

# Take Crossrail to Stansted

**Under pressure, the Government has backtracked on its manifesto commitment to block new runways in the South East.**  
**Michael Schabas and Brian Waters believe that an extension of Crossrail to Stansted is the best answer.**  
**Michael outlines the reasoning. The proposal is outlined on the following pages**

Michael Schabas was Vice President Transport for Canary Wharf Developments. He was a founder and director of GB Railways which operated train services from East Anglia into Liverpool Street. He consults on railways with First Class Partnerships

Brian Waters is an architect and planner. He chairs the National and London Planning Forums and edits *Planning in London*.

The debate about whether, if, how or where London is to have additional airport capacity has filled the news through the summer.

The question for London is whether to continue expanding Heathrow, or support the creation of a second hub. It's analogous with the situation in 1988, when Big Bang (financial deregulation) increased demand for office space. The City was unwilling to allow a lot of new development, although some was built (Broadgate for example). So a new financial district was developed at Canary Wharf. That was not good news for landowners in the city, including the Corporation of London. But it survived, and finally raised its game. Meanwhile, Canary Wharf has transformed east London, creating perhaps half a million jobs in the area and stimulation billions in new investment.

BAA, the owner of Heathrow, insists that a third runway is the only realistic way to add capacity and maintain London's position as a global transport hub. Of course they would say that.

Business groups seem to agree. But few politicians want to come out in favour of a scheme that would increase air traffic noise affecting west London, where there are several marginal seats.

Since he was first elected, Mayor Boris Johnson has been enamoured with building a large, four-runway airport on an island in the Thames Estuary. This would take the noise problem away. But while BAA can finance a third runway with ease from landing charges, there seems no way a new estuary airport could make any commercial sense. Airlines want to land their planes close to their passengers.

Norman Foster and Halcrow have suggested a slightly different scheme, combined with ambitious new passenger and freight rail lines, together with closure of Heathrow. This might be good business for consultants but seems unlikely to be good for London. It is easy to draw lines on maps, but Halcrow

has not presented even a conceptual business case for the massive investment. Even with a fast rail link to St Pancras, most passengers would prefer Heathrow, or even connecting through Schiphol or Frankfurt. It would be a £40 billion black hole for taxpayer's money.

Even flakier proposals have been made, to develop "split hubs", with short haul flights switched to Northolt or Gatwick, linked to Heathrow by a fast, airside train. Any passenger flying from say Toronto to Dar es Salaam who found themselves routed this way would be in the market for a better travel agent for their next trip!

Heathrow is the world's most popular international air hub, and the most profitable for the airlines, because it is at the heart of southern England, at the hub of the motorway network, yet also a short ride to central London. It's about as close to Harrods as you can land a 747.

There is as much noise as light in this debate. Everyone flies on planes, so everyone thinks they understand the industry. But few understand the regulation or economics of air travel, which are not always transparent. And groups like BAA, BA, Ryanair, and even Norman Foster have particular interests or "axes to grind".

If a second hub is to be created, where should it be? It needs to have a fast rail link to London, but also good road and rail connections to a much wider catchment area, ideally with direct trains or only one change.

Gatwick is isolated on the south side of London – anyone going there needs to cross London, or go around it, driving past Heathrow on the way. Stansted is convenient to East London and Essex, and within range of the Midlands. Its catchment area overlaps with Heathrow but for large parts of Britain it would be very competitive.

**OVERPAGE: The proposal followed by The facts, How hub airports happen and What they say about the Government's Capacity Review.**

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## Coalition sets up airports capacity review

The Government has asked Sir Howard Davies to chair an independent commission which will identify and recommend options for maintaining the UK's status as an international hub for aviation.

The Commission will:

- examine the scale and timing of any requirement for additional capacity to maintain the UK's position as Europe's most important aviation hub
- identify and evaluate how any need for additional capacity should be met in the short-, medium- and long-term

The Commission will compile an interim report for ministers no later than the end of 2013 setting out its assessment of the evidence on the nature, scale and timing of the steps needed to maintain the UK's global hub status. This preliminary report will recommend imme-

diate actions to improve the use of existing runway capacity in the next five years – consistent with credible long-term options.

