

## Thames Hub response to the Airports Commission's Inner Thames Estuary airport studies

The Thames Hub Team welcomes the Airports Commission's four Inner Thames Estuary airport feasibility studies published in July 2014. Commissioned to assess the credibility of an estuary airport, these studies found no showstoppers to the development of an Estuary airport, or any reasons to doubt the credibility of such a scheme.

The Commission recognises the scale of the economic benefits from an Estuary airport, but notes that more detailed work is needed on several issues. In undertaking this further work, some inaccuracies in the Commission's studies, as well as key evidence that has not been considered, need to be addressed. As a result, the Thames Hub Team is confident that an Inner Thames Estuary airport location will now be formally added to the Commission's shortlist in September 2014.

The Thames Hub airport on the Isle of Grain is the leading Inner Estuary proposal. The Thames Hub Team, led by Foster + Partners and supported by global leaders in infrastructure, looks forward to working with the Commission on the detailed studies needed to inform its final decision in summer 2015 on how the UK can best retain its global hub airport status.



## Introduction

- Dubai's recently acquired status as the World's busiest international airport confirms that the UK's global aviation hub status is under threat. Dubai's further expansion, and Istanbul's planned new six runway airport, provide the global benchmarks against which the long term assessment of UK hub aviation capacity should be based, rather than piecemeal expansion at Heathrow or Gatwick.
- The proposed four runway Thames Hub Airport, located on a platform on the Isle of Grain and served by High Speed 1 and an extension of Crossrail, would provide a transformational change in UK hub aviation connectivity, with an initial capacity of 110 million passengers per annum (mppa) and scope to grow to 150mppa and beyond as demand dictates. A comprehensive airport funding model, based on CAA's more flexible regulatory approach for promoting passenger interests, would ensure that landing charges remain globally competitive. The airport would also deliver significant environmental improvements for the affected population and areas in the South East of England and remove the noise and security threat posed by hundreds of thousands of aircraft overflying Central London each year.
- The Airports Commission initiated the four estuary feasibility studies on environmental impacts, operational feasibility, socio-economics and surface access impacts, to assess the credibility of an Inner Thames Estuary airport. The Thames Hub Team is pleased that the studies did not find any issues that would preclude the development, or undermine the credibility, of an Inner Estuary airport.
- The Commission notes that further work is needed on several fundamental issues such as the impact on protected habitats, the hydrological impacts, costings and, economic benefits. These issues were already known about and the true test of their importance for an Estuary airport is understanding their relative significance compared to other airport locations.
- We recognise the challenges that the Commission has faced in building consensus on the question of an Inner Estuary airport. Some aspects of the Commission's reports contain critical mistakes, misinterpretations, partial analysis and inappropriate use of evidence and there are inconsistencies between and within the reports. In addition, key evidence previously submitted to the Commission by the Thames Hub Team, along with important new publicly available evidence, has not been considered in the feasibility studies.
- In view of the transformational scale of economic benefits and degree of international connectivity that an Inner Estuary airport would provide for the UK economy, it is vital that further studies are carried out. To ensure that the errors and omissions are properly addressed and that the Commission's assessment of an Inner Estuary airport is credible there is clearly more work needed, and this can only be done in a like for like comparison with the existing shortlisted proposals. We have received considerable interest in the Thames Hub from global investors and operators, and expect that a greater level of engagement between the Commission and ourselves will aid this and unlock wider opportunities. As there are no insurmountable issues to the location's credibility, the Thames Hub Team is confident that an Inner Thames Estuary location will be added to the Commission's short list in September 2014.

