

1.0 Inner Thames Estuary Feasibility Studies

Heathrow has input on each of the four feasibility studies being undertaken on the Thames Estuary. This is informed by either the potential and inevitable impacts on Heathrow itself or on our understanding of similar aviation questions. We are therefore highlighting a number of pieces or sources of evidence which are relevant to the Commission's assessment. We agree with the proponents of an Estuary airport of the need for the UK to seriously address the need for additional hub airport capacity.

Yet we see significant issues with the feasibility of such a Thames Estuary scheme. Environmental / Natura 2000 impacts will need to be considered in terms of multiple legal hurdles and recent rulings which will be almost insurmountable obstacles given the likely impact on protected sites.

We see the operational challenges of moving the main hub as far greater than is often asserted. At the same time, some of the operational benefits for competitiveness, such as a significant increase in night flights are greatly overstated. The socio economic impact around Heathrow in west London and the Thames Valley would be devastating – equivalent to the closing of the London Docks. Surface access for an Estuary airport could only be made to work with huge additional investment, which would run against the grain of the UK's transport network and the current distribution of people and business.

1 Heathrow's perspective

Heathrow is the UK's hub airport. In 2013, 72 million passengers and 1.42 million tonnes of freight passed through Heathrow. 82 airlines operate from Heathrow serving 180 destinations in 85 countries. 125,000 jobs are either directly or indirectly dependent on the airport. It is also a major transport interchange. Heathrow is well served by the strategic road network and has the UK's largest bus and coach station. It is directly connected to the London Underground network via the Piccadilly line and benefits from a premium express rail link to central London.

Building a new hub airport in the Inner Thames Estuary would require Heathrow to close and hub operations to move over 50 miles to the new siteⁱ. Closing an airport the size of Heathrow is without international precedent and would result in 125,000 people either losing their jobs or relocating to the new airport. 22% of the local employment is dependent upon Heathrow.

For most UK passengers, a hub airport to the east of London would be in the wrong place. Travel times would increase for almost 90% of hub passengers, with the average journey time increasing by 30 minutesⁱⁱ.

The additional travel time cost would be equivalent to cancelling out all the benefits of reduced journey time delivered by High Speed 2 (HS2). Even with major new transport infrastructure for the Thames Estuary, Heathrow would still be more convenient for passengers, with over 4.5 million more people living within a 60-minute travel time than the other optionsⁱⁱⁱ.

A hub airport to the west of London is the best location for the UK's hub. The current centre of UK economic gravity is to the west of London where highly productive clusters in industries like IT and pharmaceuticals have grown around Heathrow over the last 50 years. 202 of the UK's top 300 company HQs are within a 25-mile radius

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of Heathrow. This compares to only two around the Thames Estuary^v. The Thames Valley has 60% more international businesses than the national UK average, 100% more US businesses and 260% more Japanese businesses^v. Foreign owners of firms with HQs in the Thames Valley also employ up to 75,000 workers elsewhere in the UK^{vi}.

2 Environmental / Natura 2000 impacts

In the absence of detailed ecological and other evidence, it is not possible to give any robust view on whether an inner Thames Estuary proposal would actually be able to show that there are no other alternatives and satisfy the “imperative reasons of overriding public interest” and compensation requirements laid down by EU legislation, in particular, Article 6 of the EU Habitats Directive.

Any such proposal would, in our view, face a difficult task in securing development consent without creating an adverse effect upon the integrity of the conservation objectives of European protected sites under the Habitats Directive. Recent European case law (C258/11 – *Peter Sweetman and Others v An Bord Pleanála*) points to the difficulty in such a project being allowed to proceed if enhancement of habitats elsewhere within the site cannot be achieved.

Even if it can be shown by those promoting an inner Thames Estuary proposal that there is no other alternative, another major obstacle to a Thames Estuary airport proceeding would be the difficulty in adequately compensating for the habitats involved if there is no space in the region on which to recreate a wetland habitat of a comparable size to that lost. It will be necessary to demonstrate that the same population of birds could be accommodated by virtue of the compensatory habitat as is currently the case on the protected site. The compensation should fulfill the same function as the designated site in relation to the nature of the habitats that it provides and the species which it accommodates. In this respect, a location some distance away would be unlikely to be sufficient to ensure that the function of the designated area was replicated and, therefore, that the overall coherence of the network of designated sites was protected. Provision is necessary for comparable proportions of the habitats and species negatively affected and the general principle is that the local conditions necessary to reinstate the ecological asset at stake are found as close as possible to the area affected.

In terms of how much compensation habitat would actually be required, this will obviously depend on a detailed ecological study and we await sight of the steps proposed by those promoting the inner Thames Estuary project to limit damage and provide compensatory habitats.

In general terms, it appears that the Habitats Directive would usually require at least an equal amount of additional habitat to be created as the amount of habitat lost, within reasonably close geographical proximity and in the same Member State and bio-geographical region, so that it could fulfill the same ecological role as the lost habitat. Government policy is also to adopt a ‘no net loss’ approach, compensating in quantitative and qualitative terms for loss of a site. This would depend upon the extent to which the protected species could be accommodated elsewhere, what existing areas of unprotected habitat of the same type existed nearby, and the overall potential for conservation status of the protected features concerned to become or remain favorable in the long term.

