How airports can deliver for local communities……

'*Think Local; Act Local*'

> *If airports come to understand how to deliver for communities – and want to deliver - they can thrive and possibly even grow without the local opposition they currently face*

On December 31st 2020 I stepped down from HACAN, the regional body which gives a voice to residents impacted by Heathrow, after 20 years. Those decades will probably come to be defined by the campaigns against a third runway. They were two decades when the campaigning made international headlines. HACAN played a key role in defeating the initial proposals for the third runway, dropped by the Coalition Government in 2010. We have again been prominent in the current campaign to stop it.

These years will probably be defined by the campaigns against the third runway.

But here's a strange thing. During these years we lost members because they felt we concentrated too much on the campaigns against a third runway.

They felt HACAN should have done more to improve their current situation.

But here's the strange thing. In 2020 HACAN had fewer members than in the year 2000. And a key reason people gave for leaving was that we had concentrated *too much* on the campaigns against the third runway. Unless residents believed they were going to be directly impacted by the new runway, it was of limited interest to most of them. They felt HACAN should have been doing more to improve their current situation. We should have concentrated more on campaigning for fewer night flights, less concentration of flight corridors, improved operational practices, and, above all, more respite. This is not a criticism of people's priorities. If anything it is an admission of HACAN's lack of effectiveness in getting enough local improvements during my 20 years at the helm. But I believe it tells us a lot of where local people are coming from. If airports can understand how to deliver for these communities – and *want* to deliver for them – a lot of the current conflicts have a chance of being resolved.

The views expressed are entirely my own and do not necessarily reflect the position of HACAN.

Contents

Reluctant Campaigners

So, who are the communities it was my privilege to work alongside, and serve, for 20 years? What defines them?

First of all, they are **reluctant campaigners.** They are almost the polar opposite of the climate activists who aspire to *global* change, who are fighting an international cause bigger than themselves. Airport communities, by contrast, simply want a *local* problem dealt with. They want rid of the noise (or for it to be reduced) in order to go back to their day-to-day lives. They are not, with some exceptions, into a cause. They are not looking to change the global noise climate. They just want *their* problem sorted.

There is, in truth, **an element of Nimbyism**. Not out-and-out Nimbyism: airport communities tend not to argue all the flights should go elsewhere as they relate to others disturbed by the noise but most would lose little sleep if the price of fewer flights over them was more flights over somebody else.

It took me a while to understand this. My initial aim was to try to bring as many communities together in order to strengthen our collective voice. This really only worked when there was a common target, such as opposition to the third runway at Heathrow. This attempt at networking did, though, enable HACAN to become more than a local group and to take a strategic overview which gave us a more credible voice when speaking with the Government and the aviation industry.   Our members understood and welcomed this. But at heart residents remain **locally focused**. This hit home to me when sitting round the table at the Community Noise Forum which Heathrow had set up to discuss issues with resident and community groups. Though there were areas of common ground, each local group was there primarily to defend and promote its own interests.

These communities tend not to have an aim or a strategy beyond reducing the number of planes and the noise over their own areas. This is not a criticism, as many of their problems are very real, very pressing and cause genuine distress to some people. But it is the reality. Wider aviation policy is of little interest to local communities unless they see it as a useful tool to cut noise in their area.

Many are not even very interested, and indeed can be disinterested, in the *total* number of planes using an airport or even how many runways it has or proposes to build unless they believe it will impact on them. Of course this is a generalisation; there are residents who are concerned about many of these wider issues and who see the need for the right overarching national policy to be in place but my experience of working for HACAN and, before that, of campaigning with local communities in other transport areas, is that their focus is very local and that, if their local issue can be resolved, these reluctant campaigners will cease campaigning.

This lack of interest in the wider issues can backfire. This is what happened in Frankfurt. After the fourth runway opened in 2011 thousands of residents occupied the terminal in protest. Their concern was over the new and reorganized flight paths that had been put in place to facilitate the runway. I had been invited to speak at rallies *before* the new runway was approved. Most of the residents who subsequently occupied the terminal were not present at these rallies. While it is true Frankfurt Airport had not been as open about the new flight paths as it might have been, a young resident told me he had warned his fellow residents there would be new flights over their community but it didn't stir them into action. Most residents didn't see it as their problem until, literally, the planes were overhead.

There are lessons for airports and other decision-makers on the best way of working alongside these reluctant campaigners which I address shortly but first another key issue to be factored in......

How much of a problem *is* aircraft noise?