## Environmental Impacts: Study 1

- The key issues to be addressed in this study were impacts on the Natura 2000 sites if constructing and operating a new airport at an Inner Thames Estuary location, and the feasibility of meeting the legal tests.
- The Commission's estimated range for compensatory habitat creation costs, from less than £150 million up to £2 billion, is an extreme range, even given that detailed studies have not yet been undertaken. The £2 billion limit is based on the assumption that direct habitat loss could be up to 2360 ha (TfL option) with a number of indicative estimates made on potential indirect losses (including 900 ha to compensate for TE2100 habitat target displacement). The Commission has provided a maximum direct and indirect habitat loss at 6800 ha (TfL option) and then allowed for a 3:1 compensation ratio. There is no evidence or precedent to support these assumptions to expect a 3:1 compensation ratio against potential direct and indirect impacts. Our own estimate of the costs of compensatory habitat creation as shown in our submission, along with those provided separately by Transport for London, is approximately £500 million and considered a more reasonable estimate.
- The Commission states that "*The increase in scale (and subsequent increase in complexity and uncertainty) could result in even higher ratios being required than for past projects.*" It is not clear why this should be the case. There are a number of complex ecological issues as there are with all projects likely to impact intertidal sites, which are yet to be fully understood. However, with an increase in scale, the potential for creating a viable and sustainable intertidal and wetland habitat is increased, not decreased as the Commission states.
- The Thames Hub Team welcomes recent evidence that the impact on birds from a new Inner Thames Estuary airport is nowhere near as severe as others have suggested. The British Trust for Ornithology's (BTO) recent report on bird populations in the Thames Estuary, published in May 2014, finds that just over 21,000 birds, being species that are qualifying features of the Thames and Medway SPAs, would be impacted by an Inner Thames Estuary airport (indeed the figure is likely to be lower than this as this includes WeBS survey sectors that overlap with the Thames Hub area) on the Isle of Grain. In addition, the BTO report identifies that the provision of compensatory habitat to the east or north of the Thames and Medway Estuaries may be beneficial for waders (due to a recent shift in distribution in response to climate change).
- Recent studies in Cardiff Barrage Bay have also recorded that the birds found there, which are in part the same as those in the Thames Estuary, have less loyalty, or fidelity, to particular locations than previously anticipated. Further work is needed on these issues to establish migratory trends and the wider drivers for habitat use by migratory birds.
- We understand that due to coastal loss pressures the Environment Agency (EA) is currently undertaking research on the scope for providing compensatory habitats for birds in the estuary and further afield. Therefore the EA's important work should conclude and report in order for the Commission to better understand the long term impact on local habitats and wider compensatory measures.
- From an Environmental perspective, it is disappointing that the Commission has taken a generally negative approach to the Inner Thames Estuary options. The Commission gives Medmerry as a case study for estimating costs (which were very high at £155,000 per ha). However, the Commission did not take into account a similar (and more recent)

scheme at a larger scale on the Severn Estuary (Stear Coastal Management Project), cited by Foster + Partners, where the estimated cost per ha is £50,000. Evidence provided for the Severn Tidal Power project identified a trend of reduced cost per hectare for larger scale inter-tidal habitat creation, which should also be taken into account. In addition, the Commission identified in some depth the potential risks, uncertainty and lack of data, but it is welcomed that it does ultimately recognise that *“creation of a range of the coastal habitats required is technically possible...”* and *“In terms of providing functionality for supporting target species, there is again uncertainty..... but are unlikely to make the development of a package of measures totally infeasible.”*

- The Commission does not seem to have taken account of evidence considered in the 2003 South East Regional Air Services study (SERAS), such as the fact that many of the birds on the Hoo Peninsula are attracted by landfill and other waste sites.
- The Commission has also failed to take account of important lessons in assessing and mitigating environmental impacts from the large recently opened London Gateway port development in the Thames Estuary.
- A useful summary for the potential for successful compensatory habitat creation is provided within the BTO report, which states (page 27): *“A successful outcome is therefore largely a case of ‘getting the recipe right’. Whatever the case, to maximise the likelihood of creating fully functioning wetland encompassing the range of variation found in natural areas, it is thought that larger-scale projects, with a varied topography are more likely to be successful.”*
- The Thames Hub Team fully appreciate the additional study and information required to ensure compliance with the Habitat Regulations and welcome the constructive guidance on this matter provided within the BTO report, who acknowledge that the uncertainties (such as those stated by the Commission) could be addressed through further research.
- Therefore, the Thames Hub Team contend that their proposal is a viable option in terms of compensating for ecological impacts to internationally designated sites. The benefit of creating inter-tidal habitat at this seemingly unprecedented scale in the UK potentially increases the likelihood of success compared to smaller existing examples. . The scale of funding represented by a new airport would provide a unique opportunity to invest in protecting and enhancing the environment of the Estuary. In doing so it is important that lessons are learned from the assessment and mitigation of environmental impacts that arose from the large recent London Gateway port development in the Thames Estuary.
- The development of the Thames Hub will not only bring an important focus to understanding habitats better, but through its planning can act as a focus for identifying wider benefits. This is an opportunity for Britain to take a global lead in understanding the impacts of habitat loss and the compensatory measures need to successfully address coastal and intertidal change worldwide.