In terms of timing, applying relevant guidance which suggests that any new compensatory habitat would need to be both provided and functioning (so as to have achieved a sufficient quality) *before* the existing habitat could be lost, we question whether the inner Thames Estuary proposal is capable of achieving this.

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3 Operational feasibility and attitudes to moving to a new airport

3.1 Moving the airport

The operational challenges in moving an airport the size of Heathrow to a new location are immense. There are the operational considerations of maintaining a functioning hub airport and the impact that the disruption will have on the UK economy but also the operational challenges in moving the vast array of technical equipment to the new location and the societal implications of moving the workforce. There is also a huge commercial challenge that would only partially be met by forced closure of Heathrow.

There is no precedent for moving an established international hub airport the size of Heathrow although many are quoted. Hong Kong airport was less than half the size (28.6 mppa) of Heathrow (72 mppa) when it moved from Kai Tak to the new Chek Lap Kok airport in 1998. During a seven hour window over 1,000 vehicles, fleets of barges and aircraft were used to transfer the technical equipment 23km in an overnight move. An important difference between Hong Kong and Heathrow is that both businesses and employees were able to stay in the same central location.

In 1992, Munich airport moved 14 km from Riem to Erding. With annual passenger traffic of 12 million passengers per annum, a total of 1,600 trucks, flatbeds and other special vehicles were used to transport the airport's inventory to the new location. Some 5,000 personnel worked overnight to put hoists, baggage carts, aircraft tugs, passenger stairs and other heavy ramp equipment into position at the site of the new airport.

A more recent example of transition occurred in Durban, South Africa in May 2010. Durban International Airport handling less than 5 million passengers per annum was relocated 35km away to the King Shaka International Airport.

Berlin Brandenburg Airport provides a further example of the unforeseeable risks in replacing a major airport. Berlin Brandenburg Airport was planned to become Berlin's new airport, replacing Tegel and Schönefeld airports. The decision to build a new airport was made in 1991, and preparatory construction work began in 2003, with the new airport planned to open in 2010. However, it has experienced a series of significant technical failures and delays, and is now not expected to open until late 2016 at the earliest.

As these examples illustrate there is a huge practical challenge to relocation. Perhaps with sufficient public subsidy and careful planning these challenges could largely be met. However there are further operational implications that are harder to mitigate with such a move. These should be considered in detail by the feasibility work. They include:

1. Decline of operational investment at Heathrow prior to a move. The economic and consumer rationale for investment in improving the Heathrow operation would be less in the years before a closure and move. This will have operational impacts on Heathrow's operation and thus resilience and passenger experience. It could potentially damage Heathrow's attractiveness for globally mobile carriers at precisely the period when they need the maximum reason to build UK operations to support the costs of a new Estuary airport.
2. The most practical way operationally to reduce the risks of a move on the scale described above would be to phase the moves. This is precisely the approach we have adopted after Terminal 5 opening for all our airline moves within the airport. This would involve stretching moves over months or years from Heathrow to the Estuary. The operational result will be a split hub for a sustained period of time, again damaging London's competitiveness at precisely the wrong time.
3. A move on this scale and over this distance will place very significant burdens on the airlines just in the operational move activity. It must be remembered that airlines are private companies facing strong cost pressures. Rather than invest further in moving to a new location they will at the margins have the alternative of moving business to other hubs – undermining the very argument for a new Estuary airport.

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3.2 Operational advantages of moving

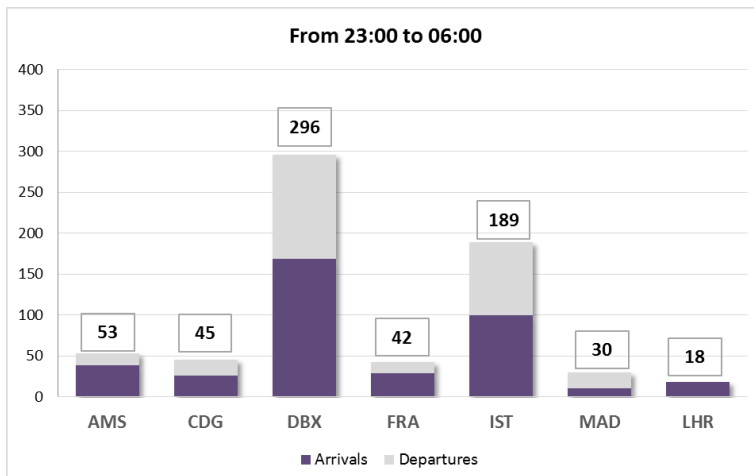
An important consideration of the practical operational feasibility and desirability of moving the UK's hub is the operational benefits a new airport might provide given the constraints on Heathrow or other options at existing sites. These benefits are often overstated – in particular the benefits of being able to offer night flights for 24 hour operation, additional ATM scale and freighter operations.

3.3 Night Flights

We have undertaken analysis of night flight schedules between 2300 and 0700 at our competitor European hub airports of Amsterdam Schiphol, Frankfurt, Madrid and Paris CDG. We have also included Istanbul and Dubai in our analysis.