The Commission will then publish by the summer of 2015 a final report, for consideration by both the Government and the Opposition. This will provide an assessment of the options for meeting the UK's international connectivity needs, including their economic, social and environmental impact as well as its recommendation(s) for the optimum approach to meeting any need. The final report will also provide the context and material to help the Government prepare a National Policy Statement on aviation for planning purposes. The government has stressed that any decision on new capacity at any existing airport or the development of new facilities will be taken by the next administration after 2015.

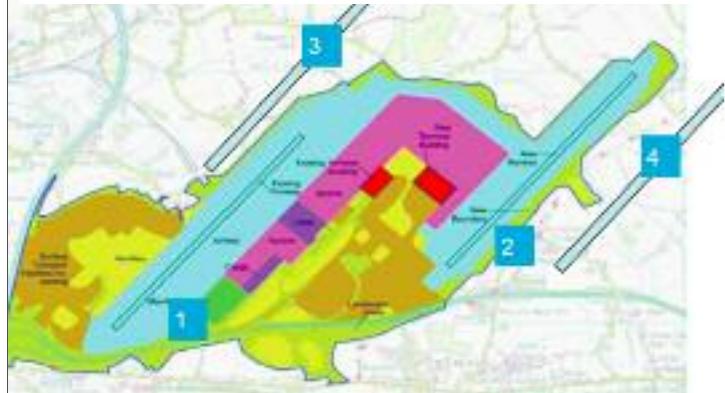
# Crossrail to Stansted: how it works

Michael Schabas and Brian Waters have worked up a proposal which can be achieved in the near-term and which makes good use of existing infrastructure investment to bring a second hub to the east side of London. They are in discussion with landowners and potential investors.

## Why extend Crossrail To Stansted?

- Links Heathrow to City and Canary Wharf.
- Canary Wharf and Woolwich developers paying for 2 stations (total about £700m).
- The line has spare capacity (although this is not widely appreciated).
- Crossrail can be extended to Stansted for about £3 billion, offering:
  - Direct services <30 minutes to Central London and <1 hour to Heathrow.
  - Same-platform Interchange to Milton Keynes, Reading, Southampton, etc.
  - Single interchange to most other destinations across south and central England.
  - Interchange to High Speed trains at Stratford and Old Oak.
  - 30 million population within 2 hours travel time and one change of train.
  - East London, Cambridge and Essex commuters also benefit from improved services.
  - Western "airtrack" extension would link Stansted to wealthy Surrey and Hampshire and with M25 "park-and-ride" access.
  - Additional rail capacity can also support "eco towns" with restricted car usage and unlock "greenbelt" lands for development.

## Stansted has space for four runways



## Crossrail extension to Stansted will cost about £3 billion

- 10km tunnel Stratford to Fairlop Waters £1.5bn
- 25 km surface railway Hog Hill to Sawbridgeworth £750m
- Upgrades to existing railway Sawbridgeworth-Stansted/Cambridge £200m
- Central London station improvements £500m
- Total cost about £3 bn.
- Alignment feasibility confirmed by Mori Macdonald study in 2002.
- Minimal property impacts: mostly follows M25.
- For comparison, High Speed (250km/h) plus three stations) cost about £6bn.



## But access is a problem

### PROBLEMS

- 50 km from London, and on the "wrong side" (furthest from West End tourist hotspots and wealthiest suburbs) – but to the East, where the Mayor wants it.
- Direct rail link to the City, but slow (48 minutes) and vulnerable to delays.
- Travel to West End requires change of train; Travel to most stations in London and SE England requires 2 changes.
- "Only" 13.5 million population within 1 hour travel time (although 30 million within 2.5 hours.)
- BAA has looked half-heartedly at incremental improvements to the existing rail line.

