

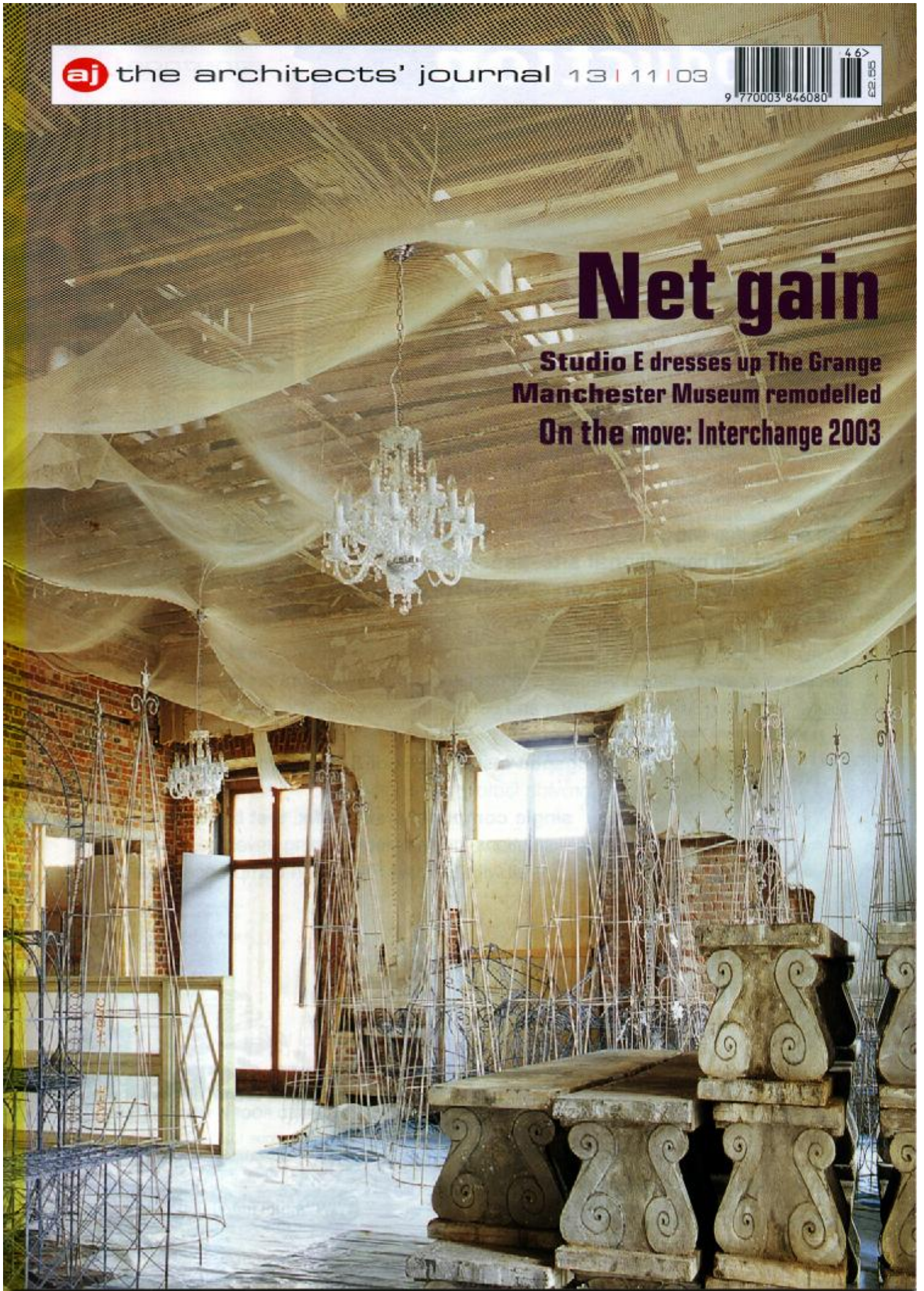


the architects' journal 13 | 11 | 03



Net gain

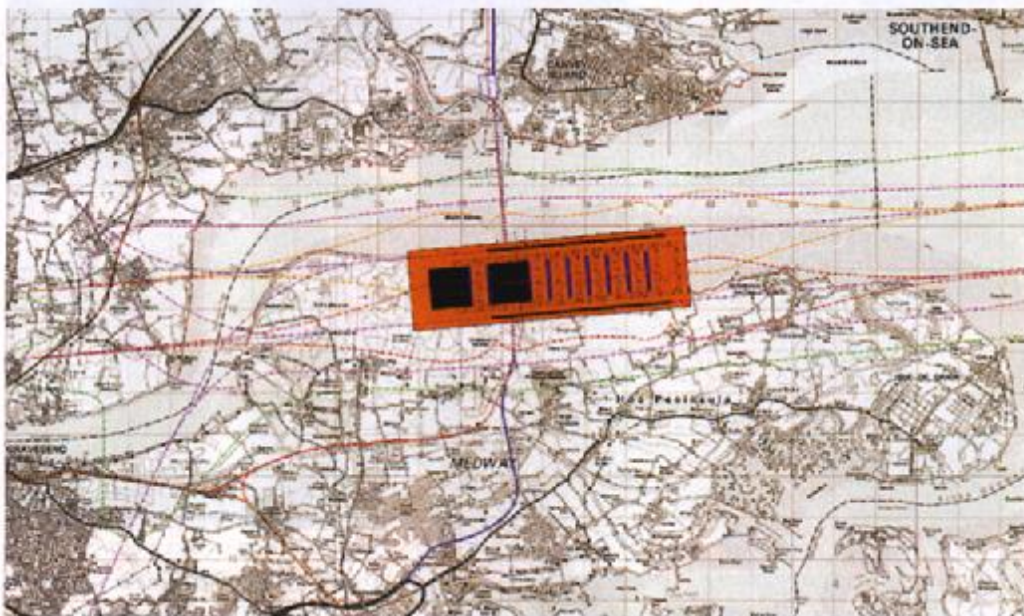
**Studio E dresses up The Grange
Manchester Museum remodelled
On the move: Interchange 2003**