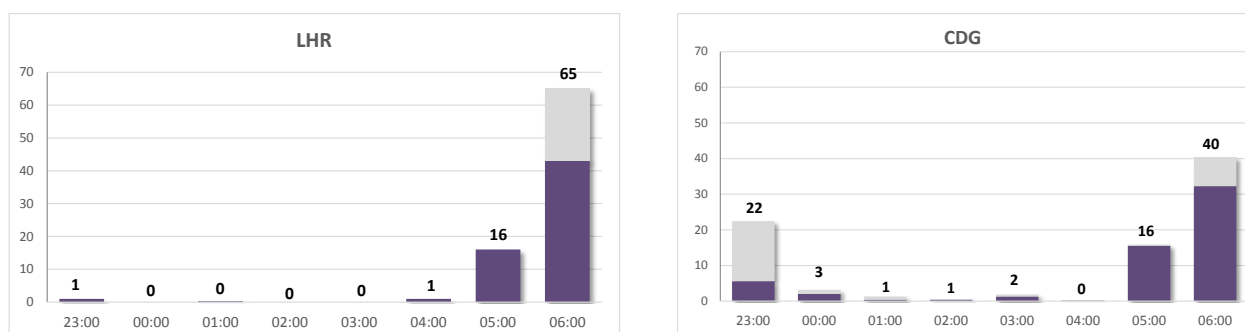
Our analysis demonstrates that 24 hour operation is not critical for a successful European hub airport. Each of the European hubs has a similar night flight profile with typically very few or no operations between midnight and 0500 and in the cases of Frankfurt and Heathrow very few or no operations from 2300 to 0500. Flight numbers increase at all the European hubs from 0500

Figure 3.1: Total scheduled operations between 2300 and 0600 at selected airports

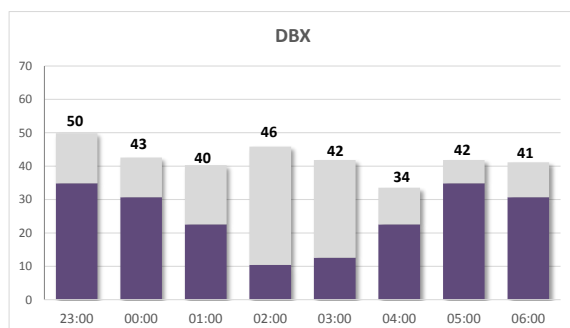
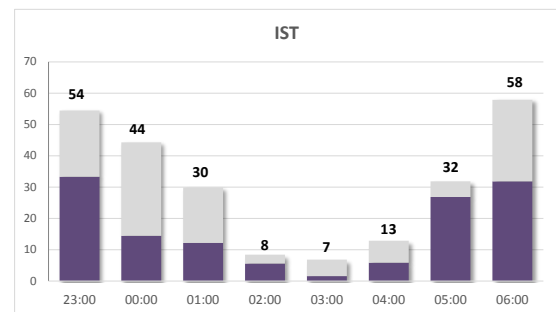
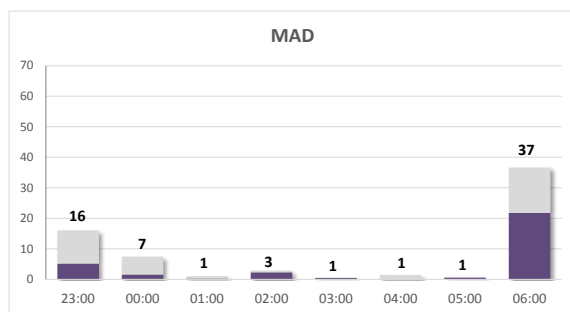
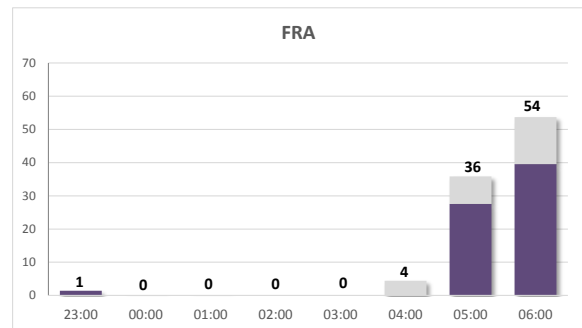
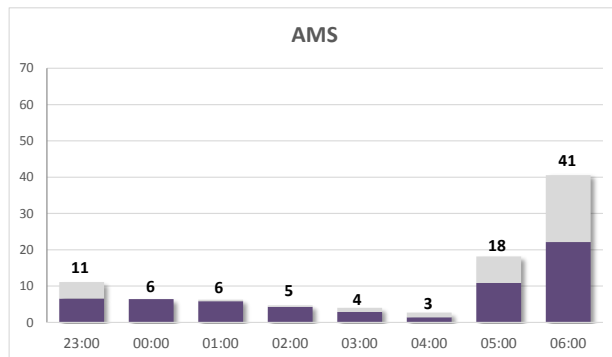


All the European hubs other than Heathrow, and to a lesser degree Frankfurt, have a formal curfew on night flights. If night flights were operationally critical to be competitive they could operate at airports like Amsterdam. Yet all the European hubs show a similar night flight profile where there is a 4-5 hour period where there are little or no scheduled operations. If freighter only flights are removed and only passenger flights considered this is even starker. It is the 0500 and 0600 period when flight numbers really pick up as Europe wakes up. This aligns with common sense test of when travellers most wish to travel – i.e. to start or arrive in the morning. Dubai and Istanbul show different profiles reflecting their geographic location further to the east. For these hubs, to arrive or leave either Europe or Asia during the working day, there needs to be landings in the middle of the night to allow transfers.