### LESSONS

- Success of Heathrow Express shows business and leisure travellers will use high quality rail.
- Business travellers want a fast direct train; leisure travellers will change once, but not twice.
- SOLUTIONS**
- Extend Crossrail to Stansted: 25 minutes to the City and Canary Wharf, 35 minutes to West End, and 60 minutes to Heathrow.
- Brings 30 million people within 2 hours travel time with one change of train.

## Would the airlines be attracted to Stansted?

### PROBLEMS

- Network airline alliances did not want to split operations.
- BA and BAA do not want a hub that rivals Heathrow.
- Low cost airlines do not want to finance expansion at Stansted.

Figure 20: airline concentration at Heathrow, Gatwick and Stansted			
Airline	Airport	% UK destination passengers	% of total airport passengers
British Airways	Heathrow	29	30
	Gatwick	12	14
Virgin Atlantic	Heathrow	23	25
	Gatwick	8	9
Easyjet	Heathrow	8	8
	Gatwick	17	18
Monarch	Heathrow	8	8
	Gatwick	27	30

### SOLUTIONS

- Multiple runways will give airlines scheduling freedom that is not possible at Heathrow.
- Regulator has indicated willingness to relax or remove price regulation to enable investment plan.
- Can agree long term deal with low cost incumbents – but with freedom to charge more to newcomers.
- Ambitious Asian or Gulf carriers, or maybe Virgin, can use Stansted to create their own hub – and their own alliance ... ?
- Stansted can draw interlining traffic from Manchester and even continental Europe.