Environmental Hoo-ha

Little publicised plans for a new airport in the South East compare favourably with other, more contentious proposals

BY LIZ BAILEY



A proposed airport at Thames Reach in Surrey could spare travellers time and misery and save the taxpayer a lot of money, while still protecting the environment.

The scheme, for a compact, modular airport and integrated transport hub, compares very favourably with other proposed schemes – additional runways at London's three major airports, for instance, or other new builds. Yet Thames Reach Airport Consortium (TRAC), developed by Clerkenwell-based architect Bluebase, has received little attention despite its many – seemingly obvious – benefits.

Bluebase's proposal focuses largely on environmental concerns. The airport, on the Hoo Peninsula, would have a tiny physical footprint: only 11km². It would have no check-in facilities but would instead offer in-train check-in, as when the Eurostar used to have on-board passport control.

The airport would be designed on the 'gill system', arranging gates orthogonal to runways to enable passengers to get to planes, and planes to runways, more quickly. Underground people-mover systems to convey pas-

Plans for a new airport and integrated transport hub at Thames Reach, east of London, would affect just 20 homes and leave maximum marshland undisturbed for migratory birds

sengers from one end of the airport to the other are planned.

Planes would take-off and land over the Thames Estuary, admittedly disturbing birds, but this is considerably preferable to disturbing humans. The airport could therefore operate all day, every day, as even night flights would disturb few.

Since it was built on thinly populated, low-grade, flood-risk land, rather than Green Belt or prime countryside, developers would reclaim 1km² from tidal mudflats and raise the remaining 10km² on the marshes, thus leaving maximum marshland undisturbed for migratory birds. Thames Reach would affect 20 homes and no listed buildings.

To reduce the environmental impact, a proposed transport link, the Lower Thames Tunnel, would provide the only access to the airport. The airport and its tunnel would use locally generated wind, wave, tidal and solar power.

Spoil from the tunnel and terminal buildings would raise the site six metres above the level of the marsh. A perimeter consisting of a hidden moat or 'ha ha' would provide security and drainage.

The airport would form the centre of an integrated transport hub for the South East, replacing the current radial road system with the tunnel, which Bluebase has modelled on the Øresund Link between Denmark and Sweden.

The tunnel would carry road and rail transport plus utilities and services directly under the airport site. Sections would accommodate a two-track rail link, an eight-lane highway and two service roads, plus high-power lines; gas, water and aviation fuel pipelines; and telecoms.

The highway would provide dual-carriageway access to the new airport and would link the main radial arteries north and south of the Thames, without adding traffic to the M25. The rail tracks, including a six-platform station, would link the airport with central London, Crossrail (assuming it goes ahead) and the new Eurostar terminal at King's Cross.

Cliffe hanger

TRAC's benefits seem pretty straightforward when compared with adding additional runways at Heathrow, Stansted or Gatwick, and even the government's own stalking horse further east along the Thames at Cliffe. More runways would affect hundreds of homes and a score of listed buildings. Proposals to increase the number of night flights at Heathrow currently face huge opposition from local residents.

Heathrow, Stansted and Gatwick already face enormous competition from Paris, Amsterdam and other European airports with strong links to a country's high-speed rail network. Thames Reach could well return the challenge. Also, Thames Reach's gill layout provides what Bluebase calls 'comparative proximity' – nearness of passengers to planes and of planes to runway. Comparative proximity would save passengers, and airlines, time and money.

At Heathrow, passengers may face lengthy taxi, train or bus rides from terminal to terminal, and signs saying 'Please allow 25 minutes to reach your gate' once through security and passport control. Bluebase architect Mark Willingale says: 'Even something as recently designed as Stansted only has a one-gill system, and you ride a little noddy train to get to it.'

Matthias Hamm adds: 'The two-terminal gill layout would also mean the airport at Thames Reach could develop incrementally as demand rises, unlike the government scheme, which requires huge investment up front.'

TRAC is not without its drawbacks. The scheme relies totally on building the proposed tunnel first, and indeed on Crossrail going ahead, both of which would require private sector confidence to be high. 'That would need stronger government backing than has been forthcoming for poor Crossrail,' says Willingale.