Figure 3.2: Number of flights by hour from 2300 to 0700 at selected airports



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Our analysis suggests that even without any curfew or restrictions, there is no demand across western Europe for flights throughout the night. So whilst a new airport in the Estuary may be able to offer 24 hour operation, there is unlikely to be demand and it is therefore not an operationally significant consideration for moving to an Estuary Airport.

3.4 Freight operations

Another import aspect of hub airport operations is freight. Estuary proposals are often claimed to allow the operation of dedicated freighter flights and thus, it is argued, they are superior. Similarly it is claimed that multi-modal transfer to surface shipping becomes operationally possible with a move. We believe the feasibility assessment should consider actual evidence for either of these claims from global aviation. Neither is borne out by reality worldwide.

Dedicated freighter operations do use hubs where there is spare capacity. However the big centres of such operations tend to be dedicated airports – Memphis, Leipzig or indeed East Midlands in the UK. That reflects the nature of freight carried this way – high volumes of a similar nature from one point to another, predictable, sustained and slightly more cost sensitive. Classic examples are mail cargo or seasonal pre-Christmas rush shipments from major manufacturing regions. The cargo carried through hubs tends instead to be extremely time sensitive,

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less predictable and in smaller batches year around. Examples would be medical samples or critical manufacturing parts. Thus there is limited operational benefit in having dedicated freighters at the same airport as hub freight.

Modal transfer to shipping is even less operationally important. This is heavily influenced by the nature of the products carried. The very reason shippers will pay for expensive airfreight – primarily speed – precludes shipping part of the journey by sea. Even where major hubs sit in proximity to the world’s leading ports – such as in Amsterdam/Rotterdam, Hong Kong or Dubai there is very limited transfer of this sort.

3.5 Scale

We outlined above the scale of an operational move of the hub. One claim is that only a new airport can offer the scale in terms of air traffic movements (ATMs) required to compete operationally. In considering this aspect of Estuary operations we would urge a careful analysis. Once the impact of closing Heathrow’s two runways and London City’s one runway were factored in, a new Estuary airport might only add one extra runway’s capacity compared to today. This should allow something of the order of 1,000,000 ATM capacity in one location for the commercially and operationally viable periods of the day.

Figure 3.3: Comparison of Euro hubs

Hub airport	Flight Capacity	Percentage Full
HEATHROW (2 RUNWAYS)	480,000	98%
HEATHROW (3 RUNWAYS)	740,000	64%
PARIS	700,000	73%
FRANKFURT	700,000	70%
AMSTERDAM	650,000	67%

However comparisons to other leading hubs suggest only around 700-800,000 ATMs provides a strongly competitive hub in today’s world aviation market. At this level we estimate a European hub, for example based in London, can provide direct, frequent connections to at least 70% of world city GMP and well over 90% of the world GDP. There are a limited number of other points to fly to over this scale – offering more marginal gains. This partially explains why only a handful of hubs, such as Atlanta, seek or provide more than this capacity. In Atlanta’s case, this is explained by US geography and Atlanta’s nature as a domestic travel dominated hub – it has very many small aircraft connecting a much dispersed regional population.

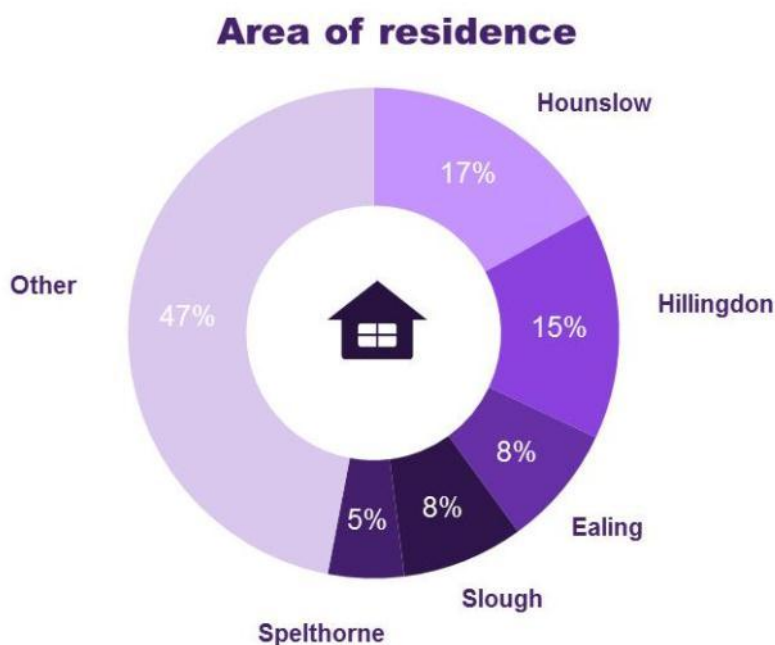
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4 Socio-economic impacts

4.1 Heathrow Today

Heathrow is one of the largest single site employers in the UK. In 2013, 413 companies employed 75,780 people at Heathrow^{vii}. Over half (54%) of the Heathrow workforce live locally within the five local boroughs of Hounslow, Hillingdon, Ealing, Slough and Spelthorne. Figure 4.1 provides the breakdown by borough:

Figure 4.1: Employee Distribution



There are a further 50,000 jobs indirectly supported by Heathrow bringing the total jobs reliant upon Heathrow to over 125,000^{viii}.