## How difficult will it be to get environmental approval?

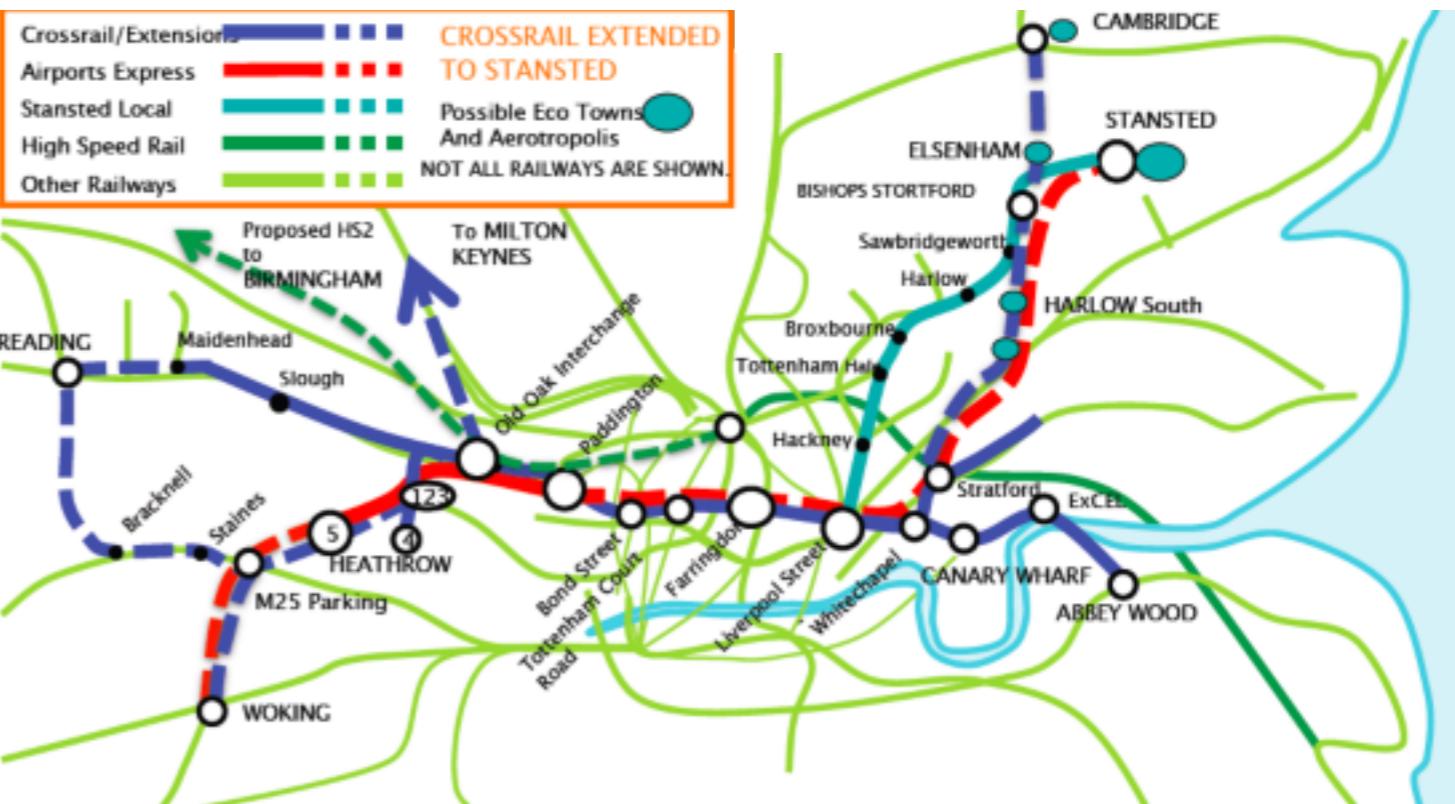
### PROBLEMS

- Some local opposition to expansion.
- Coalition Government policy against expanding existing airports.

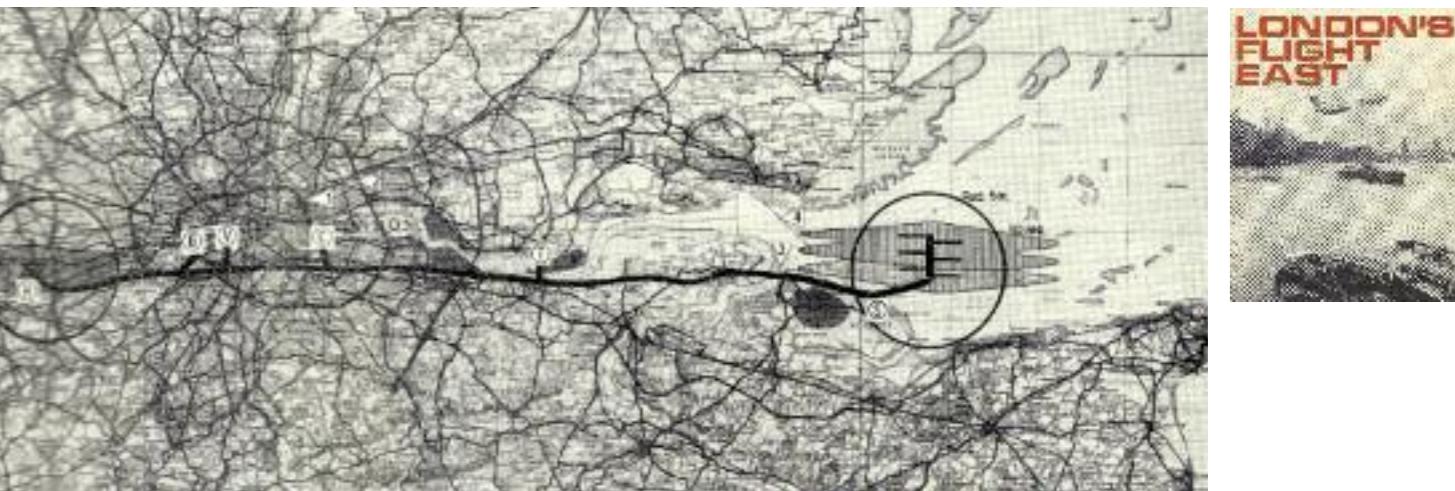


### SOLUTIONS

- Local opposition is vociferous but relatively modest – estimated 200 homes must be demolished and only a few thousand will hear the planes.
- Stansted expansion would be welcomed if it finally kills proposals for expanding Heathrow and Gatwick.
- Local support can be mobilised as Stansted expansion will create jobs across East London and fund improved rail links for local commuters.
- Stansted can commit to strict environmental rules as part of expansion (limits on parking, carbon neutrality, etc.)
- Hybrid bill process can enable all land acquisition and planning approvals.
- New Stansted owner could promote "eco-aerotropolis", on land that is already assembled.



