MANSTON AIRPORT DEVELOPMENT CONSENT ORDER EXAMINATION

SUBMISSION TO DEADLINE 11:

COMMENTS ON RESPONSES TO ExA's FOURTH WRITTEN QUESTIONS

[TR020002/D9/FWQ]

SE.4.2

i)

- We note the ExA's very specific request for comments on this question *"using **evidence"**.*
- As a general comment, it is our understanding that appropriate sources of evidence must be specifically referenced in order for such evidence to be verifiable.
- We note the Applicant's continued insistence - throughout its Application, answers to the ExA's Written Questions, and throughout this Examination - on providing references to entire documents and/or volumes without specifying precise paragraphs or references within these documents - which often run to hundreds of pages or multiple volumes. This makes it an almost impossible task to verify the evidence provided.
- The Applicant has not provided any reference or evidence to support its claim that the *"standard formula"* of 950 direct jobs created per 1 million passengers or 100,000 tonnes of freight was used by the Airports Commission in 2014. We can find no reference to this formula in the Airports Commission Final Report, the onus must be on the Applicant to provide an appropriate reference for this assertion.
- The Applicant refers primarily to the Airports Commission report(s) of 2014 and has provided the PwC report, Local Economy: Literature Review[1]
- No specific paragraph or page references are provided in the remainder of the Applicant's answer. Taking each of these answers in turn:

  RSP's Response: [1]*"One of the key factors in terms of the direct impacts of airports is how much freight is handled.* ***[2]*** *The range of direct jobs found through the review of the literature was between 500 and 1,500 and therefore the 950 formula used by the Airports Commission and by the Applicant is entirely reasonable"*

[1] Appendix SE.4.2 of TR020002/D9/FWQ/Appendices

Assumed PwC Source [1]: *"The drivers of these differences include: the share of long-haul flights, the nature of the terminal and passenger experience, the level of freight transport and the business operating model".* [2]

Assumed PwC Source [2]: *"The average number of direct jobs generated* ***for each million passengers*** *handled ranges from under 500 to over 1,500"*

- [1] It is unclear from the above statement(s) what inferences the Applicant seeks to draw regarding *"the level of freight transport"*, how significant a role a greater or lesser amount of freight might play in the wider business mix or if or how these drivers might combine or have cumulative effects that may or may not relate to the Applicant's as-yet-unspecified business operating model.

- [2] Clearly the PwC source quote relates specifically to passenger operations - a fact which the Applicant has not only omitted from its answer but, in tying it to its previous statement regarding direct impacts of freight, the Applicant appears to be seeking to misrepresent that PwC quote regarding direct jobs. As such, we dispute the Applicant's assertion that the 950 formula *"is entirely reasonable".*

- **Applicant states**:*"It should be noted that a re-developed Manston Airport would be able to compete against Europe's most successful airports"*.

  No evidence has been provided to support this statement.

- **Applicant states**: *"With regard to the use of a Europe-wide study the Applicant does not consider that this undermines the use of the formula to UK airports".*

- Paragraph 5.6 of York Aviation's Manston Review, submitted at Deadline 3[3], and resubmitted by Five10Twelve as an Additional Submission on 9 July 2019[4] , points to a

[2] *Ibid, (*Box 4, Page 32)
[3] York Aviation, Updated Critique of Assessment of the Need and Justification for the Development of Manston Airport as an Air Freight Hub, February 2019 [REP3-205, Appendix 5]
[4] *Ibid,* re-submitted by Five10Twelve by email at 00:45hrs, 9 July 2019 - Appendix 04

number of ways in which the Applicant's interpretation of this formula is flawed, as follows:

"The multipliers adopted are for the impact at National level. The study area for this economic assessment and the focus of Azimuth's comments is the sub-region around Manston Airport"

And

"The adoption of this Europe-wide multiplier is strange given that the research does actually provide a specific multiplier for the UK, which is substantially smaller at 1.5".

- The above statement, taken from York Aviation's February 2019 report, also serves as direct evidence to refute the Applicant's assertion in its answer to SE.4.2 that:

"York Aviation has, at no time, suggested any particular ratio or pointed to more recent research that defines a ratio between tonnes of freight or passengers handled".

And

"It is hard to imagine why York Aviation feel that a Europe-wide study conducted by ACI Europe … would not be appropriate to Manston Airport"

ii)
Given York Aviation's reasoned and evidenced response at paragraph 5.6 of its February 2019 report - and the ACI Europe Report inclusion of more appropriate multiplier formulae for Manston both at a UK and sub-regional level - we strongly dispute the Applicant's claim that the "950 formula" it has used is relevant in this case.

SE.4.3

i)

Applicant states: *"The findings from the PwC review of the literature for the Airports Commission in 2014 indicates that 'local' refers to a 30-minute drive from the airport. For Manston, this would include Thanet, East Kent and most of the rest of Kent".*

The above statement is not consistent with the Applicant's definition of "local" in its Application documentation. As evidenced in our submission to Deadline 11, [TR020002-004647], the Applicant has defined "local labour" at page 34 of the Updated Register of Environmental Actions, (REAC), [REP8-018], as *"those living within a 90-minute commute of Manston Airport".*

ii)

Applicant states: *"...it is likely that far more jobs in the 'local' economy are tied to the presence of EMA than are currently acknowledged"*

Applicant has failed to provide any evidence to support this assertion.

Applicant states: *" … it is pertinent to consider what the 'local' economy would look like without the presence of the airport. An example is Thanet, where deprivation has been endemic for some generations, unimproved by a considerable influx of EU funding over many years and concerted efforts to regenerate the tourism sector, which has generated little more than low wage, low skilled, part time employment."*

- Taking Thanet as an example does not in any way support the Applicant's argument. In fact, we are in a rather unique position of being able to directly compare the economy of the area and local towns during airport operations prior to closure in 2014 and how much better the local economy and area is faring, with genuine and measurable recovery, since the airport closed. Far from supporting the Applicant's case, Thanet's example provides a very clear indication of how much more positive our local economy looks without the presence of an airport and why the local community is fighting so hard to ensure the regeneration of the area that has been in part facilitated by the closure of the airport can continue without this threat to our booming visitor economy, local industry and current growth trajectory.

- As evidenced in our submission to Deadline 11, [TR020002-004648], unemployment in Thanet has been more than cut in half from 10.5% in the period April 2013-March 2014, when Manston Airport was last operational, to 4.5% in the period from January 2018 - December 2018.

- Contrary to the Applicant's assertions, the *"concerted efforts to regenerate* [Thanet's] *tourism sector"* has resulted in **considerable** improvement for the area, to the extent that it is one of the key drivers of the region's resurgent economy. As evidenced in our submission to Deadline 4, [REP4-052], at paragraph 6, *"sharp rises across every metric since the closure of Manston Airport in 2014 have seen visitor numbers in Thanet rise by 36% since the former airport was operational, from 3.1m in 2010 to 4.22m in 2018".* As evidenced in our submission to Deadline 7, [REP7-011], Thanet's visitor economy is now worth £320m to the local economy and accounts for 7,950 jobs - an increase of 8.7% in the two years from 2015, (the year after Manston closed), to 2017.

- The Applicant has provided no evidence whatsoever to support its assertions that Thanet's resurgent tourism sector *"has generated little more than low wage, low skilled, part time employment".* These assertions are, at best, ill-informed and, at worst, insulting to our many tourism-related businesses and the supply chains that depend on them. See also representations from Ben and Emma Irvine, owners of Albion House Hotel and My Seaside Luxury, for but one prominent example. [AS-076].

- We have provided evidence at Deadline 3 [REP3-223][5] and Deadline 11[6] that the very accusations of *"low wage, low-skilled, part-time employment",* that the Applicant has levelled at Thanet's thriving visitor economy is, in fact, more characteristic of airport employment, with further issues that do not apply to the tourism sector regarding hazardous working environments and rising cases of zero-hours contracts as standard in the airports sector.