4.2 Impacts on Jobs

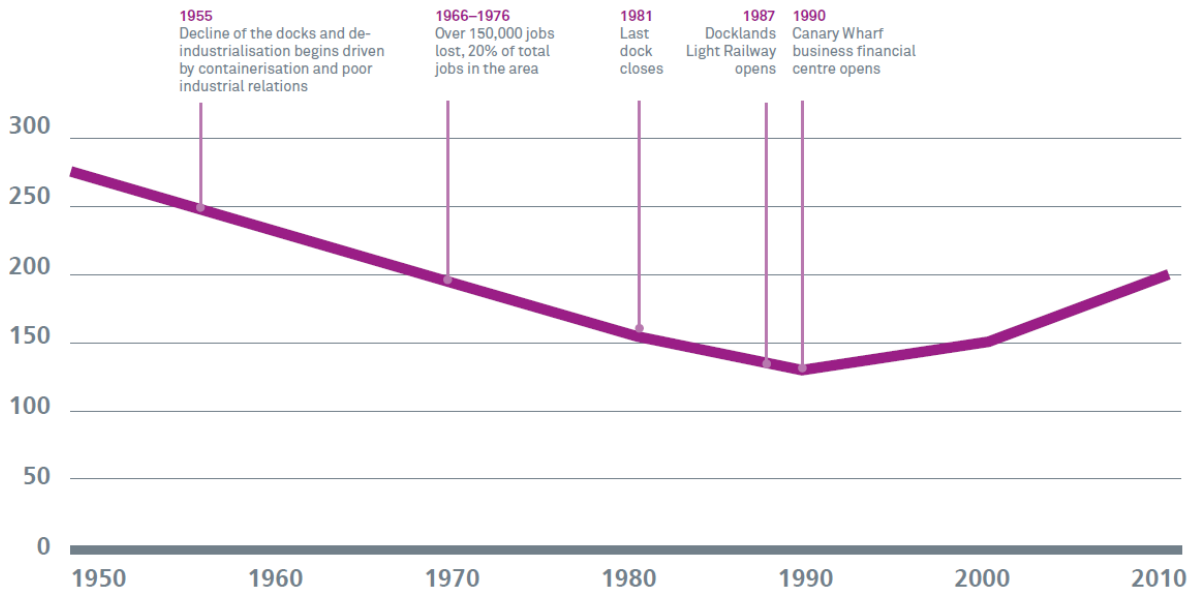
The closure of Heathrow would effectively count as Britain's biggest mass redundancy programme by some distance. The previous largest single redundancy in the UK took place at Shotton Steel in 1985 and MG Rover at Longbridge in 2005. Each of these redundancy programmes cost 6,500 jobs. By further comparison, in 1984, the worst year of the pit closures, 30,000 jobs were lost. If Heathrow were to close 76,000 direct jobs and 50,000 indirect jobs would be lost, over four times the size of the worst year of the pit closures.

Although some people might be willing to relocate to the other side of London, many would not. By international comparison, when the German federal government moved from Bonn to Berlin in 1999, it transferred 10,000 jobs.

London's only comparable experience was the closure of the docks. Over a ten year period, the five Dockland Boroughs lost 150,000 jobs. Despite billions of pounds of investment over the last 30 years, these jobs have never been fully replaced. Figure 4.2 shows the employment in London's former Docklands since 1951.

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Figure 4.2: Employment in London's former Docklands since 1951



4.3 Deliverability of a redeveloped Heathrow

There have been a number of studies considering the potential for redeveloping the existing Heathrow site, including proposals for a new London Borough, a garden city, a retail destination, and an education and technology quarter, to name but a few. The Mayor's recent proposals, Heathrow Redevelopment Scenarios, February 2014, have been the most prominent in this respect. Our comments below primarily relate to these proposals.

Timescales

The Heathrow site would comprise a 12.3 km² heavy industrial brownfield site. There is a myriad of complex heavy engineering structures located above and below ground that would require modification to suit the new use of the site. Figure 4.3 below compares the time taken to redevelop other brownfield sites. It is clear that smaller sites in prime locations close to central London take close to 20 years for the site to be redeveloped. In the case of Heathrow redevelopment could potentially take up to 30 years and maybe longer depending on the prevailing economic conditions.

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Figure 4.3 Time taken for redevelopment of selection of major employment sites.

