

London's airports

Flight paths for a cloudy future

Britain has many options for providing the extra airport capacity its capital is going to need. Each has drawbacks

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WHEN an Avro Lancastrian—a modified bomber with no gun turrets and a small amount of room for passengers—became the first scheduled flight to take off from Heathrow in 1946, the airport's passenger terminal was just a row of tents. But it had plenty of room to grow. Within a year, it saw 63,000 passengers. Within five years that had grown to 796,000.

Now, with five terminal buildings (one closed at present) and 193 destinations, Heathrow welcomes 70m passengers a year. It is the world's third-busiest airport; only Atlanta and Beijing see more people come and go. And room to grow is hard to find. Limits on how, and at what time of day, its two runways can be used mean they can take no more flights. The London suburbs press up against the perimeter.

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The company that owns Heathrow has long wanted to build a third runway to the north of the existing two. The most ambitious form of such a plan, the company says, would increase the number of flights the airport could handle by 46%. But the idea is fiercely opposed by many who live near the airport. Under European Union (EU) law, big airports have to draw up action plans to manage, and seek ways to curb, the impact of aircraft noise, particularly for those people suffering average noise levels above 55 decibels (dB)—with an

extra weighting for the din of night-time flights. In 2006 a government survey found there were about 725,000 such sufferers in west London. A 2003 study by ANOTEC Consulting found that Heathrow imposed excessive noise on far more people than any other European airport.

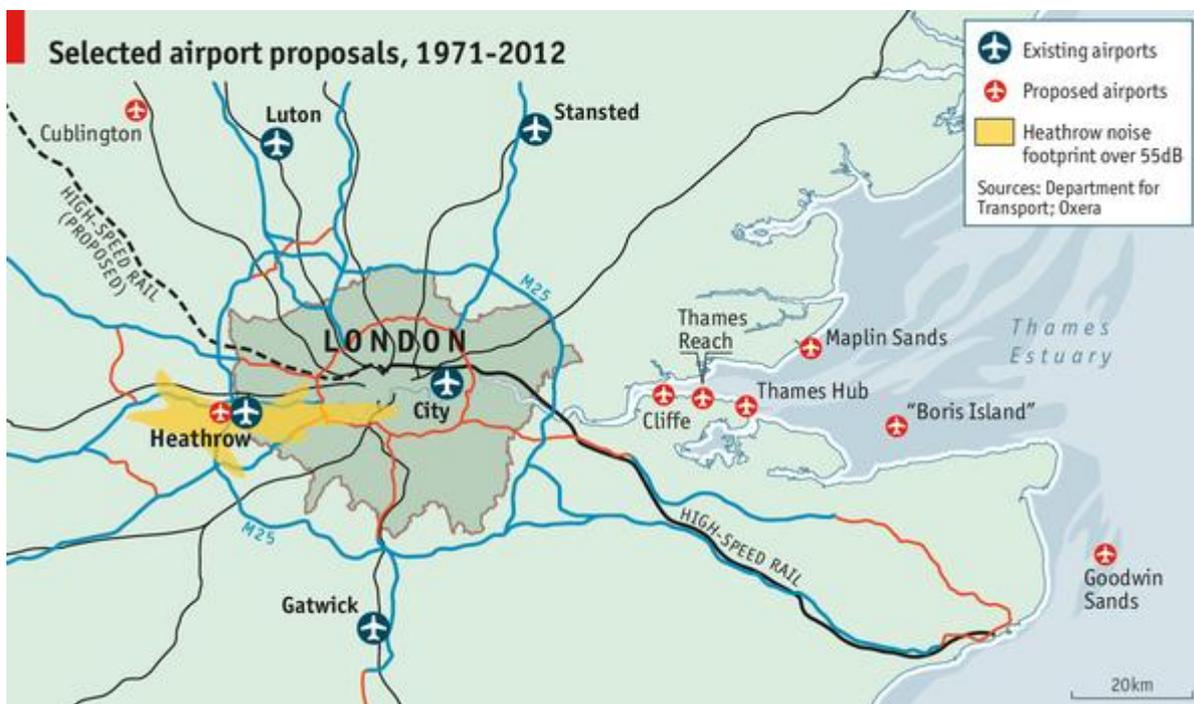
The four corners of the sky

When in 2009 the Labour government confirmed it would allow a third runway at Heathrow, it did so on the basis of no new noise; the rate at which flight numbers increased would be set by the rate at which technology made the aircraft quieter, so full use might have been delayed until 2030. But many locals did not believe this would happen. And even if it did, there would still be people under the new approaches who would suffer increased noise.