[5] [REP3-223], paragraphs 8.4 - 8.4.1
[6] Resubmitted and shown at **Appendix_2**

- As we have shown, the reality is that Thanet's economy - and the local area's jobs market - is enjoying a sustained period of recovery and resurgence since 2014, with the closure of the former airport and booming visitor economy since then at its heart. We have also evidenced at Deadline 11 the significant part that Ramsgate plays in this, [TR020002-004388-AS], particularly with higher-value active/outdoors recreational tourism, [TR020002-004649].

- We continue to maintain that this resurgent visitor economy - and Ramsgate in particular - will be placed at significant risk of being derailed and reversed if the DCO is granted.

- This view is supported by multiple significant Interested Parties, including but not limited to Thanet District Council, Ramsgate Town Council, Ramsgate Coastal Community Team, Ramsgate Town Team, Ramsgate Society, Ramsgate Heritage and Design Forum, Ramsgate Neighbourhood Plan, all as detailed in our submission to deadline 11, [TR020002-004649], as well as the majority of local residents and residents' associations, as evidenced in the Relevant Representations and summarised in our submission to Deadline 3, [REP3-223].

- We totally reject the Applicant's assertions and negative characterisations of Thanet and our visitor economy in its answers to SE.4.2 and throughout this Examination. We respectfully submit that, given the evidence we and many others have provided above and previously, these assertions clearly cannot be viewed as supporting the Applicant's case in any way.

- In our opinion, the Applicant's assertions and overly-negative, unsupported portrayals of the local area must be viewed instead as characteristic of the total lack of understanding the Applicant has for the local economy and the contempt the Applicant has continued to show towards local residents, our thriving businesses and Thanet's visitor economy.

- The reality is that Thanet's tourism sector is a genuine success story and should be further supported, developed and celebrated as such. The Applicant's plans for an air cargo hub, with cargo planes flying over our beaches and towns, is clearly a threat to this.

- Clearly, the reverse is also true - the fact is that the Applicant's proposals for an air cargo hub directly compete with, rather than complement, Thanet's visitor economy, and specifically Ramsgate's. The Applicant is keenly aware that Ramsgate and its considerable appeal to visitors and inward investors has always been a factor in 25 years of Government reports and recommendations that have failed to support airport development at Manston, [REP6-039]. These Government recommendations - up to and including the Airports Commission and resulting Airports National Policy Statement - have consistently shown that proximity to Ramsgate and impact on the town is one of the primary reasons why Manston is not a viable site for airport development of any kind.

- This perceived threat to the Applicant's proposal is surely what lies at the heart of the Applicant's negative comments and persistent attempts to scope out, disregard and/or denigrate the town and our communities.

- It is also notable that the Applicant has consistently sought to hide and/or deny the history of Government aviation policy, reports and recommendations with regards to Manston,, claiming - falsely - in its submission to Deadline 5 that the reason Manston has not featured in five consecutive aviation policy documents is because *"Manston was not an operational airport at the time".* This is categorically untrue as we have evidenced at Deadline 6, [REP6-039], with the real reasons provided.

SE.4.4

i)

- The Applicant's response regarding "leakage" of spend and induced effects - and the fact that this is, apparently, *"the responsibility of other stakeholders to make efforts to ensure the Thanet economy is in a fit state to respond to the opportunities"* is somewhat disingenuous given the Applicant's definition of *"local"* with regards to employment opportunities as being within 90 minutes drive from Manston[7]. This supports concerns that induced employment benefits will most likely not be captured in the Thanet area and that any such result cannot be solely *"the responsibility of other stakeholders"* in this area.

  Applicant states: *"for a project of national significance, it seems logical to consider the totality of benefits to the UK, without nitpicking over the exact definition of 'local'."*

- It is our understanding that whilst the Applicant's proposals may have been accepted for Examination as a Nationally Significant Infrastructure Project, this does not automatically confer nationally significant status on the project. With respect, this is surely one of the many questions which the ExA is tasked with examining and which the Applicant is still required to evidence and prove. As such, the Applicant's assertions are presumptuous and premature.

- In our view, the Applicant's choice of language regarding *"nitpicking over the exact definition of local"* betrays a continued lack of respect for the Examination process, LIRs, impacted communities, Local Authorities, and the importance of such definitions to those who will be most significantly impacted by the Applicant's proposals.

- The host authority, TDC, has questioned the negligible benefits to the local area, (which it defines as "Thanet"), as per its LIR report [REP3-010] and its response to the ExA's Third Written Questions [REP7a-045], where TDC states:

[7] Resubmitted and shown at **Appendix_2**

"Given the context of Thanet, an increase in jobs by 8.3% [by year 20] *would still be considered of beneficial significance but it remains to be confirmed whether this would be of a minor, major or moderate significance".*

- Given this uncertainty as to the level of significance at local/Thanet level, it is surely even more uncertain what level of significance may be applicable when scaled up in 'totality' to the whole of the UK.

  Applicant states: *"The focus of stakeholders' attention should be on making every effort to encourage the inward investment, technology transfer and innovation that an operational airport can bring".*

- Notwithstanding the presumption inherent in this statement that stakeholder's attention is not already focused on such activities, there appears to be a further presumption and arrogance at play here that the Applicant's proposal is so compelling that *"every effort"* should be made to facilitate it.

- Responses received to date from both the local host authority, TDC, and KCC's position statement as regards the airport, [REP4-042, Appendix F:003], suggest that at both the District level - supported by TDC's evidence base[8] - and at County level there is little appetite to support this project, especially given the conflicts it creates with established and successful inward investment, visitor economy and regeneration strategies.

- Applicant has provided no evidence to support its claim that its own proposals will bring *"inward investment, technology transfer and innovation".* Further, the Applicant has certainly not provided any evidence that it has the necessary funding, knowledge, expertise, business plan or business model in place to do so. Rather, the sole member of the Applicant's Executive Team with any directly relevant airport operations experience, Tony Freudmann, has sought to distance himself from his own questionable accomplishments in this sector,

[8] Commercial Viability of Manston Airport - Avia Solutions FINAL Report for Thanet District Council, September 2016

disingenuously claiming during the Noise Hearing of 22 March 2019 that he was only a *"foot soldier"* whilst serving as Deputy Chairman of the Executive Board during Wiggins/Planestation previous ownership of Manston Airport. [REP5-072].

- We respectfully remind the ExA of the possible reasons why the only experienced member of the Applicant's Executive Team, whilst presumably seeking to support and strengthen its case, should somewhat counter-intuitively choose to down-play his own experience in the field of international travel and airport operations, as per our evidenced summary of Mr Freudmann's career history submitted at Deadline 4, [REP4-042, ref F.1.1, paragraphs 1 - 1.30]. Given this history, it is questionable whether any stakeholder or, indeed, potential investor should make *"every effort"* to support Mr Freudmann's latest scheme.

- The remainder of the Applicant's response to SE.4.4 (ii) appears to be little more than a 'highlights only' package of Manston's *"illustrious aviation history".* These highlights appear to be limited to achievements 1909 and 1915 before jumping straight through to its closure in "2016" (sic).

- Notwithstanding the fact that Manston actually closed and has not operated since 2014, the Applicant's potted history of the site somehow conspires to miss the rather less than illustrious periods of commercial failure which led to its closure, including numerous failed passenger airline operations, (scheduled and chartered), discontinued services due to lack of demand, [REP4-052, Ref SE.1.1, paragraphs 3.3.2 - 3.4.1], and - immediately prior to its closure - specialisation as a dedicated freight airport, [REP7-008, paragraphs 6.2 - 6.3 and PwC appendix], as per the Applicant's current proposal.

- It is therefore entirely unclear on what basis that Applicant states that *"Thanet will plainly benefit from the operation of the Airport".* Indeed, it is notable that rather than provide any evidence to support this claim or explain how the Applicant will facilitate any benefit, the Applicant instead chooses to challenge

"the local authority and other agencies to promote the local offer and capture as much of the increased spend as possible".