It is a question I have often been asked and have had to ask myself. I had got involved when aircraft noise became an issue in the part of South London where I lived, following operational changes which took place in 1996. I assumed everybody was being driven crazy by the noise arising from the change. Not so! Reaction to aircraft noise – indeed, noise generally - varies from person to person. This table is instructive. It is from the CAA's Survey of Noise Attitudes Study (SoNA).

Table 31: Percentage highly annoyed as a function average summer day noise exposure, $L_{Aeq,16h}$

Average summer day noise exposure, $L_{Aeq,16h}$ (dB)	% highly annoyed	
	ANIS 1982	SoNA 2014
51	3%	7%
54	5%	9%
57	9%	13%
60	14%	17%
63	23%	23%
66	34%	31%
69	48%	39%

It shows how varied people's responses are. 7% of people are highly annoyed when the noise averages out at 51 decibels over the course of a 16 hour today. In Heathrow terms these are people living about 17 – 20 miles from the airport where the typical height of the aircraft varies from a little under 4,000ft to about 4,500ft. At the other end of the scale 60% of people are *not* highly annoyed even when the average is 69 decibels (just a few miles from the airport).

And neither group is making it up. I've spoken to people who live within 2 miles of the airport who tell me they don't even hear the planes thundering overhead. Very often, they have been brought up under the flight path; the noise has always been part of their lives. Yet I have received countless emails from people living even beyond the 51 noise contour who were utterly distressed by the noise; never opened their windows in the summer; and played 'white noise' day and night to try to block out the aircraft. A lot of people, as the table shows, are somewhere in-between. I suspect many have learnt to live with the noise they get but would react badly to if higher levels upset that equilibrium.

Perhaps the biggest lesson I've learnt is that, while decibel levels (how loud a plane is) clearly play a role, they are not the critical factor in determining how disturbed a person will become.

There are two key factors I would identify as likely to increase noise annoyance for people:

1. When change takes place. It has been shown by the World Health Organisation and others that when an area experiences a noticeable increase in flights overhead, or gets planes for the first time, a higher percentage of people are disturbed than in 'no change' areas; and that they tend to become annoyed by lower levels of noise.

2. When there is no escape. Most people who find aircraft noise really disturbing move away (or don't move into an area they know is noisy). But those who can't move away feel trapped - despair may set in which can, in some cases, lead to physical illness and exacerbate mental health issues.

Think Local, Act Local

How can airports and other decision-makers deliver for these reluctant campaigners?

The key thing is for airports to address are the *local area-specific* issues. The reward for an airport in doing this effectively would be less conflict with its local community as it went about its routine business and possibly even if it was looking to expand.

The main concerns of the community campaigners mainly revolve around noise. Air Pollution can be an issue but it is not what keeps most campaigners awake at night whereas noise (often literally!) does.

Key actions to deal with noise:

• Limit the number of flights over any one community – probably by rotating flight paths. Flights numbers are usually a local community's main concern, sometimes even its raison d'etre;

• Keep the flights as high as possible;

• Ensure wherever possible that no flight path gets more than it fair share of the noisiest aircraft;

• If night flights are deemed essential (in my view, at most airports they are not) make sure, if it at all feasible, the same people don't get them every night;

• Avoid new areas, though this may not always be possible as it could conflict with the provision of respite;

• Concentrate compensation and mitigation on those communities closest to the airport and in other 'hotspot' areas where respite might be difficult or the number of noisiest planes is highest.

Each issue is looked at in more detail on the following pages.

Communities should be invited help shape change

Change is when communities become most aware of the noise. The more a community can feel ownership of change, the more likely it is to embrace it. The most effective way of making this happen is for the community to be involved in shaping any change. This is different from traditional consultation and can be a risky process for an airport as it might not result in it getting all it originally wanted. But it can be done. Heathrow showed this in its airspace change consultation when it was planning to alter its flight paths to accommodate the introduction of new technology and build a third runway: it invited the public to shape the new flight paths. It asked communities what they most wanted from flight paths (for example, was it more important to minimise the numbers overflown; or to create more flight paths in order to provide respite; and how important was it to avoid new areas?). Heathrow said it was not a referendum but it would be guided by the responses, setting out to design the sort of flight paths a majority favoured. It didn't satisfy every community and, because it was mixed up with proposals for a third runway, it was boycotted by some, but the end product was something not imposed by the airport but shaped, at least in part, by the local community. It was a bold approach but I believe it is the right one if airports are to deliver the sort of changes which their communities are looking for. Correct policies are not enough in themselves. Community engagement is essential to help shape and deliver them if they are to have a chance of general acceptance.