Also, the Hoo Peninsula is home to many wetland birds, and an airport would both risk 'bird strike' (birds sucked into plane engines), and threaten the birds' habitat – as it would at Cliffe. A DfT study of birds at Cliffe Marshes says an airport operating on the Hoo Peninsula would face 'severe risk'. 'Without a comprehensive and aggressive bird management programme in place,' reports the study, 'an airport could not operate safely in this area.'

Risks can be managed, however, and Hamm thinks the risk to and from birds may be overstated. Gulls now feed on domestic rubbish in several nearby landfill sites, he says,

'The airport at Thames Reach could develop incrementally as demand rises, unlike the government scheme'

**Matthias Hamm,
Bluebase**

but all are due to be closed in 18 months. And Bluebase has consulted with an American firm that uses a laser-based system to frighten birds away from runways.

'Sorry for the delays'

Bluebase must now await the rather overdue White Paper from SERAS (South East Regional Air Services), the DfT group consulting on the future development of air transport in the UK.

SERAS has appraised the various proposals for expanding airport capacity in the South East based on many factors, including safety, economic sustainability and value for money, commercial viability, environmental factors including noise and biodiversity, accessibility and integration with local and national strategic aims.

Could this inexpensive, environmentally friendly bid win out over those backed by vested interests? No one in government will say, at least not before the publication of the White Paper – due out by the end of this year.

A Treasury spokesperson says: 'This may be something they [DfT] discuss with us once it comes nearer to making a final decision, but it's an

issue for them at this stage.'

A DfT spokesperson says: 'The secretary of state for transport [Alistair Darling MP] said he would consider carefully all worked up alternatives,' adding: 'Transport links will be an integral part of any future development of air transport in the UK and they will be given appropriate consideration in the White Paper.'

TRAC has already come through SERAS' economic appraisal model very well, says Willingale. He thinks, however, that TRAC would come top of the list were the model to take greater account of Thames Reach's potential for night flights and wider infrastructure benefits.

Many people want the Thames Reach proposal taken more seriously, and say the taxpayer should probably cross its fingers that TRAC gets high marks. As Willingale puts it; 'Thames Reach puts a thumping great airport at the end of the Crossrail line.'

Hamm adds. 'With Crossrail, this is the "killer app", Thames Reach could be the Olympic airport!'

Liz Bailey is a freelance journalist specialising in technology matters. Email lizzie@lizzie.net.
For more information on TRAC visit www.bluebase.com/airport

Transport, Engineering and Architecture

By Hugh Collis. Laurence King, 2003. 240pp. £50

This book sets out to document the state of transportation architecture in the past 30 years or so, but is a thinly veiled monograph of Arup, writes Pieter Peipendorf. It was Ove Arup himself, we are told on page eight, who was one of the first designers of the modern era to recognise the value of synergy between architects and engineers, 'breaking with the post-war "culture of mediocrity" in transport architecture, where engineers were concerned mainly with cost and speed of construction, and architects produced utilitarian and, in many ways, uninspiring buildings'. The book, therefore, takes the opportunity to explore the past few decades, during which time, the thesis goes, the drift towards unimaginative design was halted.

The architects' credits for each scheme are tucked away at the back of the book, so as not to detract, it seems, from the engineering. Not, unfortunately, the most synergetic relationship between the two professions that was promised in the opening chapter. So in the St Pancras chapter, the architecture barely gets a look in. The St Pancras proposals are discussed in some depth, and the complex story of the logistics and complexity of the scheme appears, to the author, to excuse the fact that there is little to be said for the architecture. Mind you, the images are early stage renderings and the logistics are truly fascinating, but the chapters are too short to convey the whole story. The book is neither one thing or another.

There are some great schemes to show how 'design', in its broadest

sense, has become an acceptable feature of the construction process – especially noticeable in infrastructure projects – where the benefits of what might otherwise have been considered additional, costly or 'unnecessary' design flourishes have become the norm. Designs for Chek Lap Kok or the CargoLifter Airship Hangar, for example, are breathtaking in their scale, but also in their aesthetic considerations.

The case studies are a mixture of scales. Hanover Light Rail Stations, designed for the hosting of the World Expo in 2000, for example, are no more than bus shelters, or seats for five or six people at a time. These have been carried out imaginatively with a consideration of materials and textures that lift these structures out of the ordinary. From pebbles to patinated copper, from glass to timber, the fact that the commissioning authority had predicted over twice as many visitors turning up as the 18 million that actually did must have been a factor in raising the money to get these schemes off the drawing board. (It is nice to see that Lottery-style business plan cock-ups happen in mainland Europe, too.)

Generally, if this book had been a critique or explanation of the real relationship between engineering and architecture, the writing would not have been incisive or intelligent enough to carry the argument. Fortunately, this is simply an Arup coffee table book and so the text just about makes it. The poor resolution of many of the photographs is an extra shame, because it means that the weak text is not abetted by the rather grainy images. I recommend, however, that it be placed in every brand-spanking new, glass and steel railway station waiting room to while away a few hours when waiting for the decrepit services to arrive.