SE.4.5

i)

Applicant states: *"Since the Manston Airport DCO application has been classified as a Nationally Significant Infrastructure Project, it is pertinent to consider the impact of increased UK airport infrastructure at a national level and so the conclusion of the catalytic impacts is justified".*

- As in its response to SE.4.4, the Applicant again here makes the presumption that being accepted for Examination as an NSIP automatically and pre-emptively confers NSIP status on its proposals.

- This presumption notwithstanding, the ExA will be aware that the *"impact of increased UK airport infrastructure at a national level"* necessitates consideration of catalytic impacts and displacement from existing UK airports and freight operators across all sectors.

- At Para. 2.23, the Applicant states that the catalytic employment estimates are assumed to be at the UK level but, as has been pointed out in York Aviation's November 2017 Report (para. 5.8), the ICAO estimate relates to the global catalytic effect of aviation and the 2015 Intervistas study referred to by the Applicant to the Europe-wide effects. Neither of these are relevant at the national level similarly to the importance of distinguishing the relevant study area and the extent to which purchases are local or even national.

- As pointed out in York Aviation's reports and at the Hearings, consideration of the catalytic benefits of an airport are more usually examined by reference to the specific business that it seeks to serve and how this benefits passengers and businesses in the relevant study area. It is for this reason that crude multipliers are not normally applied, not least as direct employment at an airport provides no indication of the extent to which wider catalytic benefits would be generated, for example a busy airport serving

primarily outbound leisure flights might well employ more staff than a small airport focussed entirely on core business links.

- Heathrow Airport's PEIR provides an example of how to consider the likelihood of catalytic effects arising. Furthermore, to the extent that direct employment has been overestimated, this would flow through to the catalytic employment estimates when a crude multiplier is adopted. The quantification of the catalytic impact of Manston has simply no validity at the national or any other level.

ii)

- Again, we note the Applicant appears to be absolving itself of any responsibility to support, promote, develop or even provide any meaningful comment or evidence of any catalytic jobs in Kent, preferring instead to put the onus for providing and/or evidencing any such benefits solely on *"relevant stakeholders (including the local and county authorities, Invest in Kent, etc."*

SE.4.6

- The Applicant has previously sought to deny the relevance of any displacement effects at Paras. 3.1-3.4. Whilst this might be a reasonable approach if the impacts had only been assessed and scaled appropriately to a small local study area containing no other airport and few affected businesses, it is not correct given that the impacts have been assessed at least at a national scale. The Applicant continues to be in error when it says that displacement of activity at other airports or a switch from trucking to flown freight does not need to be accounted for.

- We note that Heathrow correctly considered displacement effects in its recent PEIR

- We fully support and endorse the responses and reports of York Aviation with regards to displacement and its impacts on existing UK airports and air freight operators, including but not limited to comments and evidence provided and resubmitted in appendices herein. Comments and evidence contained therein includes, for example:

"As noted above, the (Applicant's) Year 3 figure would place Manston on a par with Stansted within 2 years of opening. This is not credible." [9]

"The only assumption that can be made is that Azimuth/RSP are relying on freighter aircraft at Manston being wholly or largely displaced from elsewhere in order to achieve the growth projected in a single year or over 2 years." [10]

- The Applicant makes no effort to contradict this assumption in its answer to SE.4.6, in fact, the Applicant appears to be very much in agreement with regards to the air freight market.

- The Applicant's mitigation against this displacement effect appears to be its assertion, entirely without any evidence or research to support its claim, that *"there may be redistribution of jobs from South East airports that may replace their existing freighter market with more passenger traffic … and therefore any freight-related jobs will be replaced by other aviation related jobs".*

- Notwithstanding the fact that this statement is both pure conjecture and caveated in at least two places, it also pre-supposes that other South East airports - or other airports in the UK - will gladly sacrifice their freight operations, or that existing air freight workers will gladly sacrifice their jobs.

- Having jointly-funded the Steer Report (2018) as a lobbying document to increase and improve policy restrictions and recommendations for air freight operations, it would appear that Heathrow Airport Ltd and Manchester Airports Group, (comprising Manchester, East Midlands and Stansted), are seeking to develop their own air freight operations rather than scale them back. As such, it is naive for the Applicant to assume that it will easily displace freight operations from other more established airports and recognised market leaders with ease or in anything other than a competitive marketplace.

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[9] Assessment of the Need and Justification for the Development of Manston Airport, York Aviation, February 2019, paragraph 3.25, [REP3-205], and Resubmitted and shown at **Appendix 01**
[10] *ibid*, paragraph 3.26

- Outside of air freight, the issue of displacement must also be considered in the wider context of other modes of freight transport. As the ExA and Secretary of State will be keenly aware, failure to properly consider the implications for Eurotunnel's freight operations when awarding the subsequently abandoned Seaborne Ferries contract, for example, resulted in a £33m out-of-court settlement in favour of Eurotunnel for DfT.

- Of particular note in the Eurotunnel/Seaborne case is the failure to take into account freight market and displacement implications over different modes of transport, Eurotunnel's position as *"the preferred route for vital goods to travel between the EU and the UK",* the Eurotunnel entry/exit point and its geographic proximity to Ramsgate and Eurotunnel's capacity to provide freight services to the NHS and pharmaceuticals industry, as was later enshrined in the settlement[11].

- Needless to say, every one of these conditions is equally applicable to Manston Airport and any cross-sectoral displacement which may occur.

SE.4.7

i) and ii)

The Applicant's response regarding number of person hours p.a. suggests little or no correlation between its employment assumptions, costs assumptions, and/or operational patterns. This further suggests an approach to financial and/or human resource management that is neither scientific nor economically-sound. Respectfully, this should be a cause for concern as regards perceived risk to the deliverability of the project and the project management capabilities of the Applicant.

SE.4.8

Prestwick

- Applicant's response appears to be based on anecdotal/hearsay evidence, not substantiated, from its consultant, Tom Wilson, based on his recollections and

[11] [REP4-044 and appendices]

assumptions when working as MD of Prestwick Airport - an entirely separate company to Prestwick Aircraft Maintenance Ltd - sometime during his tenure between the years 1992 - 2004, i.e. fifteen years ago. This cannot reasonably be presented as 'robust', verifiable or up-to-date evidence to refute the current evidence provided, (Prestwick Aircraft Maintenance Ltd latest report and accounts), and testimony of York Aviation, namely:

"*Ryanair has a 5 bay hangar at Prestwick2, operated on its behalf by Prestwick Aircraft Maintenance Ltd. Its latest report and accounts showed that it employed 400 people in total (see attached extract from PAML accounts). With 3 bays at Manston, this would suggest a realistic comparable employment figure of 240 jobs.*" [12]

Tarbes / Tarmac Aerosave

"Tarmac Aerosave has aircraft teardown facilities across 3 sites in Europe. In 2017 (the 10th anniversary of its operation at Tarbes in France, the company was reported as having 200 employees. The Tarbes site appears to have 2 hangars capable of accommodating widebodied aircraft, i.e. substantially larger than the hangars proposed at Manston and parking for around 24 aircraft, including a substantial number of widebodied aircraft, which again could not be accommodated at Manston, other than by occupying some of the freighter Code E stands so reducing the capability for freight. Hence, it appears highly unlikely that as many as 200 jobs could be sustained in aircraft tear down at Manston with the proposed 3 Code C bay hangar and associated Code C aircraft apron. In overall terms, these examples would suggest that the number of jobs that might be sustained if MRO or aircraft tear down activity could be attracted to the proposed 3 bay hangar at Manston would be of the order of around 200 jobs. We do not take a view here on the likelihood of such activities being attracted to Manston but note that there is intense competition between airports across the UK to attract such activities."

- In its response to SE.4.8, Applicant has failed to provide any evidence of the floor space of the hangars at Tarbes since this is not clear or evidenced by the photo provided. As

[12] Originally submitted at [REP8-013] and resubmitted and shown here as Appendix 04

such, the Applicant's assertions that *"Tarbes has 20% less hangar space than envisaged at Manston"* and any resulting calculations based on this assertion are unsubstantiated.