Site	Year closed	Year re-opened	Year completed	Time to redevelopment	Size (km ²)	Current use
Former Hong Kong Airport	1998	-	-	15+	3.2	Not yet redeveloped
Former Denver Airport	1996	2004	2017	22	19.0	Home to 14,000 residents
Battersea Power Station	1983	2016	-	33+	0.2	Construction to begin 2013
East Greenwich Gas Works	1976	1999	1999	23	0.6	Millennium Dome
Bankside Power Station	1981	2000	2000	19	0.2	Tate Modern

The Mayor's proposals acknowledge that redeveloping Heathrow will entail a 25-30 year timescale, which is consistent with the examples tabled above. These timescales will not tackle the subsequent employment gap created when the airport is moved, meaning that much of the previous airport employment will face either transition to the new airport or uncertain redeployment into the local employment market following Heathrow's closure. Many previous airport employees will be faced with career changing prospects. The chance of any previous airport employment taking employment on the redeveloped site is unlikely.

The impacts of these timescales on the sites' transport infrastructure and accessibility is considered below.

Transport Infrastructure and implications

The Mayor's redevelopment scenarios are predicated on utilising Heathrow's excellent transport infrastructure and accessibility, however little realistic thought is given to the practicalities of this approach. Heathrow's current accessibility and extensive transport infrastructure stems from its establishment as the UK's hub airport and a major transport interchange serving over tens of millions of passengers a year and tens of thousands of airport workers. It is unrealistic to expect that this infrastructure and the multitude of transport services will continue to exist for a new airport city that will be delivered some 30 years later. The Heathrow Express rail service, Piccadilly Line services, free travel zone, subsidised local bus routes, coach routes and many other local bus services will stop or reduce when Heathrow closes and will no longer be viable thereafter without a significant population to support them. Protecting and maintaining the extensive infrastructure in the intervening period will be costly, and it will be challenging to re-establish the transport services to the site at a future date when much of the spare capacity initially created in the system may well have been filled by other priorities. And it is unlikely that the future demographics of the redeveloped site will require the transport characteristics of today's airport.

The Mayor's scenarios entertain a number of different land uses for the redeveloped airport site, ranging from primarily residential development to an education and technology quarter, and a new town. These include a range of employment forecasts from 55,000 – 100,000 jobs and resident population from 76,000 – 200,000 people. The likely combined "Heathrow City" scenario includes for 90,000 jobs and 190,000 population. The higher end of predicted jobs are broadly consistent with those for an expanded Heathrow, however the population growth brings significant risks.

It has been suggested by the Mayor and TfL that the public transport capacity implications of Heathrow's growth cannot be accommodated due to forecast population growth demands on the networks. However, regardless of the accuracy of this statement, the same point would apply to the Mayor's redevelopment scenarios in terms of the capacity of the network to accommodate such growth. A new Heathrow City, with significant new and more mainstream employment, and a considerable resident population, would introduce many more people to the site than an expanded airport. Unlike for airport demand, much of the transport activity associated with this scenario would be travelling on the public transport network during am/pm peaks, placing significantly more pressure on public transport capacity than an expanded airport.

The Mayor's proposals acknowledge that much of the resident population would be reliant on central London employment, increasing congestion on the already busy London commuter flows. The proposals for new experiential retail proposals and a large scale distribution shed sector at the Heathrow site will further increase the demand for access to the site placing pressure on the transport networks serving it.

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The Mayor's Heathrow Redevelopment Scenarios document acknowledges that Government support in terms of financial incentives or infrastructure delivery will be needed, but also notes the retreat of Government from infrastructure spending as a significant risk. Considerable further work is clearly needed to understand the transport implications and infrastructure requirements of Heathrow's redevelopment, particularly if the redevelopment of the Heathrow site is fundamental to the funding of a new Thames Estuary airport.

Any assessment of the Estuary options needs to consider the cumulative impacts of closing Heathrow. It needs to take into account the environmental, economic and social implications, in addition to the transport impacts of closing the UK's only hub airport, in addition to the impacts of introducing a new hub airport.

Wider Implications

The Mayor's studies consider the implications for the competitive positions of the various Western Corridor property market sectors in the event of Heathrow's redevelopment; however this is lacking and superficial in many respects. For example, the proposals predict a significant adverse impact on Heathrow's industrial market and loss of the cargo function, yet only the New Town scenario seeks to replace this with a large distribution shed market. It must be questioned whether the site's proximity to the strategic road network is sufficient enough to achieve this, or whether removing the port (i.e. Heathrow – the UK's largest freight port by value) that sustains the current cargo and freight sector will be a deathblow to the freight and distribution sector in the area.

The proposals also predict a significant impact on the hotel market, but consider that demand will still remain given the site's location although the hotels will need to refocus their offer. Only in the education and technology scenario does the Mayor's proposal suggest that there will be demand for hotel use, primarily through the T5 hotel. It is inevitable, however, that this "significant impact" will lead to a permanent decline in the buoyant hotel market in the area.

On a broader scale, closing Heathrow is likely to affect the attractiveness of planned new major employment locations in west London currently being promoted by the Mayor, including Old Oak Common (100,000 new jobs expected) and White City (10,000 new jobs expected). Whilst the Mayor's studies suggest that these development opportunities will be built out by the time of Heathrow's redevelopment, regard should be had to the typically long lead-in times and challenges faced in bringing these sites to fruition, despite the wider economic and housing pressures facing the capital. The redevelopment of Old Oak Common, in particular, is primarily reliant on the site's accessibility as a rail interchange. The site's accessibility to Heathrow is also likely to be an influence and a catalyst for its redevelopment. Heathrow's closure will represent a significant risk to realising Old Oak Common's full potential. Moreover, it is also likely to adversely impact on existing business locations such as Stockley Park and Paddington Basin, where connectivity to Heathrow has been key their evolution and regeneration.