## Operational viability: Study 2

- The Thames Hub Team is pleased that the Commission has found that a number of, operational issues, which others considered to be 'killer blows', in fact provide no insurmountable barriers to the development of an Inner Estuary airport. These include:
  - Flood risk – whilst further modelling work is needed, this issue is not considered to be insurmountable and can be mitigated through best practice engineering design;
  - Fog – the Commission finds that this is no worse in the Estuary than at Heathrow or Gatwick;
  - Wind – with the same runway alignment as Heathrow, the Commission finds that this is not an issue for an estuary airport;
  - Bird strike – the Commission has acknowledged that bird strike problems are not insurmountable;
  - SS Richard Montgomery - the Commission recognises that the SS Richard Montgomery is not an obstacle to the development of an airport in the Inner Estuary.
  - Airspace – the Commission recognises that plans are already underway to restructure European airspace and that new air traffic management technologies will significantly increase airspace capacity. We welcome the additional work done by NATS for the Commission and its recognition that City Airport could co-exist with an Inner Estuary airport. We note that City Airport currently co-exists with Heathrow and, whilst there are impacts, they are effectively managed for the successful operation of both airports. We believe further work with the wealth of knowledge and experience NATS have will allow a beneficial outcome. Southend Airport is also highlighted as likely to require operational procedures relative to the new airport. In this case its characteristics might be analogous to Denham or Northolt, which sit in similar proximity to Heathrow.
  - Isle of Grain LNG facility – we are pleased that the Commission does not believe that the facility needs to close. We agree that further work is needed to confirm this assessment and properly estimate the compensation and relocation costs if the facility were to close, based on the age of the asset at the time of closure and the national needs for imported gas as part of the energy mix in 2030 and beyond.
  - Transitioning and Attitudes – the Commission notes that there are challenges to be addressed in transitioning from Heathrow to an Estuary airport. We note that the 15 years needed to plan and construct an Estuary airport represents one third of a person's working life. In 1998 we were barely aware of the emergence of the Gulf carriers or the impacts of the low cost sector. A commensurate level of planning as that devoted to developing the physical aspects of the airports delivery will be spent on the wider social and commercial aspects. With 15 years advance knowledge our challenge is really to make the most of these opportunities. We need to embrace future attitudes to innovations in global trade and connections as they emerge in China, India, Latin America and others, rather than being restrained by the established attitudes of today.