- Applicant states in its answer (a) that *"Tarbes is primarily A and B check rather than heavy maintenance and so supports a lower employment density"*, without providing any evidence to support any of these assertions. Further, since the Applicant has failed on multiple occasions to provide answers to the ExA's numerous questions relating to its own business model, there is no indication from the Applicant as to whether it might also be operating on an *"A and B check"* basis or focused on heavy maintenance.

- In its response at paragraph (b) the Applicant has failed to provide any evidence to support any part of its answers, assertions or assumptions.

- At the Applicant's paragraph (c), since the Applicant has failed to provide any details of its business model, it also fails here to provide any evidence or supporting statements to qualify, justify or quantify its statements that its job figures are *"based on maximum use of the facility"* or that such a level of operation is in any way realistic or viable.

- This assertion and the lack of any effort or ability to evidence or viably secure the promise of *"maximum use of the facility"* or jobs created under such operational conditions, recalls Dr Sally Dixon's testimony, presented during the Need and Operations Hearing of 21 March 2019, in which she clearly states with regards to the Azimuth report:

  ***Dr Sally Dixon (DSD)**:*
  "I wasn't asked to come up with a forecast that showed viability or not . I was asked to produce a forecast. Whether or not it was viable was not in my hands." [13]

  Under questioning, DSD repeatedly confirms that the Azimuth Report, which underpins the Applicant's entire business case, forecasts and estimates of socio-economic impacts, including job creation, has no basis or regard to viability, for example:

[13] Recording of ISH2 - Part 3, Need and Operations, [TR020002-003870] at timecode 1:17:28

James Strachan (JS):

"A forecast is predicting what will happen at Manston Airport and therefore for you to be telling the Examining Authority that this will happen or it's likely to happen, you must think it's viable. Mustn't you?" [14]

DSD:

"I disagree. I was asked to produce a forecast in terms of ATMs and tonnage. Whether or not that was viable was not part of the Azimuth Report." [15]

In light of the above, the Applicant's job forecasts, estimates and forecasts relating operational capacity and/or viability of any such claims cannot be relied upon.

SE.4.9

- Leaving aside whether the correct multipliers have been used to derive the indirect and induced employment, Section 3.8 of the ES (Chapter 13) [APP-034] takes the figures produced by Dr Dixon and applies them at three levels of assessment:

  Local – Thanet
  Regional – Kent
  UK

- The ES assesses both the direct on-site job creation and the indirect/induced employment for their significance at both the Local and Regional levels, making no distinction as to the different number of jobs that might be created at these two assessment levels. This is neither correct nor consistent with Dr Dixon's own statements regarding where the jobs might arise.

- Whilst the on-airport jobs will clearly be located within Thanet, the distribution of employee residence will be wider, so even for direct employment, assessment at the

[14] Recording of ISH2 - Part 3, Need and Operations, [TR020002-003870] at timecode 1:17:53
[15] Recording of ISH2 - Part 3, Need and Operations, [TR020002-003870] at timecode 1:18:15

Local level will overstate the significance. Dr Dixon then defines her view as to the relevant area for the indirect and induced effects to be realised, including:

"In addition to East Kent, these include Shepway, Swale, Medway and potentially Dartford and South East London" (Azimuth Reports, Vol IV, para. 5.3.4).

- It is clear that in assessing the employment benefits of the claimed indirect and induced employment, the ES has been inconsistent with Dr Dixon's work, which forms the entire basis for the assessment of the expected employment and economic benefits.

- The Applicant has acknowledged the inconsistencies with regards to definition of local areas and states *"this has no material effect on the assessment"*. No evidence or rationale is provided to support this assertion.

- We note also that there are further inconsistencies and complications as regards the Applicant's definition of local employment in that the Applicant has further defined *"local labour"*as *"those living within a 90-minute commute of Manston Airport"* at page 34 of the Updated Register of Environmental Actions, (REAC), [REP-018]. This third definition has further implications with regards to benefits and socio-economic mitigation claimed by the Applicant, as detailed in our submission to Deadline 11, [TR020002-004647].

- The Applicant's assertion that *"local spending will be largely contained within this area"*, (Thanet), is not consistent with its response to SE.4.4 regarding *"leakage"* and *"nitpicking"* around definition of local.

- The Applicant does, however, go on to repeat its assertion that capturing or capitalising on alleged benefits of the Applicant's proposal "is the responsibility of the Local Authority" and makes no effort here to identify or evidence what such benefits might be or the responsibilities of the Applicant in delivering those benefits as socio-economic mitigation against the significant blight its proposals will have on the local area, communities and existing businesses. Our comments at SE.4.4 regarding this response apply equally here.

- The Applicant's assertions that "the jobs created will largely exist within Thanet District" is not evidenced and not consistent with its application or with the definition of *"local labour"* as those living within a 90 minute commute from Manston. Whether commuting by car or by train, such a commute covers virtually the whole of Kent, parts of Essex, outer London and central London, with Kings Cross just 70 minutes from Ramsgate by HS1.

- As stated in our response to SE.4.8, above, Dr Sally Dixon's confirmation during ISH2: Need and Operations, confirm that the Azimuth Report and its jobs forecasts have no basis, grounding or regard in viability. As such, the Azimuth Report cannot be relied upon for any meaningful jobs and employment forecasts as it appears to be little more than a 'wish list' on behalf of the Applicant.

SE.4.10

i)

We have previously submitted significant bodies of evidence regarding Thanet's booming tourism economy and, specifically, the role that Ramsgate plays in this, including but not limited to our recent submission to Deadline 11, [TR020002-004649]. These submissions also includes evidence of common reasons for the significant growth in visitors to the area, which are largely incompatible with cargo flights overflying the town at altitudes of around 500ft, most notably with regards to heritage visitors and outdoor recreational pursuits.

We therefore completely refute the Applicant's continued lack of understanding and appreciation of Thanet's tourism offer, as evidenced by its unevidenced assertion that *"Manston airport provides an opportunity that would otherwise not exist for local stakeholders to attract tourists to the area".*

Provisional CAA data for the first quarter of 2019 refutes the Applicant's assertions that Southend has benefited from increased inbound tourism. Southend has not previously been included in the CAA Survey but is being surveyed in 2019. The provisional issue of the results for the first quarter (Q1) has just been released by the CAA and the results are included in the

CAA Passenger Survey (2018) and (2019 Q1 - Southend Only)[16]. Whilst these results are provisional, due to the small sample size, it would strongly suggest that the impact of the Airport on tourism in Southend has been negligible as only 0.8% of passengers appear to be foreign visitors staying locally for reasons other than visiting friends and relatives.

It is notable that the Applicant appears to focus much of its attention on Canterbury and other areas of Kent as regards the local inbound tourism offer, with only a single mention of Thanet generically and no mention at all of any of its individual towns - specifically Ramsgate, which enjoys the highest number of overnight visitors in the district. It is unclear whether this should be taken as evidence of the Applicant's complete lack of awareness of the local inbound tourism market or, rather, as another of many examples of the Applicant's wilful avoidance of Ramsgate and its full knowledge of the devastating impact its proposals will have on the town and its economy.

SE.4.11

- The Applicant's assertions regarding the appeal of the proposed airport to outbound travellers is not evidenced.