1. Effective Respite
Most communities want respite (a predictable break from the noise)

Let's go through the evidence:

- A project commissioned by Heathrow from the acoustician Ian Flindell and published in 2014 found that predicable noise relief is significantly valued by the community (1).

- Research overseen by Nicole Porter and carried out by Anderson Acoustics in association with Systra and Arup found that respite was popular, even when the noise from planes on an adjacent flight path was still audible: if it was reduced by 6 decibels, it was welcomed by 60% of those surveyed; with 85% welcoming a 12 decibel reduction (2).

- When Heathrow outlined the following flight path options in its airspace consultation 54% of people backed c), the respite option:

Please read pages 12 and 13 of the Airspace Consultation Document before answering this question. **Please select one of the options** a-c, and provide any comments in the box below. A trade-off exists between these three principles and we would like to understand which principle you prefer.

When designing airspace, Heathrow should:

a) Minimise the **total number** of people overflown, with flight paths designed to impact as few people as possible ☐

b) Minimise the number of people **newly** overflown, keeping flight paths close to where they are today, where possible ☐

c) Share flight paths over a wider area, which might increase the total number of people overflown but would reduce the number of people **most** affected by the flight paths as the noise will be shared more equally ☐

Please provide any comments you have on flight paths:

- The areas which get respite (West London, when planes on arrival switch runways at 3pm) value it.

- More areas are calling for it: over the 20 years I was at HACAN the single biggest issue in my mailbox was a call for respite in order to end all-day flying over communities.

I was privileged to have been part of Heathrow's Respite Working Party, ably chaired by Nicole Porter, which commissioned many of these studies. In our early meetings we were shocked by how little research had been done into the topic. And although we produced ground-breaking research, more work still needs to be carried out into what meaningful respite would look like.

In my view, effective respite is the big prize for both communities and airports. It gives communities a much-valued break from the noise and it could allow airports some growth without inflicting more aircraft on most of their existing communities.

Limits to Respite

Respite is fair and will potentially transform the lives of many but it has limitations. People on **the final approach** to a single-runway airport cannot get it. And it is likely to impact on some **new areas**. I have agonised over the question of new areas for many years, coming to the view they should be avoided wherever possible (they did not sign up to aircraft noise) but that, if there is no other way of giving existing communities a break from the noise, new areas need to come into play. But it will always be a very tough call.

2. Delivering on Height of Aircraft

It seems obvious: the higher the planes, the better for residents. Yes and no. It is the case for most communities but not for everybody as I detail below.

There are a number of ways to increase heights:

Choose the procedure which allows for the steepest possible departure route from the airport. There are some potential downsides to this: it could mean more noise for communities very close to the airport since planes will use greater power as they leave the runway; and when aircraft ascend more rapidly, the noise extends further into areas either side of the exact flight path. The main beneficiaries of steeper departures would be those directly under the flight paths in areas after the plane leaves the immediate vicinity of the airport. How to balance these competing interests will vary from airport to airport - for example what is right for Athens Airport, where planes depart over a community very close to the airport and then fly over the sea and so a very steep departure from the airport would disadvantage residents - may not be the answer for Heathrow.

Make best use of the new PBN routes being introduced (see page 10). These precise, dedicated flight paths should get rid of most of the conflicts with routes from other airports. This will mean aircraft won't be 'held down' by flight paths used by other airports and thus will be able to get higher more quickly. It could also allow some arrivals to be higher - for example, London City aircraft are held down both on arrival and departure because of the Heathrow airspace above them.

Introduce a steeper gradient for arrivals further from the airport. When planes begin their final descent to the airport heights are pretty much fixed but aircraft can use a steeper gradient (and therefore increase their height) further from the airport before stepping down to at least 3.2 degrees for the final approach. It is a plan Heathrow has been considering.

3. Delivering on Night Flights

One of the lessons I learnt early on was how strongly communities feel about night flights. For people who can sleep through them they are not a problem but for those who are woken up they can become one of the defining features of their lives. An end to all but the most essential night flights would improve relations between airports and their communities at a stroke. An up-to-date study is needed to assess the economic importance of night flights at all airports. My suspicion is that, perhaps apart from some intercontinental and some freight flights, most of the night flights are flown for the convenience of the operators. That was certainly the conclusion of a major report published by the European Commission (3). But it was 15 years ago. New research is required. If it shows night flights are of limited economic benefit at any airport, the Government should step in to ensure they are phased out.