## Other options 1: floating runways in the estuary



ABOVE: The London Airport System envisaged a dedicated railway through London linking Heathrow with an airport with floating runways off Warden Point, Sheppey. A graduate project at Cambridge by Max Boisot and Brian Waters at the time when Maplin was emerging as government policy, it was published in *Official Architecture & Planning* in 1969 and by the Conservative Political Centre as *London's Flight East* in 1974.

RIGHT: Gensler last month published another floating runway proposal dubbed *London Britannia Airport*. LBA "would position the capital as the global gateway for Europe in what would be the world's most innovative infrastructure development this century – whilst reducing environmental impact, cost and disruption to London. Providing a further endorsement to the Thames Estuary as the preferred location for London's new airport, Gensler have designed a unique solution creating an entirely new approach to modern airport design and construction with a clear focus on convenience and accessibility", they claim. The proposals also envisage a new future for Heathrow as the largest urban expansion project in Europe with the development of an eco city



## Lets get some facts straight

There is plenty of spare runway capacity in the southeast. Heathrow's two runways are full, but Stansted, Gatwick, and Birmingham operate only at 60 per cent or so of capacity. So nobody will be stuck on the ground because of capacity.

London is the best-connected city on the planet. Heathrow has the most international passengers, and is served by virtually all the big airlines with direct flights to all major centres. And when you add in flights from London's five other airports, there are more flights, to more places, than from anywhere else. Yes, Frankfurt has direct flights to more cities in Asia, Madrid has more to Latin America. But that is because they are closer. The one daily flight to Europe from the Chinese city you have never heard of lands in Frankfurt (or perhaps Munich or Vienna) because half the passengers will not want to go as far as London.

And as there is only one flight, they don't need to pay for an expensive slot at Heathrow to fill the plane. There are 25 flights each day from Heathrow to New York; if global connectivity was really a problem, some of these slots would be used for flight to places like Valparaiso and Chengdu.

Air traffic is growing and will continue to grow, despite higher aviation taxes and carbon taxes. Air travel is just too convenient, and international travel too valuable. Yes, there are groups that fly to Bratislava for a stag party, but most people going through Stansted security at 5.30am are going to work, to visit family, or to study. Air travel is good for international understanding; it's one reason we haven't had world war three.

Modern aircraft are not very noisy. If west London really was blighted by aircraft noise, homes in Putney and Hammersmith would not be so expensive. Aircraft noise can be annoying but the airport is a massive economic powerhouse,

indirectly employing over 100,000 persons. The airport has been there for 60 years, and in the last 30 it has actually been getting quieter. People live there because of the airport, and in spite of the noise. House prices in Hounslow and Chiswick would probably go down if Heathrow were to close.

There is a lot of money to be made from international air travel through a "hub airport". Heathrow slot pairs are worth £10 to £20 million, because the combination of local markets and feeder traffic means you can fill both the front and back of the plan at significantly higher fares than in Amsterdam, Frankfurt, or Paris. Airlines can charge, on average, about £20 more per passenger on flights from Heathrow, than from Gatwick or Schiphol. This is because it is smack in the middle of southern England, with good transport connections, as well as having a great network of feeder flights.

A third runway at Heathrow would release another 300 'slot pairs', potentially worth £5 billion. This is enough to pay for the entire project, and make all the displaced residents into millionaires. It would maintain London's position as the premier transport hub, and create thousands more jobs operating the planes. Some of this traffic would otherwise go to continental rivals, so there would be a benefit to "UK PLC" as well as to BAA and airlines like BA.