- The Applicant's statements in response to this question during the ExA's fourth written questions appears to be quite inconsistent with the Applicant's response to the ExA's First Written Question SE.1.1, which we have previously commented upon at Deadline 4, [REP4-052]. In its answer at SE.1.1, the Applicant appears to almost completely disregard any potential or feasibility for the outbound passenger market due to the competitive marketplace, stating:

- *" Irrespective of the ultimate destinations served by the proposed development, these will not match the range and frequency of destinations served by Gatwick (1.5-hour drive time from Margate), Heathrow (circa 2 hours) and to a lesser extent London City Airport (circa 2 hours). Ebbsfleet international is around a 1-hour drive time, providing access to mainland Europe via the channel tunnel, whilst cross channel ferry access via Dover is circa 40 minutes."*

[16] Appendix 04, Oral Evidence given by York Aviation at the Socio-Economic Hearing, 5th June 2019, Page 7, paragraph 29. Foreign passenger's surface origin / destination at select London Airports

- The Applicant appears to be slightly more optimistic in its answer to the ExA's SE.4.11 that - anecdotally at least - there may be some potential for a market for passenger services, as follows:

- *" Anecdotal evidence collected in East Kent suggests that there is potentially a sizeable section of the population for whom travel to one of the London airports (Gatwick, etc), the length of time required to clear security and wait prior to boarding an aircraft is too much for them to handle. This may be due to disability, agerelated (sic) conditions or single parents travelling with more than one child."*

- It is unclear from the Applicant's anecdotal approach to market research, however, whether this represents a viable market or, indeed, whether this constitutes any evidence of viability which, as confirmed by Dr Sally Dixon, is missing from the Azimuth Report.

- Irrespective of such lack of research or viability studies, we respectfully remind the ExA of the long list of failed passenger airport operations and lack of demand during previous operations prior to Manston's failure and closure in 2014, as detailed in our response to the Applicant's SE.1.1 at paragraphs 3.31 - 3.4.1 [REP4-052].

SE.4.12

- The Applicant appears to have confirmed that Leigh-on-Sea is predominantly a residential area rather than a tourist area, also confirming that "Ramsgate and its relationship with Broadstairs and Margate, provide a much larger offering to incoming tourists" .

- The Applicant's comparison of Leigh-on-Sea, with its "cobbled streets, cockle sheds, a 14th century Church, a Heritage Centre and Trail, Endeavour, one of the Dunkirk ships, and an array of pubs and restaurants with a vibrant live music scene" with Ramsgate - comprised of the largest conservation area in Kent, more than 400 listed buildings, the

only Royal Harbour in the UK and the most popular overnight destination in Thanet is not a credible comparison.

-
- Further, as we have previously evidenced, Leigh-on-Sea - although under the Southend flight path, is sufficiently far removed from the end of the runway, starting over 2 Nautical Miles away to the edge of the residential area of Leigh-on-Sea. The flight path does not directly overfly the beach at Leigh-on-Sea, whereas any flight path from Manston will directly overfly the main centre of town, beach, Royal Harbour, main sands, Marina etc at altitudes of approximately 500 - 600ft.

York Aviation

STONE HILL PARK LIMITED

UPDATED CRITIQUE OF ASSESSMENT OF THE NEED AND JUSTIFICATION FOR THE DEVELOPMENT OF MANSTON AIRPORT AS AN AIR FREIGHT HUB

REPORT

FEBRUARY 2019

York Aviation

Originated by: Louise Congdon/James Brass/Matt Jones/Richard Connelly

Dated: 13th February 2019

Reviewed by: Richard Kaberry

Dated: 14th February 2019

STONE HILL PARK LIMITED

ASSESSMENT OF THE NEED AND JUSTIFICATION FOR THE DEVELOPMENT OF MANSTON AIRPORT AS AN AIR FREIGHT HUB

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EXECUTIVE SUMMARY

1. York Aviation was appointed by Stone Hill Park Limited (SHP) in September 2017 to review the evidence presented by RiverOak Strategic Partners Limited (RSP) in connection with RSP's prospective application for a Development Consent Order (DCO) for the redevelopment and re-opening of Manston Airport as a hub for international air freight services, which also offers passenger, executive travel and aircraft engineering services. Our initial summary Report was published in November 2017 and the contents remain valid and relevant. It is included at **Appendix B** to this report for completeness.

2. Our November 2017 Report made clear that:

   - RSP's analysis of our earlier work for the Freight Transport Association (FTA) and Transport for London (TfL) was flawed and this work did not support RSP's conclusion that there would be a substantive or sustainable role for Manston in the UK air freight industry.
   - The remaining evidence relied on by RSP to justify its Need Case is almost entirely based on circumstantial evidence related to the shortage of airport capacity principally for passenger flights, that can also carry bellyhold cargo, in the circumstances where no additional capacity is provided at any of the London Airport. This is simply irrelevant particularly given that it is Government policy to promote the development of a third runway at Heathrow.
   - The analysis presented by Azimuth to support RSP's case shows a lack of understanding of the economics of the air freight market, especially in failing to recognise the economic drivers that prioritise the use of bellyhold capacity over dedicated freighters.
   - Manston's past operation was economically inefficient due to the inherent lack of viability. Reopening the Airport has no realistic prospect of success as there are more economically efficient alternatives available for any freight displaced from Heathrow in the short term, pending the development of a third runway.
   - Azimuth's 'forecasts' rely strongly on the attraction of an integrator but Manston is too peripheral for integrator operations serving the UK.
   - Azimuth's interview survey, used as further justification for RSP's freight movement forecasts, relies on a small list of mainly local companies with something of a vested interest in seeing Manston re-opened and does not provide a basis for the specific aircraft movement forecasts upon which the case relies, not least as it is not possible to relate the proposed services to be operated with the responses by the interviewees. There is simply no explanation for, or justification for, the services postulated by Azimuth. There is a total lack of credibility in the approach adopted.
   - To illustrate this lack of credibility of the forecasts, in Year 2 (the first operational year), a cargo throughput of nearly 100,000 tonnes is forecast by Azimuth. This would make Manston the 5th largest freight airport in the UK in its first year after re-opening. It would make Manston the 3rd busiest airport in the UK in terms of tonnage carried on dedicated freighter aircraft. This is simply not a credible proposition.
   - Proper analysis of the UK air freight market showed that there is plenty of freighter capacity at Stansted and East Midlands Airport to accommodate any growth required in dedicated freighter operations such that there will be no shortage of capacity across the UK and no role for Manston in accommodating traffic spilled from other airports. These airports are better located relative to the market and the key locations for distribution within the UK.

- Our estimate was that Manston would, at best, be able to attain 2,000 annual air cargo aircraft movements by 2040 and it is equally plausible that it might not achieve more than 750 such movements annually as operated when it was previously open.
- Our initial assessment of the passenger market was that the throughput might, at best, be around half of that projected by RSP and, hence, given the dependence on passenger related income for the financial viability of airport operations, this would impact substantially on the viability of the proposal.
- Our assessment was that the existing infrastructure at Manston Airport, if made good, would be capable of handling 21,000 annual air cargo aircraft movements. The actual usage of that capability would depend on the pattern of operation and how the infrastructure was used on a day by day basis.
- We also gave provisional consideration to the land required to accommodate future forecast demand. Without prejudice to our view that demand to use Manston is not likely to be anything like 17,171 cargo aircraft movements a year, we considered that the land required would be substantially less than shown on the RSP Master Plan and that the proposed land take is excessive and without justification in terms of the compulsory acquisition of the land, particularly given the inherent implausibility of the demand forecasts upon which the assessment was made.
- We could see no justification for the inclusion of the 'Northern Grass' area within the DCO on the basis of it being for associated development. There will be little requirement for or likelihood of the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow or elsewhere to Manston.
- Azimuth made errors in the assessment of the socio-economic implications of the proposed development, particularly in terms of the use of inappropriate multipliers, the assessment of impacts at a national scale, rather than the local scale in East Kent as implied by Azimuth, and should have taken displacement of activity from other UK airports fully into account, reducing the impacts well below those stated.

3. This report updates and adds to the analysis of the flaws in RSP's Need Case, as set out principally in the Azimuth Reports, as presented in our November 2017 Report. In practice, the Azimuth Reports are little changed and, to the extent that new material has been added, do not address or rectify the substantial errors that we identified in the analysis contained therein. We do also update consideration of Aviation Policy in the light of developments, including the formal designation of the Airports National Policy Statement (NPS) and the clear statement of intent regarding the third runway at Heathrow and its role in ensuring adequate air freight capacity for the foreseeable future.

4. Our overall assessment in November 2017 was that RSP's case lacked any real credibility. Nothing has fundamentally changed and to the extent that there have been changes, for example in the formal designation of the Airports NPS, any need for Manston is even less than we previously assessed.