At airports where there is still a case for night flights, respite at night should be introduced where possible. While preparing its detailed plans for a third runway Heathrow was looking to rotate the runway used so each community was likely only to get pre-7am flights a minimum of one week in three.   If this sort of creative thinking (along with strict enforcement of night regulations; a phasing out of the noisiest aircraft at night; and effective mitigation) became the norm at all airports where night flights continued, it would improve relations with residents, since it would help deal with one of the most contentious issues.

4. Delivering on Mitigation/Compensation

The Government's Aviation Green Paper proposed improving and standardising mitigation. This is welcome as at present it is a bit of a postcode lottery with some airports offering a lot more generous mitigation packages than others. Effective mitigation can be a life-saver for some residents, especially those nearest an airport; those on low incomes; and people without the option of moving. In my view, mitigation measures should be concentrated on areas closest to the airports (where noise levels are greatest, respite is difficult/impossible to deliver and where many people may be tied to the area because they work at the airport) and on any identifiable noise 'hot spots'. There is an argument for buying out on generous terms the worst affected properties. Heathrow was offering to do this for over 3,000 homes that would have been close to the third runway. It would be an expensive option but may be the only way some airports could even consider growth without devastating those closest to the airport. Additionally, ways of compensating those whose house prices may fall as a result of the growth in aircraft numbers over their community, even if they are some distance from the airport, would go a long way to easing tensions with local communities. I think, too, there needs to be thought given to providing mitigation/compensation on an individual basis. I'm thinking in particular of people with physical disabilities or mental health issues. Defining the eligibility would not be easy but this is where airports need to look beyond those who shout loudest to people who haven't always the self-confidence or resources to speak up. The kudos to any airport which gave a voice to the voiceless would be ground-breaking.

Combining the Measures

Let's take one area – go for a famous one: the Oval Cricket Ground in South London

At it is now:

Within the 51 decibel contour

Typically, about or over 35 Heathrow planes an hour; hovering around 4,000ft; all-day long (4); 70% of the year (i.e. on the days there is a west wind).

All the planes landing at London City when there is an east wind; no higher than 2000 feet

As it was in 2007:

HACAN published a report commissioned from Bureau Veritas (5)

32-45 Heathrow planes an hour; London City less concentrated at that time

'aircraft noise dominated the local environment…an almost constant background of aircraft noise'

What it could be like:

Respite: at least half the day without aircraft overhead

Heights: aircraft coming in at a steeper gradient raising the heights

Night Flights: possibility of just one week in three

The Potential Change-Maker

The next few years will see the biggest changes to the flight paths at airports in more than 50 years.

This will happen whether or not a third runway is built at Heathrow or growth takes place at other airports. The changes are being driven by new technology. All airports across the world are moving from a ground-based system to a satellite system to guide planes in and out of airports. New precise flight paths will be created.   It is called Performance Based Navigation (PBN).

The changes are being planned now.   The Government has set up a body called the Airspace Change Organisation Group (ACOG) to coordinate the changes at all the airports, especially those in and around London. It started work in 2019, was paused during lockdown, but is now resuming its work. As part of this process all the airports are drawing up new flight paths. It could take a few years, though, before the actual changes are in place.

If the new flight paths are done well, they could benefit airlines, airports, local communities and the environment. Done badly, local communities could be left under all-day, concentrated flight paths*.

Here are the potential benefits of PBN flight paths:

- ✓ **The flight paths will save the airlines time, money and fuel** because they will be more direct and will reduce hold-ups. At present if a plane is flying from say Hong Kong to Heathrow it uses a maze of flight paths as each country operates its own system. That will all change. Satellites will coordinate the systems so planes can fly direct routes.

- ✓ **The flight paths will also increase capacity at airports.** This is because fewer flights will be delayed en route. The new more precise flight paths also allow planes to turn more sharply after leaving the airport and so can be up and away more quickly.

- ✓ **The flight paths will cut climate change emissions per flight.** This is simply down to the fact that they will be flying more direct routes.

- ✓ **The flight paths could bring relief to communities.** If these narrow flight paths are rotated during the course of the day, people under them could get a break from the noise.

- ✓ **The flight paths will enable many planes to be higher.** At present, because there are so many airports in and around London, planes are often held down lower than they need be so as not to get in the way of planes from other airports.

- ✓ **The flight paths will mean the effective end of holding stacks.** Currently when planes arrive at Heathrow they are held in one of four stacks on the edge of London before being guided down to the airport. Under the new system of direct routes the holding stacks will no longer be required on a routine basis.

Airports are more likely to deliver on noise if the Government and the Civil Aviation Authority requires them to give noise reduction equal weight with other benefits when redesigning airspace.