The Conservative-led coalition that came to power in 2010—and which has a number of MPs in south-west London constituencies that a larger Heathrow would disrupt—ruled out a third runway. But it has not come up with any alternative arrangement for meeting the growing demand for flights to and from London.

This has angered business lobbies, airlines and a number of MPs with constituencies far from Heathrow. They argue that London needs more airport capacity, and that in failing to say how it should be provided the government is shirking its duty.

But they do not all want to expand Heathrow. Boris Johnson, the Conservative mayor of London, is dead set against it, arguing that the extra capacity it would provide is insufficient (this opposition helped him win re-election in 2012). He would prefer a brand-new airport to the east of London built on land to be reclaimed from the Thames estuary—a project that has become known, surely to his gratification, as “Boris Island”. Lord Foster, an architect, proposes a similarly grandiose scheme, “Thames Hub”, on the edge of the estuary, complete with a barrier to generate electricity and protect the capital from floods. Gatwick, London’s second airport, has revived an old proposal to add a second runway. The list of options grows ever longer.



The government has set up a commission to look into those options. Governments have done something similar every so often for decades, as various parties have championed possible airports everywhere from Cublington in Buckinghamshire to the Goodwin Sands in the English Channel (see map). The new commission, led by Sir Howard Davies, who has run everything from the Confederation of British Industry to the London School of Economics, will report after the next general election, due in 2015 (the timing saves the government from taking a position during the campaign). The commission is busying itself looking at various issues, such as the overall economic case for expansion and ways of expanding air traffic without too great a greenhouse-gas burden. In the end, though, it will have to deliver a verdict on whether London needs a big hub, and if so, where to put it.

London is unique in having three large airports (Heathrow, Gatwick and Stansted, to the north-east) which are owned by different companies and eager to compete with each other. It would be possible to simply let them have at it, smiling on but not subsidising any expansion plans they might have. Allow the market to decide.

Many, though, doubt such competition would deliver a single dominant airport big enough to serve as a hub of worldwide importance—something they are sure the city needs. So they want to pick a winner. Some, like Mr Johnson, argue that Heathrow, even with an extra runway, cannot measure up. Heathrow, understandably, differs. And the third-runway expansion it has long talked of is not its only option for growth. A new, more ambitious proposal for four runways at Heathrow could yet tip London's perennial airport debate in a whole new direction.

Predict and provide

The case for expansion, whether at Heathrow or elsewhere, is based on the belief that more and more people are going to want to fly in and out of London, and that thwarting that desire will hurt the British economy. According to figures released by Britain's Department for Transport (DfT) in January, potential demand for flights out of Britain in 2030 will be 320m passengers a year, and in 2050 480m passengers a year. Without new capacity, the department now reckons, London's five airports—as well as Heathrow, Gatwick and Stansted there is Luton airport to the north and City airport nestled in London's Docklands—may be losing almost 13m potential passengers a year by 2030. Some of these will fly from other British airports, but across Britain as a whole, the forecasts predict that rising congestion and costs will deter 5m flights a year. By 2050 it sees London's airports losing 92m potential flights, with 35m not picked up by airports elsewhere. That is a lot of inbound tourism and business travel for an economy to lose.



These predictions are not set in stone. Before the financial crisis, the department expected a lot more growth (see chart 1). But there are grounds for thinking that the estimates may now be on the low side. The department's projections see demand for flights growing at only 1-3% a year between now and 2050—meaning that the British average of one foreign flight per person per year would rise to only 1.24 by 2030. That compares with 5% average annual growth over the past 40 years. Time and again airline traffic has bounced back from what looked like lasting declines, such as in the mid-1970s oil crisis and the early 1990s recession. This recession may be no different.