You can have more than one hub – see PiL 82, July 2012 where I make the case. You can have a second in the same metropolitan area, provided the market is large enough. New York's main airport, JFK, is to the east, on Long Island. But United, the world's largest single airline, has moved all its flights to Newark, on the other side of the city, where it operates what it calls its "global gateway". Washington, Tokyo and Moscow also have two hub airports. In the same way, most cities can only sustain one Central Business District, but London seems now to have three. – MS

## What they say about the Commission

### Heathrow expansion won't happen

Vince Cable says there is "formidable" cross-party opposition to a third runway. An expansion of Heathrow Airport is "not going to happen".

His comments came after the government launched a commission on how to increase the UK's aviation capacity, amid fears business is losing out.

Mr Cable told BBC One's Andrew Marr Show the value of this exercise was to "look at the alternatives".

Several senior Tories say Heathrow must expand, but others, including London Mayor Boris Johnson, oppose the idea.

### The CBI Chief Policy Director, said:

"The decision to set up an independent commission to look at how we can increase our aviation capacity is good news, and should lead to a robust and lasting solution."

"The capacity crunch is already biting for businesses, and a lack of direct links to destinations in growing markets hampers our ability to trade overseas, so this commission should look at all the options."

"Howard Davies is a good choice for the job. The commission will understandably want to take a long, hard look at this,



but we cannot afford further delays on such a growth-critical issue."

### Peter Eversden, London Forum of Amenity Societies says:

"The consultation on the Government's Draft Aviation Policy Framework was published on 12th July. This first consultation deals with noise, night flights, carbon emissions, air quality and regional airports, as well as "how the diverse interests in the aviation debate can work together and the how aviation and the planning regime interact." It ends on 31st October.

The aviation industry and the media bemoaned the delay in the more controversial part of the consultation, in which they are more interested - south east airport capacity, and perhaps a new runway or even runways. This capacity issue has been so contentious, and caused such internal difficulties for the Coalition government, that it is postponed till an unknown autumn date - probably around mid September.

The delay to the second part of the consultation is not a huge problem, but the current consultation is absolutely key, because it is the basic document which will set overall policy; if and where expansion is needed (the second paper) will fall within that framework." ■

## Hub airports don't just "happen".

The airport operator needs to do many things to make an airport suitable for hub operations, and to attract the airlines that will use it. Obviously there needs to be enough runway capacity to serve the mix of long and short haul flights, at the times that work for passengers and for airline operators. It's hard to make a hub work with only one runway, even if it is not busy at all times through the day. Successful hub airports fill big planes to fly around the world.

At Heathrow, airlines can fill 747s or the even larger A380, mostly with passengers who arrive by car or public transport. But even Virgin and BA need feeder flights. This is why Virgin is now operating 3 flights a day from Manchester to Heathrow. In the past, they could partner with BMI, but now this has been bought by BA. You can't rely on your competitor to give you good prices on seats on feeder places.

At Frankfurt and Schiphol, often more than half the passengers on a long haul flight have a connection on a feeder flight. KLM actually set up its own subsidiary, KLM Cityhopper, to feed long haul flights with passengers from across northern Europe (including Britain).

The dominance of Ryanair at Stansted actually makes it hard for a hub to develop, because competition from Ryanair would make it harder for a long haul airline to sustain a feeder network.

The airport also needs to be a nice place, especially if you might need to spend three or four hours waiting for a connection. When United moved from JFK to Newark to create its new hub, it completely rebuilt terminal C. Besides a large business class lounge with an open bar, there's an upmarket Steakhouse and an Oyster Bar. These restaurants may not be profitable on their own, or able to pay the same rents as shops selling perfume, DVDs or jewellery. But a hub airport operator manages the mix because this is essential to attract the best mix of airlines.

Airports employ thousands of passengers, as a general rule about 1,000 for every million annual passengers (so one for every three daily passengers). This means that there are often more daily ground trips to an airport by workers than by passengers. Because they often start very early or finish very late, few staff use public transport, most driving to long-stay staff carparks, then taking a shuttle bus into the terminal. Worker commuting is a major generator of air pollution and traffic congestion.