In addition to these strategic sites, there is little consideration given to the wider markets, business clusters and supply chains that will be affected by Heathrow's closure, despite noting the risk of an adverse impact on the area as a commercial location. Heathrow's international connectivity has been fundamental to supporting the evolution of the western corridor as a highly productive and dynamic economic zone. Removing the airport will create uncertainty and threaten the supply chain and clusters that support and rely on Heathrow. The risk to the attractiveness of the area as a commercial location is therefore very real, but this risk creates wider economic threats to the region and UK economy as a whole.

4.4 Other Studies

Local Authorities and Local Enterprise Partnerships have commissioned their own studies into the impacts of closing Heathrow. This research has been carried out by independent consultancies. In all examples, the studies recognise the benefits that Heathrow brings to local and wider economies and the scale of the job losses that would arise from closing Heathrow and moving the hub elsewhere.

Optimal Economics, Heathrow Relating Employment^{ix}

In September 2011, Optimal Economics published a study considering employment at Heathrow. The study found that:

- Heathrow is one of the largest employment sites in London with over 76,600 people working within the Airport Boundary creating gross value added (GVA) of almost £3.3 billion
- A further 7,700 people employed in directly related activities in the 5 local boroughs of Hillingdon, Hounslow, Spelthorne, Ealing and Slough with a further £0.3 billion of GVA supported by these jobs
- A total of 114,000 jobs and GVA of £5.3 billion is supported by Heathrow and these jobs represent approximately 22% of employment in the local area

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London Heathrow Economic Impact Study^x

In September 2013, Regeneris Consulting published a study commissioned by a number of Local Enterprise Partnerships in the Thames Valley to consider the future proposals for the development of hub airport facilities in the south east of England. The key findings were:

- The “western wedge” area around Heathrow Airport has a strong, dynamic economy. It generates £1 in every £10 of UK economic output and is home to over 2.4 million jobs. It is an economic powerhouse for the UK
- Within the western wedge area, the aviation and related activity at Heathrow currently supports around 120,000 jobs and contributes £6.2 billion to the economy
- If a new hub airport were built to the east of London and Heathrow were closed by 2030, this would lead to a loss of over 100,000 jobs directly dependent on activity at the airport
- The closure of Heathrow would also put at risk up to at least a further 170,000 jobs within the western wedge area that are dependent on good proximity to a hub airport, and could put at risk up to £11 billion worth of current economic activity
- Businesses remaining in the western wedge area would be burdened by additional costs of £440m per year in travel time and journey costs in getting to and from a new hub airport.

Heathrow Employment Impact Study^{xi}

In 2013 the London Boroughs of Ealing and Hounslow and Slough Borough Council commissioned a report by Parsons Brinkerhoff and Berkeley Hanover Consulting to consider the impacts on the economies of the three boroughs of the longer term options for future airport capacity in the South East in the period to 2030. The analysis found that:

- The aviation and related activity at Heathrow supports around 120,000 jobs in the sub-region and contributes £6.2bn to the economy
- Heathrow’s closure would lead to a loss of 105,000 jobs directly dependent on activity at the airport, or the loss of £8 billion in GVA, by 2030
- Heathrow’s closure would also put at risk between 170,000 – 230,000 jobs within the sub-region that are dependent on proximity to the hub, risking £11-£15bn worth of economic activity
- Businesses remaining in the area would be burdened by additional travel time and journey costs of £440m per year in getting to and from a new hub airport in the east.

The Surrey Economy: The Impact of Runway Scenarios in the South East – A Synopsis

In 2013 Surrey County Council and Surrey Connects commission a study by Berkeley Hanover Consulting to assess the economic and employment impacts in Surrey of different runway/airport scenarios within the context of future aviation capacity in south east England. Key findings to note included:

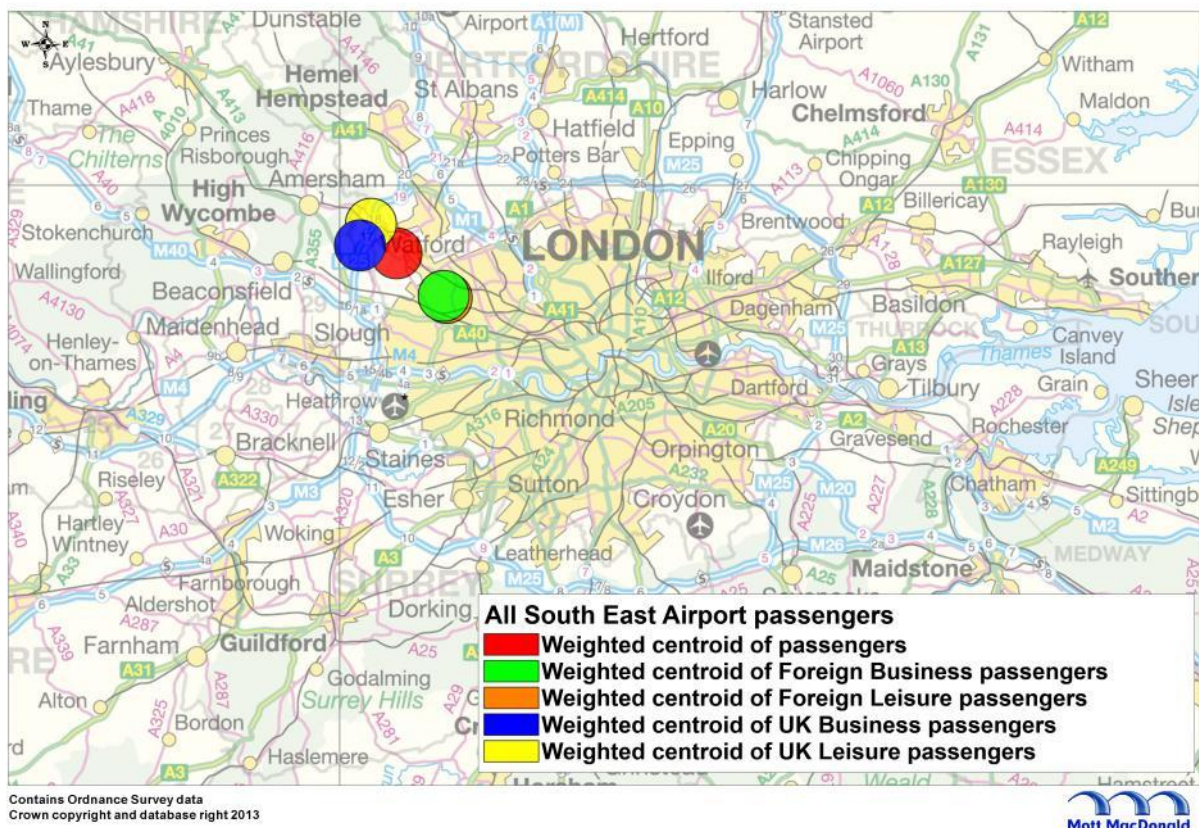
- The local workforce based in Spelthorne is highly dependent on Heathrow with a likely scale dependency as high as 35-40% with catalytic impacts
- Heathrow’s closure would mean a number of companies in Surrey would consider relocation to either the new airport or to sites near other hub airports such as Schiphol, Frankfurt or Paris
- Heathrow’s closure would result in the loss of 19,000 jobs by 2020 and 67,000 jobs by 2030 in Surrey
- Doing nothing would result in some 16,000 job losses.

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5 Transport Infrastructure and implications

An Estuary airport would be located a long way from the centre of travel demand in the UK due to its distance from the centres of population and economic activity. Figure 5.1 below demonstrates that the centre of air travel demand in the South East is to the north west of London. Locating a new airport to the east of London would require very high levels of air passengers having to travel through Central London to reach the Estuary airport. This will place additional pressure on London's rail and tube networks and stations.

Figure 5.1: Centroid of South East airport passengers



An Estuary airport would require very large investments in surface access capacity – especially road and rail to move people to the Estuary. TfL acknowledges that an Estuary airport would require major surface access improvements, with an estimated £30bn of government funding being required.

Experience at Heathrow demonstrates that these proposals will need to include underground, metro rail and express rail services to meet the needs of airports passengers and employees, as well as a comprehensive coach network spanning mainland UK. New connections to the motorway network will be required to access the north, east and south.

Much of the existing UK transport network would need to be redesigned bringing unprecedented levels of disruption on the existing road and rail networks. The feasibility study should consider these impacts while the necessary surface access infrastructure is delivered.

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References

- ⁱ Airports Commission: Interim Report, December 2013
- ⁱⁱ Analysis of existing Heathrow passenger origins (CAA Survey 2011). Average difference in car travel time between travelling to Heathrow or to an Estuary airport (Isle of Grain).
- ⁱⁱⁱ Analysis of 2011 Census population data lying within 60 minute isochrones of Heathrow, Stansted and Estuary (Isle of Grain) sites.
- ^{iv} Analysis of FAME database by a leading management consultancy for Heathrow. Turnover is according to listed accounts, generally 31/12/2011 but occasionally 31/3/12.
- ^v Analysis of all companies registered with Companies House data by a leading management consultancy on behalf of Heathrow. Note Thames Valley includes Berkshire, Buckinghamshire and Oxfordshire.
- ^{vi} Analysis of Companies House data by a leading management consultancy on behalf of Heathrow. Note Thames Valley includes Berkshire, Buckinghamshire and Oxfordshire.
- ^{vii} Ipsos Mori Heathrow Employment Survey 2013, Appendix 6, Taking Britain Further, Heathrow's Submission to the Airports Commission, 14 May 2014
- ^{viii} Analysis of Optimal Economics (2011) Heathrow Related Employment
- ^{ix} Heathrow related employment, Optimal Economics, September 2011
- ^x London Heathrow Economic Impact Study, Regeneris Consulting, September 2013
- ^{xi} Heathrow Employment Impact Study, Parsons Brinckerhoff and Berkeley Hanover Consulting. A report prepared for the London Boroughs of Hounslow and Ealing and Slough Borough Council, September 2013