the west from the new runway will use two new flight paths, one over Warnham and North Horsham (on the track of the immensely unpopular ADNID trial) and one turning sharp to the south east to fly over the eastern side of Horsham.
- All aircraft taking off to the east from the new runway will take a new route over Cophorne and Crawley Down, close to East Grinstead.
- To avoid departure flight paths crossing, which would cause obvious risks, GAL have suggested that aircraft bound to the north of Gatwick would be required to use the two existing terminals and the existing runway. Aircraft bound south would be required to use the new terminal and the new runway.⁵ This would cause extra costs and complications for airlines.

New arrival flight paths

New arrival routes would also be required to support an additional runway at Gatwick.

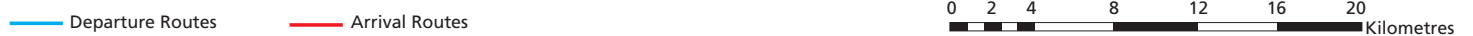
The precise routes of future flight paths would be a matter for detailed design, but Gatwick's indicative proposals, as set out in NATS' report to the Airports Commission, are illustrated in red in this map.

The lines on this map show the potential centre lines of each flight path. The areas affected by noise would of course be much wider.



Indicative Arrival and Departure routes for Gatwick Airport Second Runway

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PROPOSED FLIGHT ARRIVAL ARRANGEMENTS:

- Arriving aircraft on both runways will take two concentrated flight paths to the east or two to the west.
- The traffic on each flight path would be significantly intensified from that experienced by any community currently. Arrivals are currently allowed to join the final approach between 8 and 14 miles from touchdown, thus dispersing the impact to some extent. But with two runways all aircraft bound for the new runway would need to be concentrated in the half of this swathe nearer to the airport, and all aircraft bound for the existing runway in the further half (as indicated in the Airports Commission map). Or the swathe would need to be widened, bringing in new currently peaceful areas.

The map implies that arriving aircraft will be concentrated at a 'merge point' (or perhaps two 'merge-points') in the vicinity of Haywards Heath. Whether the merge point procedure will in fact be introduced is at present uncertain. It may be rendered unnecessary if in the future the in-flight speed of aircraft can be regulated in order to remove the need for stacking.



Five Members of Parliament were on the platform, and three more sent messages of support, at a mass protest meeting on Saturday 22 November 2014 organised by the Gatwick Area Conservation Campaign (GACC).

Public Reaction

If these proposals were pursued many communities would be newly impacted by intense and sustained aircraft noise with little or no respite including, in many cases, at night. Almost all these communities currently enjoy low ambient noise, so aircraft noise would have a substantially greater impact than in noisier urban environments. Many communities who already suffer noise would experience greater aircraft volumes, again with minimal respite and at night.

The reactions to these new or intensified flight paths are not difficult to predict. More minor flight path changes in 2013 and 2014, both the trial of new departure routes and the concentration of arrivals into a narrower swathe, caused massive anger and distress and led to the formation of numerous new protest groups around Gatwick, followed by legal action. The implications of a second runway are very unlikely to be accepted by impacted communities and any decision to proceed with it can be expected to lead to substantial and sustained protest.

Compensation

Compensation is available under the Land Compensation Act 1973 to anyone who can prove that their house has been devalued by the operation of a new runway or new taxiway. The compensation amounts to the full value of the loss plus 10%. The loss has to be proved by a surveyor's report and compensation is available at any distance from the airport.

This is, however, not as good as it sounds. Compensation is not paid until one year after the new runway is opened. As traffic takes time to build up, the full impact of the additional noise, and thus property devaluation, may not occur until ten or twenty years after that. Experience elsewhere shows that airport companies employ disputatious lawyers to prove that house prices have not fallen, due to factors such as increased demand due to the enlarged airport. In one current example Stansted Airport have refused to pay compensation for fourteen years because one small part of the works was not completed – and then argued that the claims were out of time!