5. In updating of our previous work, we have taken particular cognisance of the requirement for RSP to present a compelling case in the public interest to justify the compulsory acquisition of land. This goes beyond the theoretical test of the capability of the infrastructure proposed but must, necessarily, consider the likelihood and extent of the level of usage of that infrastructure and the extent to which there would be wider public benefit from the land being used in that way.

Aviation Policy

6. The whole of the RSP Need Case for the development of an air freight hub at Manston is based on the Azimuth Reports. A flawed interpretation of Aviation Policy is still set out in Azimuth's Volume I, which seeks to infer support for the development of a mainly freight airport at Manston based on the evidence before the Airports Commission of the potential damage to the UK economy if no additional hub airport capacity was provided at Heathrow (or a reasonable alternative to Heathrow). This was never a relevant basis for considering whether there was a case for re-opening Manston as a primarily air freight airport, as the vast majority of the economic benefit cited relates specifically to the benefits to passengers in the main using global passenger services from an expanded hub Heathrow – a need that Manston patently cannot and does not claim that it will be able to meet.

7. The clear decision by Government in favour of the building of an additional runway at Heathrow will transform capacity available to the air freight sector. There can be no doubt that the use by RSP of pre-NPS evidence on the need to address the shortage of airport capacity overall to serve London is misleading and incorrect. Properly interpreted, Government Aviation Policy makes clear that expansion of capacity at Heathrow, allowing more global air connections providing additional bellyhold capacity and scope, if required, for more dedicated freighter movements at Heathrow, is the identified means of meeting future air freight demand, along with the continued role for East Midlands and Stansted as air freight gateways with ample spare capacity.

Errors and Inconsistencies of Analysis

8. In this report, we have identified further inconsistencies and mathematical errors in the 'forecasts' presented by Azimuth and others in the RSP team to justify the proposed development at Manston. Whilst individually some of these errors and discrepancies might seem small in scale and impact, others are highly significant and serve to undermine the credibility of the whole approach outlined in the Azimuth Reports and throughout RSP's Application Documents. The combined implications are significant in terms of whether a) the application should actually have qualified as an NSIP; b) in terms of the level of demand that Manston might attract if it re-opened as an Airport and the viability of the proposed operation; and c) whether the environmental assessments undertaken are robust.

9. The most significant of these errors relate to:

- the lack of any soundly based forecasts – instead of forecasts based on an understanding of markets, costs and real potential, RSP's case is founded on a flawed list of airlines that it claims will definitely operate at Manston and then grow their business at Manston. Several of these airlines do not operate air freight services at all and others would be unlikely to operate to Manston for the reasons we set out. Hence, the list presented is no more than a 'guesstimate', without any supporting evidence. These are not 'forecasts' in the sense that is normally recognised in the industry;
- the lack of realism in the fleet mix overall and the assumed pattern of day/night time operations, particularly in relation to the implications for the prospect of integrator and mail operations being attracted to use Manston at all. This further undermines the credibility of the short term 'forecasts' as, contrary to what RSP claim, airlines would not be able to operate to Manston on an unconstrained basis to meet their own commercial requirements but would be so constrained during the night period as to make the majority of the operations claimed by Azimuth unviable for the airlines;

- the overstatement of longer term demand projections through the use of unjustified growth rates due to mathematical errors made by Azimuth.

10. These errors and inconsistencies render the so-called 'forecasts' completely unreliable as a basis for assessing the extent and nature of any usage of Manston in the event that the Airport re-opens.

Understanding the Air Freight Market

11. Examination of market trends and the structure of the air freight market make clear that there is no role for Manston, other than possibly as a niche cargo operation for ad hoc specialist consignments, as with its historic operation. The trend in favour of bellyhold for the carriage of general air freight is clear. This freight forwarding sector is heavily concentrated around Heathrow for this very reason and the associated consolidation activity essentially drives the choice of airport based on the most economical freight rates available for any consignment. This is highly unlikely to be a dedicated freighter option from an airport remotely located in East Kent.

12. R3 will provide for a doubling of air freight capacity at Heathrow, mainly in bellyholds of passenger aircraft, but also scope for dedicated freighters to the extent that these are required to feed the hub at Heathrow. Indeed, the ability to provide a step change in capacity for air freight was one of the principal reasons why the Government chose the specific proposal for the development of a new runway. Freight facilities at Heathrow are actively being modernised and extended in anticipation of the growth of cargo activity there.

13. The integrators are already well established at East Midlands Airport in particular, as well as using Heathrow and Stansted to serve the main markets in England. Manston is too far from the distribution centres along the M1/M6 axis to function as an integrator base, leaving aside that the proposed night movement restrictions would render any such operation unviable for the airline/integrator.

14. This leaves niche/specialist cargo operations as the only possible market for Manston. This would be consistent with the types of cargo that Manston used to handle. Ultimately, this is a very small market and unlikely to result in Manston handling more freighter movements than it did historically. This has profound implications for the Need Case as a whole, not least as it seems likely that any freighter activity would in fact need to be displaced from elsewhere through price incentives as there are few, if any, natural market drivers which would make Manston the first choice location, particularly given growth in bellyhold capacity at airports such as Manchester, Edinburgh, Birmingham and Stansted, plus available capacity for freighters particularly at East Midlands and Stansted Airports.

Air Passenger Forecasts

15. As with the asserted air freight 'forecasts', RSP/Azimuth provide no quantified analysis of the market to justify the passenger forecasts. The passenger element of the forecasts will be a vital element in considering the potential viability of the Airport as, generally, passenger operations offer higher margins for an airport than cargo operations given the ability to earn ancillary commercial revenues from shops and car parking. Furthermore, much of the asserted economic benefit from the Manston operation stems from passenger flights rather than cargo operations.

16. To assist the Examining Authority, we have set out in full our market assessment for passenger services at Manston. We have undertaken this analysis on the same basis as we would for any UK regional airport and presented it in a form that would be normal practice at an airport planning inquiry. Such analysis is completely missing from the Azimuth Reports.

17. Proper analysis of the market confirms that Manston is, at best, only likely to attract around half of the number of passengers claimed, without analysis, by Azimuth Associates over the 20 year period of the projections. This has inevitable implications for both the scale of facilities required and the viability of the airport operation as a whole. It is highly likely that attracting such services will require support from the public sector as well as highly discounted airport charges. Past experience would suggest that there would remain a high risk of the airlines failing to sustain the routes on a viable basis.

Infrastructure Requirements

18. Without prejudice to our view that demand to use Manston is not likely to be anything like 17,170 cargo aircraft movements a year, our analysis shows that the land required to accommodate such a number of movements would be substantially less than shown on the RSP Master Plan. The RSP Application Documents fail to set out any justification for the extent of facilities proposed by reference to their own 'forecasts' both for the core airport infrastructure and any claimed associated development on the Northern Grass.

19. To assist the Examining Authority, we have set out the basis for estimating the required number of stands and cargo terminal infrastructure to enable RSP's forecasts to be accommodated based on the times that airlines would wish to fly. This does, of course, confirm the extent to which there would be dependence on night flying. Based on proper analysis of airline operating patterns, the maximum number of Code E equivalent stands that would be required, even allowing a buffer for resilience, would be 10. Based on global benchmarks, the scale of cargo sheds could also be substantially reduced to no more than 1/3 of the size proposed by RSP. Overall, even in the highly unlikely event that RSP/Azimuth's 'forecasts' were realised, the overall scale of development required would be no more than of the order of 40% of that proposed in RSP's Master Plan to accommodate airlines at the times they would wish to fly. This is, of course, not the same as the theoretical capability of the existing or proposed infrastructure.

20. As far as the Northern Grass is concerned, the list of airport related uses provided in the Updated NSIP Justification by RSP is no more than a list of uses that may be required at an airport without any specific reference to whether they are actually needed at Manston or, indeed, the extent to which these uses would need to be accommodated in an airside location in any event. We can see no justification for the inclusion of the 'Northern Grass' within the DCO as associated development as there will be little requirement for the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow or elsewhere to Manston and any requirement for the facilities listed could be accommodated south of the B2050.