* Some people are afraid that, while rotation of precise flight paths will give respite, it could be at the expense of intense concentration during the times the planes are overhead. They are right: these are the two sides of the same coin. They would prefer planes to be dispersed in a more random fashion. I don't think this is a realistic option as the notion of precise flight paths is integral to the PBN system. However, if dispersal is the favoured option of a particular community, it should be explored.

Exporting the Formula

I differ from some of my fellow campaigners (though not necessarily from most members of local communities) on whether the growth of aviation is a good thing. I believe it is. That is not to support the expansion of all airports. And it is not to argue that there is no scope for a reduction in short-haul flights (in particular) if the tax exemptions aviation enjoys were dealt with and new rail policies were developed. But consider this figure: little more than 10% of the world's population has ever flown. As poorer nations become richer, the demand to fly will increase.

Warren East, the chief executive of Rolls Royce, was spot on when he wrote this:

"For thousands of years, the exchange of culture, ideas, goods and services has been the powerhouse of human progress. Aviation has accelerated that exchange across continents, making a huge contribution to humanity and the global economy. International trade is responsible for much of the development and prosperity of the modern world". Daily Telegraph (4/2/20)

A growing and successful aviation industry is thus critical to delivering free trade, thereby increasing prosperity, in a globalised world. It is *because* it is so important that its environmental downsides and community concerns need to be dealt with.

This is the very opposite of the currently fashionable 'degrowth' philosophy. It describes itself thus: "*degrowth is about much more than just a simple decrease in consumption, living standards or material throughput of the economy. The concept also encompasses a critique of the whole modern culture of development, that is, a belief that more is always better. A core concept is sufficiency".*

Tell that to the family in Africa on the breadline, desperate to make ends meet. Tell that to my facebook friends from Uganda who are so very eager to learn and better themselves but who are struggling just to pay the fees to go to school. And who I'm sure would love the chance to see the world one day.

I would ask anybody who backs the degrowth of aviation to read this article: https://www.citylab.com/transportation/2017/11/why-is-african-air-travel-so-terrible/546422/

It argues that *"the largely empty African skies have a tangible economic impact on the people below"*; that the economies of the planet's poorest continent are missing out on more than a billion dollars in possible growth because of poor air connections.

The question then for me is not whether Africa should have more airports but whether they can be built in such as way to minimize their impact on the local communities. The answer must be to learn the lessons of Europe and to build the airports as far away from populated areas as possible; to buy out, at a fair price, anybody whose home or land is required or who would be badly impacted by the noise; and to include key measures such as respite, community engagement and first-class operational practices from the start.

References:
(1) Flindell, I. (2014). Noise Respite. What does it mean? Note for the RWG.
(2) Porter, N. (2017). Respite from Aircraft Noise: Overview of Recent Research
(3). *Assessing the Economic Cost of Night Flight Restrictions*, European Commission 2005
(4). http://hacan.org.uk/wp-content/uploads/2018/04/Corridors-of-Concentration-Report-1.pdf
(5). http://hacan.org.uk/wp-content/uploads/2007/07/hacan.flight.paths_.study_.pdf

Conclusions

- Conflicts between airports and their communities can be reduced.

- Since most people in the community are reluctant campaigners who just want their noise problems sorted, airports should concentrate on addressing local area-specific concerns.

- Airport communities are more likely to be satisfied with solutions which they help shape. This is particularly the case when change is proposed.

- The main concern for communities is the number of flights going over their area. This is why effective respite is critical. It has the potential to allow some growth at airports without imposing an undue burden on any one community.

- The height of planes, night flights and mitigation/compensation are all key issues for local communities.

- The airspace change programme which is underway at all airports has the potential to be the catalyst for bringing in respite and improved height profiles but, to ensure this happens, Government must make noise reduction is one of its key objectives.

- It is because the worldwide growth of aviation is important to the global economy that dealing as effectively as possible with community concerns is so critical.

One last lesson I learnt. Communities are looking for quick solutions. Airports, like any large company, engage in long-term, strategic planning (some of which can include community measures). But unless and until communities can see real results, they remain suspicious that the airport is ever really going to improve things. The more airports can fast-forward their plans, the better their relationship with their communities is likely to be.

Written by John Stewart
I chaired HACAN, the organisation which gives a voice to residents under the Heathrow flight paths, for 20 years until stepping down at the end of 2020. I continue to chair HACAN East (focused on London City Airport) which has been independent of HACAN for some years now. I have worked or campaigned in the transport field for 40 years and on noise issues for the last 25 and will continue to do freelance work and campaigning in these areas.

johnstewart2@btconnect.com   **January 2021**

https://johnstewartliveblog.wordpress.com/