On top of the overall figures there come the concerns about Britain needing a major international hub airport—one at which a lot of incoming passengers transfer to planes bound for airports that are not served directly from their original point of departure. Airlines like hubs because they make their operations considerably more efficient. Airports like being hubs because hubs have more flights. Local users like hubs because they serve more destinations; pooling passengers from many different points of departure makes it possible for airlines to offer flights to places that would otherwise be uneconomic.

Hubba hubba

Major airports, selected

Total terminal passenger traffic, 2012



of which:

transfer passengers



Sources: Amadeus; Airports Council International; City censuses; *The Economist*

Today Europe's largest hubs are Heathrow, Frankfurt, Paris's Charles de Gaulle and Amsterdam's Schiphol (see chart 2). The continental hubs all have significantly more capacity than Heathrow; where Heathrow has two runways working flat-out, Frankfurt and Charles de Gaulle have four and Schiphol has six. This makes it easier for them to clear backlogs (a bit of snow can cause chaos at Heathrow as problems pile up), and it lets them schedule their incoming and outgoing planes in waves to make flight connections easier. Frankfurt, Charles de Gaulle and Schiphol already offer more direct flights to many of the big emerging markets than Heathrow does.

To Heathrow's owners, the need to maintain their airport's appeal as a hub in the face of this continental competition provides a strong reason for London and Britain to welcome their plans for expansion. Others, such as Mr Johnson, see the hub argument instead as a reason to start afresh—only a new four-runway airport designed with such capacity in mind will lure airlines from Frankfurt and Schiphol.



Getty Images The spirit of '46

A spoke in the wheel

There is no doubt that business travellers—who provide most of airlines' profits—prefer direct flights: just look at how much more expensive they are than connecting flights to the same destinations. But there are several reasons to take the arguments about hubs with a pinch of salt.

The first is that the number of passengers needed to make a route economical is not a given. Boeing's recently launched (but currently grounded) 787 and Airbus's forthcoming A350 are designed to make long-haul routes profitable with fewer passengers. They should thus reduce the need for connecting traffic.

Second, much connecting traffic is being sucked up by Emirates, Qatar and Etihad, three growing "superconnector" airlines based in the Gulf. They have big home airports that are being expanded with gusto. The superconnectors have modern fleets and state shareholders. Their hub airports sit nicely between most of Asia and both Europe and much of Africa. This all makes it likely that London's importance as a hub—and that of any European airport—will fade whatever airport capacity it builds, even as demand for flights to London itself keeps growing.

On top of that there is a surprising lack of evidence to support the common assumption that direct connections to lots of cities boost economic growth. Adie Tomer of the Brookings Institution, an American think-tank, says research shows that a big flow of arriving and departing passengers, rather than the number of destinations reached, is what boosts growth. A recent study of creative-industry jobs in American cities by Zachary Neal of Michigan State University found just such a result. Such studies are far from conclusive. But they do not help the argument that London's overriding priority should be to maintain a single hub.

In as much as connecting passengers do matter, splitting them between two hubs—in London's case Heathrow and Gatwick—may not be a disaster. Heathrow argues that when Tokyo opened a new principal airport, Narita, while leaving open the old one, Haneda, it lost traffic to Seoul. But Seoul's rise surely had more to do with South Korea's strong economic growth compared with Japan's stagnation. Shinchiro Ito, the boss of All Nippon Airways (ANA), says it is proving quite feasible to operate from two hubs, since they do different jobs: Haneda mostly handles passengers travelling to or from Japanese cities, whereas Narita is more of a global connecting hub for passengers travelling between Asia and America.

Gatwick could become a second hub for London. Already, 10% of Gatwick's passengers are making a connection there (compared with about 30% at Heathrow), and there is scope for increasing this. With greater capacity and keen prices Gatwick might be able to lure an entire alliance of airlines away from a congested

Heathrow. Or something more ad hoc might be possible. Some airports, such as Dublin and Milan Malpensa, have started helping passengers make connections between airlines which do not have formal arrangements for doing so, notes Olivier Jankovec, director-general of ACI Europe, an association of airports. Airports should not be content just waiting for traffic to arrive, he says; they should make new opportunities for themselves.