21. The development on the Northern Grass site appears to be speculative commercial development. The total extent of landside airport related uses at East Midlands Airport, other than hotels which do not feature as part of Manston's plans, is 13,000m^2, or 13% of the scale of development proposed for the Northern Grass by RSP. Hence, based on the precedent at East Midlands Airport – the UK's principal airport for pure freighter operations – the extent of development proposed for the Northern Grass means it would be expected to be largely for non-aviation related uses.

Viability

22. In the absence of any assessment of the Business Case for the development within the RSP Application Documents, we have undertaken an assessment of the potential viability to assist the Examining Authority to assess the likelihood of the development plan being implemented if consented.

23. Our analysis shows that the RSP proposals for Manston Airport are not commercially viable even based on their unreasonably optimistic traffic 'forecasts'. The Airport would remain in a loss making position for at least 15 years and generate a negative return on investment for more than 20 years. Fundamentally, the analysis of potential viability strongly suggests that no rational private sector investor would fund the re-opening of Manston Airport on the basis proposed by RSP as the development is likely to deliver negative returns to investment for the foreseeable future.

24. The Airport was never previously a financially viable operation and we see no reason for this to be any different in future. When properly analysed, there is little prospect of the operation generating sufficient revenues to cover the costs for the investors nor deliver any returns on the investment for the foreseeable future. In the absence of evidence to the contrary, it is our judgement that investment would not be forthcoming to the extent necessary to even secure the re-opening of the Airport.

25. Clearly, to the extent that traffic growth does not materialise as RSP envisage following the initial investment, it is clear that the financial position of the Airport would be materially worse. It is our assessment that, even if initial investment was forthcoming, which we doubt, it is inevitable that the Airport would close again in the medium term due to lack of inherent viability.

Overall Conclusion

26. Fundamentally, the whole Need Case for the development of Manston as an air freight hub is infected with flaws and errors of understanding such that the so-called 'forecasts' of air freight and passenger demand have no credibility at all. Even if they were credible, the scale of development proposed is unjustified and excessive. The development and operation of the Airport would simply be unviable and incapable of attracting competent investors.

1 INTRODUCTION

This Report

1.1 York Aviation (YAL) was appointed by Stone Hill Park Limited (SHP) in September 2017 to review the evidence presented by RiverOak Strategic Partners Limited (RSP) in connection with RSP's prospective application for a Development Consent Order (DCO) for the redevelopment and re-opening of Manston Airport as a hub for international air freight services, which also offers passenger, executive travel and aircraft engineering services. Our initial Summary Report was published by SHP in November 2017 and is appended to this report at **Appendix B** to assist the Examining Authority.

1.2 We subsequently provided comments on RSP's updated consultation materials in February 2018 and these were submitted as part of SHP's response to the consultation. This note is appended to this report at **Appendix D** to assist the Examining Authority.

1.3 In our original November 2017 report, as summarised in the Executive Summary, we made clear that:

i. RSP's quantified forecast of the number of dedicated freighter aircraft that Manston might attract was based almost entirely on our earlier work for the Freight Transport Association (FTA) and Transport for London (TfL) in 2015 and a note on Freight Connectivity for TfL in 2013. However, the analysis in these reports, when properly read, does not support RSP's conclusion that there would be a substantive or sustainable role for Manston in the UK air freight industry.

ii. The remaining evidence relied on by RPS as the basis of the Justification for the Application, set out in the Azimuth Reports, is almost entirely based on circumstantial evidence related to the shortage of airport capacity principally for passenger flights, that can also carry bellyhold cargo, in the circumstances where no additional capacity is provided at any of the London Airport (the Airports Commission's baseline position). Use of the economic costs to the UK if additional passenger hub capacity is not provided in the South East of England by 2050 is not relevant to the specific question as to whether there would be sufficient demand or any economic justification for dedicated freighter movements to be operated to/from Manston in the foreseeable future, particularly in the circumstance where it is Government policy to promote the development of a third runway at Heathrow.

iii. The analysis presented by Azimuth to support RSP's case shows a lack of understanding of the economics of the air freight market. Just because there could be excess air freight demand in 2050, compared to the bellyhold capacity available in the absence of further runway capacity at the UK's main hub, it does not follow that displaced bellyhold freight will seek a more expensive dedicated freighter service from an alternative airport over the use of available bellyhold capacity, even if available at a more distant airport, as this bellyhold capacity can be provided at a lower cost to the shipper with only a marginal penalty in terms of the overall shipment time.

iv. Fundamentally, Manston's past operation was economically inefficient due to the inherent lack of viability. Reopening the Airport has no realistic prospect of success as

there are more economically efficient alternatives available for any freight displaced to the extent that there are ongoing capacity constraints at Heathrow in the short and longer term.

v. The Manston freighter forecasts rely strongly on the attraction of an integrator but Manston is too peripheral for integrator operations serving the UK. Integrators have a strong preference for locations more centrally located in the UK with good road access to all of the major markets for ease of distribution. Manston is simply in the wrong place to serve the market being located at the far south east at the end of a peninsular, away from the main centres of population and remote from the majority of the UK.

vi. Azimuth's interview survey, used as further justification for RSP's freight movement forecasts, relies on a small list of mainly local companies with something of a vested interest in seeing Manston re-opened[1] and does not provide a basis for the specific aircraft movement forecasts upon which the case relies. If anything, the views of those interviewed by Azimuth suggest that there would, at best, be a limited role for Manston. The one airline interviewed made clear that *"success at Manston depended upon identifying a niche market and becoming known for excellence."* It did not identify what this niche market might be. These interviews confirm our view that any realistic expectation for Manston, at best, is for a small niche operation, as it previously sustained on a non-viable basis rather than as a general 'overspill' cargo airport for London.

vii. The outputs from these interviews are then used by Azimuth as a basis for postulating a number of cargo aircraft movements that might operate at Manston. However, it is not possible to relate the proposed services to be operated with the responses by the interviewees. There is simply no explanation for, or justification for, the services postulated by Azimuth. There is a total lack of credibility in the approach adopted.

viii. To illustrate this lack of credibility of the forecasts, in Year 2 (the first operational year), a cargo throughput of nearly 100,000 tonnes is forecast by Azimuth. This would make Manston the 5th largest freight airport in the UK in its first year after re-opening. It would make Manston the 3rd busiest airport in the UK in terms of tonnage carried on dedicated freighter aircraft. This is simply not a credible proposition.

ix. Our November 2017 Report contained an updated and further developed analysis of the UK air freight market from that previously undertaken in 2013 and 2015 for TfL and for the FTA. When properly interpreted, our forecasts of air freight demand and capacity across the UK as a whole, taking the role of bellyhold fully into account, show that, to the extent that there is <u>any</u> need for additional pure freighter movements, there is plenty of freighter capacity at Stansted and East Midlands to accommodate any growth. These airports are better located relative to the market and the key locations for distribution within the UK. Overall, we conclude from this analysis that there will be no shortage of capacity for dedicated freighter aircraft across the UK in the period up 2040 and that overspill from other airports would not provide a rationale for re-opening Manston.