### **Socio-economics: Study 3**

- The key issues to be addressed in this study were understanding the national, local economic and, in some cases, social impacts of closing Heathrow and potentially other airports, as well as assessing the regeneration potential of such an airport on east London and the south and east of England.
- This section reviews the Commission's assessment of evidence on the socio-economic aspects of an Estuary airport in relation to our Thames Hub submissions. Foster + Partners submitted detailed information on the socio-economic and financial aspects of the Thames Hub airport in their proposal of July 2013 and followed this up with further detail in September 2013 and May 2014.
- We are pleased that the Commission has recognised the relevance of a Regulatory Asset Base (RAB) model for airport development costs. However it is disappointing that they have not considered the Thames Hub Team's proposals on this. Reference is only made to TfL and Ernst & Young. Cost estimates from our RAB model were submitted to the Commission in July 2013 and detailed explanation of our comprehensive funding model was submitted to the Commission in September 2013. The funding model, which is based on a modified RAB model to ensure that charges at the Estuary airport remain competitive, has been validated by a leading global finance house and independent airport economic regulation experts, and has been discussed with the Civil Aviation Authority at a senior level. It has been discussed with investment and operator interests from around the world. We believe it is imperative that the funding model is properly understood. We will welcome the opportunity to proceed with further work to develop the model with a wide range of interested parties.
- In carrying out its own commercial viability assessment, the Commission has inappropriately referred to a letter from Mark Reckless MP that claimed landing charges at the Estuary airport would have to be 2.5 to 3 times larger than at Heathrow in order to make a return on the investment made. This claim is not supported by evidence.
- Further, the Commission review questions whether an Estuary airport could necessarily rely on attracting all the demand currently experienced by Heathrow, if Heathrow were to close, and whether it would be able to compete with other major international hubs. In response, we refer to the Commission's own assessment that by 2030 the runways in the South East of England (SE) will be full. There will therefore be demand for UK hub services in the SE catchment area not met by any other airport except by a new 4-runway Estuary hub airport. In addition, European hubs such as Amsterdam, Paris CDG and Frankfurt, and similarly Dubai, will also be reaching capacity, and over the next two decades will have to make substantial investments to provide more passenger handling capacity and eventually more runway space. This means these airports are likely to have similar levels of debt to service and will have to raise their own aeronautical charges, hence an aeronautical charge of £30 per passenger at Thames Hub would be competitive.
- Our detailed cost estimate for the Thames Hub airport is £20 billion for Phase 1 with surface access costs detailed at an additional £6.3; a breakdown of these costs was presented in our July 2013 submission to the Commission. The Commission's report states that an independent assessment of the cost carried out for the Commission found that the costs would reach £68.9 billion. However, the report provides little explanation for how this figure was derived, apart from stating that it includes further allowances for surface transport costs and risk and optimism bias. In order for this figure to be credible, the Commission would need to publish the method used for estimating it.

- The Commission's review requests further details on how our Gross Value Added (GVA) and employment estimates have been derived. Our submission of May 2014 provided our updated high-level estimates of the net present value of the combined, cumulative gross national impacts of the Thames Hub airport, with detailed explanations and references to underlying studies<sup>1</sup>.
- We recognise the need for further, detailed studies to be carried out into the socio-economic impacts of an Estuary airport. This can only be achieved by setting a common criteria against the existing shortlisted options.
- The Commission's report raises concerns that there are gaps between Ramboll & Oxford Economics and Local Authority projections of household and employment estimates, such that the current development plans of local authorities in the vicinity of the Estuary airport may not fully meet the housing and services requirements of employees and their families that may well relocate to the area when an Estuary airport is built. Given that the estuarial option has not yet been shortlisted, it is not unexpected that current local authority projections and planning documents do not factor in nor plan for an airport in the vicinity. Once shortlisted, further research will need to be done by the project promoters in close consultation with local authorities to fully plan and account for the future needs of the area to support an airport whose economic benefits to the area have not been disputed by the Commission's report.
- In summary, we note that while additional comprehensive studies are required on the socio-economic impacts of an Estuary airport, and of the closure and relocation of Heathrow, the Commission's review of evidence suggests no insurmountable obstacles to the development of an Inner Thames Estuary hub and therefore poses no reason not to include the Thames Hub proposal in the Commission's shortlist in September 2014. We were however, disappointed that Commission's report did not apply a more standardised approach to reviewing all of the evidence, as this has led to key information being missed in the review, such as our funding model for Thames Hub.

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<sup>1</sup> Ramboll; Oxford Economics (2013): Impacts Upon the Local and National Economy  
 Ramboll; Oxford Economics (2013): Impacts on the UK Economy through the Provision of International Connectivity  
 Ramboll; Oxford Economics (2013): Impacts of New Hub Options on Business Locations, FDI and Alignment with Strategies  
 Jones Lang LaSalle and Peter Brett Associates (2014): "Heathrow Redevelopment Scenarios"  
 TfL estimates of regional connectivity impacts