If Stansted is expanded into a global hub, it will need another 50,000 workers. Why not build a new town, next to the airport, with good 24 hour public

transport to all parts of the airport? This could be a true eco-town, because most residents would not need a car to commute - indeed they would not want one. In effect, they would already live in the staff car park. Of course, people would not want to live in a "company town", but places like Crawley (for Gatwick) and Staines and Southall (for Heathrow) are already dominated by airport workers. A "Stansted New Town" would have fast rail links into central London, so it could also attract city workers, who also would not need to own a car. Of course, the town would need to be built in land that is currently Greenbelt. It could be authorised on the basis that there would be NO resident car parking. There would need to be access for service vehicles, and there could be car-sharing so residents could take the kids to visit grandparents, etc.

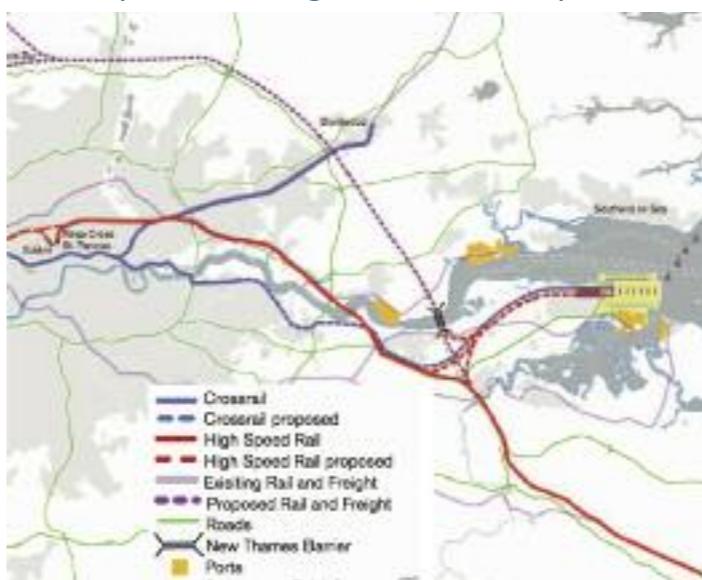
### To have a viable, profitable hub airport, you need

- at least two runways and 30 million passengers per year, with a mix of local and long haul flights. Gatwick's new owners are trying, but with only one runway, it is difficult to match feeder and long haul flight times. Budget airlines like Easyjet and Ryanair, which dominate Gatwick and Stansted, arguably make it harder to create a hub because they occupy so many slots already, and will cannibalise any feeder traffic.
- excellent transport links to business and leisure destinations ("Harrods", ideally) for the inbound traveller, and from the Home Counties for the outbound traveller. Even with excellent rail links, about half of passengers are likely to arrive at the airport by road.
- a large pool of workers nearby, to do all the support jobs. For Heathrow, this is Slough and Southall; for Gatwick, it is Crawley.
- excellent terminal facilities.

BAA had little incentive to develop Gatwick and Stansted as rival hubs. And it was easy for them to make sure it didn't happen, just by not trying very hard. Now that the Competition Commission has forced their sale this may change. Landing charges at London's main airports have been regulated by the CAA to provide a reasonable rate of return but not creating any real incentive to develop facilities.

Local economies benefit from having a hub airport nearby. The Thames Valley is home to many global high tech companies. Few will locate in Kent or Essex, because they are remote from a hub airport. Will more flights to Heathrow help the Thames Valley, or does it already have all the air access it needs? Would Eastern England benefit if a second hub was created at Stansted? – MS

## Other options 2: integrated estuarial airports



Foster & Partners with Halcrow (LEFT) have given a high profile (See Fosters' Huw Thomas article in *Planning in London* 79) to a variation on the 'Boris Island' idea which, in turn, is based on the Bluebase project by Mark Willingdale and published in PiL 60 (January 2007) and the A/ in 2003 (BELOW).