Gatwick has made a number of alternative proposals for compensating people impacted by its second runway proposals, placing most emphasis on its so called "Community Dividend" scheme under which all households within the two runway airport Leq 16hr 57dB noise contour would receive annual compensation equivalent to Band A Council Tax (currently £1,000). It will also provide compensation for loss of property value within the Leq 16hr 66dB contour, subject to certain conditions.

These proposals would only be available to people who had not moved house, and would not benefit the great majority of people who can expect to experience new or intensified noise as a result of a second runway. In particular the compensation for loss of value would apply only to properties less than 4km from each runway end, whereas there is evidence that property devaluation from aircraft noise can extend to over 30km from an airport. It is therefore likely that Gatwick's proposals would cause very substantial value destruction across large parts of South East England.

Gatwick's proposals fall far short of the intentions of the Land Compensation Act, which could be seen as a reasonable benchmark. They also fail to meet compensation policies advocated by the Airports Commission and the CAA.⁶



Conclusions

An inevitable consequence of the constricted topography of Gatwick is that measures that might mitigate noise would reduce the number of aircraft which could use the airport. Rather than accepting this limitation, the plans put forward by Gatwick Airport Ltd systematically prioritise capacity and profit. As a result they fail to meet the Government's aviation noise policy in critical respects including respite, noise controls and night noise.

The flight paths and airport operating arrangements Gatwick has proposed would lead to a very significant worsening of the noise environment for substantial parts of Kent, West Sussex, East Sussex and Surrey. Many communities, and large numbers of people, would suffer aircraft noise for the first time and many others would experience intensified noise, both during the day and at night.

Most of the communities that would be impacted around Gatwick are currently tranquil, with low ambient noise. Many are in Areas of Outstanding Natural Beauty. They have been settled over many decades for those reasons. Recent experience suggests that their residents are unlikely to accept the noise levels that Gatwick is planning.

Gatwick's compensation proposals fall far short of the requirements set by law and would, if implemented, be likely to cause very substantial value destruction. There could be serious social consequences if people in impacted communities felt trapped and unable to move.



The Author



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Charles spent 20 years as a partner in PwC's UK Corporate Finance practice, where he specialised in infrastructure strategy and transactions, Public-Private Partnerships, and the restructuring and sale of public sector businesses. In 2009 and 2010 he was seconded to the UK Treasury where he led the Corporate and Private Finance team, advising on PPP policy, the government's privatisation programme and the creation of Infrastructure UK. He led the team that produced the UK's first Strategy for National Infrastructure and chaired the Treasury's Project Review Group. Between 2011 and 2013 Charles led PwC's regional capital projects and infrastructure business in the Middle East, advising regional governments and companies on major infrastructure projects.

References

- ¹ Gatwick Airport submission to the Airports Commission: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368985/15.1_Appendix_A7_Air_Noise.pdf
- ² Airports Commission Final Report page 3. Needless to say, the practicality of this assurance is hotly contested by those opposing a new Heathrow runway. It remains to be seen, if either of the Heathrow options are selected by the Government, whether it will be translated into a legally binding condition. It is mentioned here solely for the purpose of illustrating the deficiency of the Gatwick proposals.
- ³ <https://www.gov.uk/government/publications/additional-airport-capacity-gatwick-airport-second-runway>
- ⁴ A Second Runway for Gatwick. GAL. April 2014 pages 81-89
- ⁵ A Second Runway for Gatwick. GAL. April 2014 page 27
- ⁶ "The considerable benefits of aviation accrue to the many, while the environmental costs are borne by the (relatively) few ... The Commission believes that it is right that those who benefit from airports should meet the costs of compensating those who suffer the disbenefits". Airports Commission Final Report 2015

"A successful noise strategy ... would also seek to compensate those who are still affected in full reflection of the disturbance they suffer ..." CAA Managing Aviation Noise 2014