## Surface access: Study 4

- The key issues to be addressed in this study were: the feasibility of providing surface access links to a Thames Hub airport; the quantum and trip-end distribution of air passenger and employee access trips; the split of access trips between modes; the capacity of the rail and road networks to absorb those trips; the cost of new surface access links and consequential upgrades to the existing networks; and the environmental impact of those new and upgraded links.
- We are pleased that the Commission largely supports our surface access proposals for the Thames Hub and finds no reasons to doubt its credibility. However a number of issues still need to be addressed in further work.
- Projected growth in demand on the road network, coupled with the statutory requirement to reduce carbon emissions, means future surface access to airports needs to be predominantly public transport based. However, the Commission has been contradictory in using the Department for Transport's carbon constrained air traffic forecasts, whilst at the same time developing a surface access strategy and cost based on high car mode shares – ignoring the carbon constraint. This contradiction needs to be addressed by the Commission.
- The Commission does not provide any explanation as to why a 60% public transport mode share could not be achieved, other than that it has not so far been done elsewhere.
- We also have concerns with the following elements of the Commission's transport modelling work:
  - The distribution of surface access trip ends seems too closely related to straight-line distance to the airport, implying a reduction in propensity to fly in London and an unbalanced distribution of employee residential locations – we believe that the latter (and its surface access implications) requires detailed further analysis, cross-linked with assessment of the socio-economic impact of an Inner Thames Estuary airport;
  - Definition of the rail networks appears arbitrary and contradictory, with some proposed services ruled out due to lack of capacity while costs are included elsewhere to create that capacity. It has not been suggested by any proponent of an Inner Thames Estuary airport that all Crossrail trains would terminate at an Inner Thames Estuary airport, we suggest up to 4 per hour. Stating that all trains go to the airport not only adds unnecessary elements to surface access cost, but distorts the relative assignment of rail trips, resulting in forecasts of crowding levels that we do not believe would arise;
  - Selection of key stations for the comparison of rail clock times and number of interchanges is closely aligned with current routes to Heathrow, leading to unrealistic estimates of the (in)convenience of getting to an Estuary airport;
  - The inclusion of a second local rail link across the Estuary for a Crossrail extension assessed to have little or no access benefit adds unnecessary cost, as does the assumption of a rail bridge (rather than tunnel) on the Lower Thames Crossing Option C alignment.
- We are keen to work with the Commission and Network Rail to address these important issues.
- A consequence of the Commission's high car mode share assumption is an extensive programme of trunk road widening and an estimate of highways cost as high as £20



billion. Conversely, the assessment of highway demand seems to take no account of bus, air freight or airport operational traffic.

- The subsequent assessment of environmental impact covers both new access links to the Inner Thames Estuary airport and extensive improvements on the wider networks. We believe that many of the widening schemes are not required for Inner Thames Estuary airport access, or may be required anyway due to traffic growth or to serve other major developments. For this reason we consider that the environmental impact is over-stated. Further consideration needs to be given to defining the 'Do Minimum' and 'Do Something' cases, in order to understand the potential additional impacts attributable to an Inner Thames Estuary airport.
- Further, no consideration appears to have been given to benefits from the relief of aircraft noise and air pollution or highway congestion resulting from the closure of Heathrow.
- The environmental impacts section identifies impacts on designated sites and sensitive receptors for new road and rail access to the Inner Thames Estuary airport, and extensive improvements on existing sections of the wider road and rail network. However, new links such as the Lower Thames Crossing and motorway widening on the M25 may be required anyway due to traffic increases, improving north-south connectivity across London, and to serve other major developments. For this reason we consider that the environmental impacts are over-stated and further consideration needs to be given to defining the 'Do Minimum' and 'Do Something' cases, in order to understand the potential additional impacts attributable to the Inner Thames Estuary airport.
- While some surface access routes impact directly on sites of European conservation interest and would require a Habitats Regulations Assessment, this should be not be considered as a separate exercise, but as part of the same assessment for the Inner Thames Estuary airport itself. So, the consenting strategy should address the direct and indirect impacts on Natura 2000 sites for the airport, associated facilities and surface access routes.
- The Commission's report does not provide any indication of the benefits to Londoners from the relief of aircraft noise and air pollution resulting from the closure of Heathrow.

In conclusion, there are no issues raised in these reports which refute the credibility of an Inner Estuary location. Furthermore, in view of the scale and national importance of the economic opportunity that an Estuary airport provides, it is clear that further work is needed to assess a range of issues where full analysis is lacking. The Thames Hub Team is ready to work with the Commission to address these issues.

**Foster + Partners**  
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