If one does not set much stock by the need for a single dominant hub, there is a lot of expansion possible in London's lesser airports. As well as a new runway at Gatwick one could imagine ways to make better use of Stansted. Stansted is operating at only half its capacity, in part because of poor transport links, in part because of the damage the recession has done to the tourist trade in which it specialises. With all three battling each other for long-haul routes, passengers might get better choices and lower costs.

But for some only a new hub will do. Hence the attraction of something in, or next to, the Thames estuary—a large modern airport with four runways and a plethora of motorway and high-speed rail links built in from the start (Schiphol, Charles de Gaulle and Frankfurt are all served by high-speed trains; Heathrow could be served by a new high-speed railway as well). Such an airport would have much more capacity than Heathrow even after a third runway. Its noise would be much less of a nuisance; indeed, proponents suggest it might operate all through the night.

A sparsely populated setting would also limit the effects of the air pollution that comes from planes landing, taxiing and taking off, and from the road traffic serving the airport. A study by Steven Barrett and colleagues at the Massachusetts Institute of Technology says air pollution from Heathrow is currently responsible for 50 premature deaths a year. A big Thames estuary hub, they reckon, would have a similar toll. An expanded Heathrow in an ever more crowded London would have a greater one.

And then there is the potential for renewal. Daniel Moylan, Mr Johnson's aviation adviser, says such a project could have a "dramatic effect, which would last for hundreds of years" on a region that is relatively poor and unpopulated despite its proximity to the metropolis.

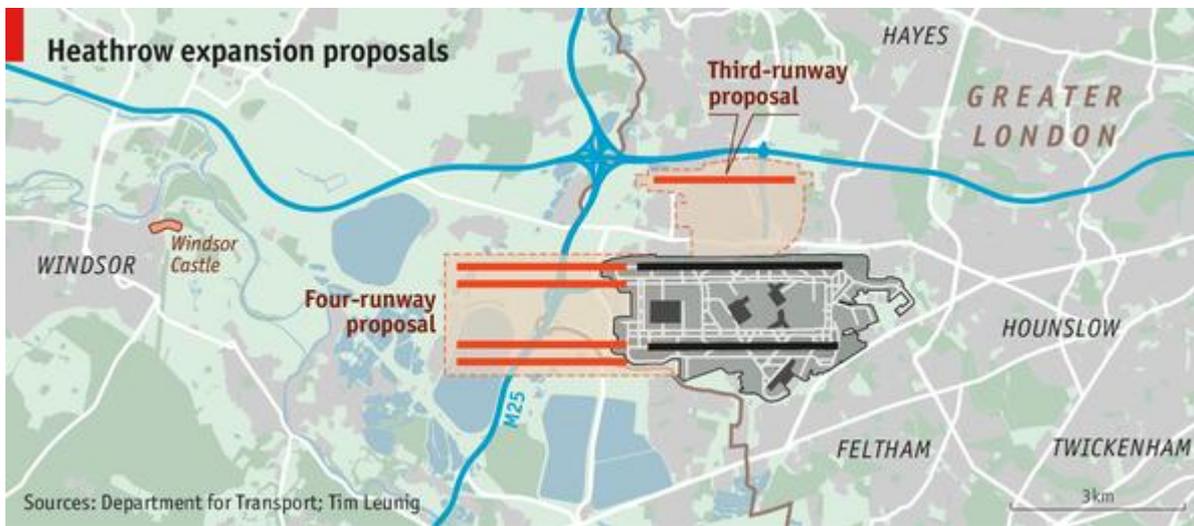
A Crossrail exodus

Such ambitions do not come cheap. A report prepared for Parliament in January by Oxera, a consultancy, reviewed various proposals for eastern airports, including Boris Island and Lord Foster's plan for an airport and tidal barrage combined, and found that they might cost up to £70 billion and require a public subsidy of up to £30 billion. Experience suggests that means at least £30 billion.

If that money could be found, though, there is another problem. For the new airport to work, the big airlines would all have to use it. But what if some choose to stay at Heathrow, which their customers know, rather than uproot themselves? There are those in the industry who remember the fiasco of Mirabel, the new Montreal airport opened in the 1970s; airlines that moved there eventually moved back to Dorval, the old airport, after Mirabel proved unpopular and hard to get to. The only way to force a move is to close Heathrow completely.

Closing Heathrow would mean losing 110,000 jobs in the airport and at the adjoining hotels and catering operations that serve it, according to Heathrow's bosses. Then there are the even larger numbers of jobs at international businesses that have based themselves in west London and the Thames valley to be close to Heathrow. If the purpose of airport expansion is to boost the economy, any proposal that forces the region's clutch of internationally focused software, biotech and business-services firms to uproot themselves and move across the capital—or face at least an extra hour's travel time for every flight—is unattractive one. In all, considering the various obstacles a new eastern hub would have to overcome, ANA's Mr Ito probably speaks for many airline bosses when he concludes: "Not in my lifetime."

Recently another plan for a new hub has been floated, though, one which would be a much cheaper proposition than an island in the Thames estuary. Instead of expanding Heathrow to the north, as current third-runway plans would do, it would extend it to the west—and build not just one new runway but four. This idea is the brainchild of Tim Leunig, an economist, and is backed by an alliance of two think-tanks that neatly mirrors the governing coalition: the conservative Policy Exchange and the liberal Centre Forum.



Moving Heathrow west would not be a trivial undertaking. It would involve covering over a 2km stretch of the M25 orbital motorway, filling in a big reservoir (and replacing it with similar water-storage capacity elsewhere) and demolishing a small industrial estate (see map). But many of Heathrow's existing buildings could be kept, and its existing road and rail links (including the new Crossrail, now under construction) would require only modest changes. The extension could take place a runway at a time as demand grew, or financing allowed. And there would be no need for a Biblical migration of workers and businesses across the capital.

Given the objections to the existing third-runway plan, though, can such ambitions make sense? Here Mr Leunig could be on to a winner. The most politically salient objections to the third runway are to do with noise. Because of prevailing winds, about three-quarters of the time planes come into Heathrow from the east, over heavily populated parts of London. Under the third-runway scheme, which extends Heathrow to the north, the number of people affected by new traffic increases, because its east-to-west final approach now goes over places that have hitherto been relatively plane-free.

Some of the people, some of the time

Under Mr Leunig's scheme the final approach is over the existing airport buildings rather than over houses. Not all planes land from, or take off towards, the east. But at the west end of the proposed new runways the land is more sparsely populated. Planes taking off to the west, or landing from the west, would have relatively few noise-sufferers under their flight paths (though one of them, who lives part of the time in Windsor Castle, has a certain amount of political pull). Expanding Heathrow would still pose an air-quality problem. But this could be dealt with at least in part by having planes on the ground towed around by electric vehicles, and by reducing the number of passengers coming to the airport by car.

Mr Leunig has asked a noise-modelling expert to do some rough calculations on how many people, in 2030, might suffer noise at all levels from 54dB to an excruciating 66dB. These suggested that his four-runway plan would have fewer noise sufferers than the old three-runway idea. This sounds promising, but it would still leave perhaps a few hundred thousand still suffering a lot of noise. Even if the net number having noise inflicted on them shrinks, there will still be some whose noise levels rise. They will kick up a fuss in a way that will matter more to politicians than the respite gained by others does. That is why only one new full-length runway has been built in Britain since the second world war.



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Moving Heathrow west sounds almost too good to be true. When asked about it, Colin Matthews, Heathrow's boss, affected not to have thought much about what would seem a dream outcome for him and his customers. But he and his staff will surely be taking a very close look at the idea. Sir Howard has said his commission will do so, too. It would probably cost a lot less than a completely new airport, though it seems likely that state aid would still be asked for. Some might even be justified.

If such an expansion were to come about, Heathrow would, in a way, have Mr Johnson to thank. In the 2010 election the choice, as it appeared to voters in Heathrow's backyard, was between a noisy two-runway Heathrow and a three-runway one they feared would be noisier still. Thanks to the interest the mayor and others have drummed up in building a new hub to the east, the coming choice may be between a bigger, and possibly less noisy, Heathrow—and no Heathrow at all.