[1] Not all of these companies are still in operation.

x. On any assessment of a realistic potential role for Manston, our estimate was that Manston would, at best, be able to attain 2,000 annual air cargo aircraft movements by 2040 and it is equally plausible that it might not achieve more than 750 such movements annually as operated when it was previously open. These are far below Azimuth's projection, upon which RSP rely, of 17,171 annual cargo aircraft movements.

xi. Our initial assessment of the passenger market was that the throughput might, at best, be around half of that projected by RSP and, hence, given the dependence on passenger related income for the financial viability of airport operations, this will impact substantially on the viability of the proposal. The other activities suggested by RSP, such as business aviation, maintenance, repair and overhaul, and aircraft dismantling are highly competitive markets and, to the extent that Manston might attract any such operations, these are unlikely to contribute substantially to the overall viability of the Airport.

xii. Our assessment was that the existing infrastructure at Manston Airport, if made good, would be capable of handling 21,000 annual air cargo aircraft movements. The actual usage of that capability would depend on the pattern of operation and how the infrastructure was used on a day by day basis.

xiii. We also gave provisional consideration to the land required to accommodate future forecast demand. Without prejudice to our view that demand to use Manston is not likely to be anything like 17,171 cargo aircraft movements a year, we considered that the land required would be substantially less than shown on the RSP Master Plan and that the proposed land take is excessive and without justification in terms of the compulsory acquisition of the land, particularly given the inherent implausibility of the demand forecasts upon which the assessment was made.

xiv. We could see no justification for the inclusion of the 'Northern Grass' area within the DCO on the basis of it being for associated development. There will be little requirement for or likelihood of the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow or elsewhere to Manston.

xv. Azimuth made errors in the assessment of the socio-economic implications of the proposed development, particularly in terms of the use of inappropriate multipliers, the assessment of impacts at a national scale, rather than the local scale in East Kent as implied by Azimuth, and should have taken displacement of activity from other UK airports fully into account, reducing the impacts well below those stated.

xvi. Our overall assessment was that RSP's case lacked any real credibility.

1.4 In practice, there have been no substantive changes to the case being presented by RSP since our original report was prepared. Hence, we consider that the contents of our original report and the subsequent note remain valid and should be given full consideration by the Examining Authority. We do not repeat their contents here but this updating report should be read alongside our previous reports, which are appended to this report at **Appendices B** and **D**[2]. It remains the case that RSP's assessment of the need for the development of a specialist air freight airport at Manston lacks credibility and is not founded in any proper assessment of the market as would normally be expected for a planning (or development consent) application of this magnitude.

1.5 In this report, we will highlight the key ongoing shortcomings in the Need Case being presented by RSP, drawing on our earlier reports and updating the material contained therein where necessary, in particular relating to:

- the implications of the Airports National Policy Statement (NPS) and emerging Government Policy as set out in the Aviation Strategy Green Paper[3];
- the updated performance of the UK Air Freight Sector and future trends;
- additional or revised material made available in the RSP Application Documents.

1.6 To assist the Examining Authority, this report also sets out, in more detail, our assessment of realistic passenger demand forecasts and on the implications of the assessment of the air freight market and passenger demand forecasts for the viability of the Airport, which were not previously covered in our 2017 Summary Report.

1.7 Fundamentally, this report goes beyond the work previously submitted to examine whether there is a compelling case in the public interest for the development of an air freight hub at Manston by reference to our assessment of the market and need for the development and in the light of recently emerging Government Aviation policy. The test that needs to be met is a more stringent test than simply whether the infrastructure proposed would deliver a theoretical capability greater than the threshold set out in the Planning Act 2008. It requires consideration of:

- the levels of demand that are likely to use Manston – this goes beyond consideration of the capability of the infrastructure proposed and requires consideration of whether the infrastructure is likely to be used and how this usage contributes to efficiently meeting the national demand for air transport;
- the implications of those levels of usage for the likelihood that the development and operation of the Airport would be viable and sustainable over the longer term, having regard to the requirement to fund the development of the infrastructure in the first instance;
- whether the land proposed to be acquired is required to meet realistic levels of demand.

[2] To assist the Examining Authority, we have included an updated index of the references to the final Azimuth Reports in **Appendix C**.

[3] Aviation 2050, The Future of UK Aviation, a Consultation, Department for Transport, Cmnd 9714, December 2018

1.8 In this report, we highlight further the deficiencies in the evidence presented by RSP to support its case, in particular the continued absence of detailed analysis and justification from RSP relating to the need for the development within the Application Documentation. It remains our view that the deficiencies in the evidence are not capable of remedy or, if remedied, would confirm our previous conclusion that the case for the re-opening of Manston as an operational commercial airport on a viable or sustainable basis lacks foundation.

1.9 In this Report, we consider:

- whether there is aviation policy support for the development **in Section 2**;
- errors and inconsistencies in the case presented by RSP in **Section 3**;
- understanding the air freight sector in **Section 4**;
- realistic forecasts of air passenger demand in **Section 5**;
- the justification for infrastructure required to support those forecasts in **Section 6**;
- the implications for the viability of airport operations in **Section 7**;
- our conclusions in **Section 8**.

York Aviation Credentials

1.10 York Aviation LLP is a specialist air transport consultancy that focusses on airport planning, demand forecasting, strategy, operation and management. The company was established in 2002. We offer a broad range of services to airports, airlines, governments, economic development organisations and other parties with an interest in air transport. Our team is a mixture of experienced air transport professionals and economists. Key members of the team have substantial experience of airport operations and development gained through working for Manchester Airports Group. Our core services include:

- business planning and strategy;
- capacity and facilities planning;
- master planning and planning application support;
- demand forecasting;
- economic impact assessment and economic appraisal;
- policy and regulatory advice;
- route development;
- transaction support.

1.11 Our current and recent clients include:

- Department for Transport (DfT), in particular producing supporting studies published by DfT alongside the Airports NPS and Aviation Strategy Green Paper
- Transport for the North, including recent work on the linkage between aviation connectivity and trade (with Oxford Economics);
- Transport Scotland and Scottish Enterprise;

- Civil Aviation Authority;
- London City Airport in relation to updating its Master Plan;
- London Luton Airport in relation to its prospective DCO;
- Manchester Airports Group, including economic impact assessments of East Midlands and Stansted Airports;
- Birmingham Airport;
- Glasgow Airport;
- Regional and City Airports;
- Ryanair.

In addition, we work for numerous investors in airports and other parties with an interest in the development, operation and management of airports in the UK and abroad. This includes the development of business plans, the assessment of viability and the broader business case for investment.

1.12 We previously did work for Transport for London and the Freight Transport Association related to submissions to the Airports Commission in connection with the requirement for a new hub airport serving London and the South East. This included analysis of the UK air freight market. This is work upon which RSP seeks to rely but, as made clear in our 2017 Summary Report, this reliance is misplaced and betrays a misunderstanding of air freight market and the implications of our findings in terms of any potential role for Manston in the event of capacity constraints at Heathrow and the main London airports.

1.13 Louise Congdon, Managing Partner of York Aviation has provided evidence in relation to the need for and economic impact of airport development at several airport public inquiries, including Manchester Runway 2, Liverpool Airport, Doncaster Sheffield Airport, Stansted Airport Generation 1, Farnborough Airport, London Ashford Airport (Lydd) and London City Airport. Louise has been actively involved in the development and implementation of UK Aviation Policy since the 1980s and acted as adviser to the House of Commons Transport Select Committee from 2011 to 2014. Her CV is appended at **Appendix A.** Louise has been assisted by other members of the York Aviation team in compiling this and the previous reports.

2 DOES AVIATION POLICY SUPPORT THE NEED FOR MANSTON?

In this section, we show that RSP and Azimuth's claims that development of Manston as an air freight hub are supported by Aviation Policy is flawed. The claims rely largely in the position set out by the Airports Commission in the event of no additional capacity being provided at any of the main London airports. This is no longer valid, if indeed the inferences drawn by Azimuth and RSP ever were, in the light of the clear Government Policy in support of the provision of a third runway at Heathrow as set out in the Airports National Policy Statement.

The Basis of RSP's Need Case

2.1 RSP's Statement of Reasons, Planning Statement and Environmental Statement include sections on the justification or need for the proposals but these rely entirely on the work of Azimuth Associates[4]. Azimuth Associates set out that their work seeks to address three questions[5]:

- *"Does the UK require additional airport capacity in order to meet its political, economic, and social aims?*
- *Should this additional capacity be located in the South East of England?*
- *Can Manston Airport, with investment from RiverOak, relieve pressure on the UK network and meet the requirement of a nationally significant infrastructure project?*

As we made clear in our November 2017 Report (paras 2.5 to 2.7), these are not the right questions to be addressed in terms of whether there is a specific need for the development of a dedicated air freight hub at Manston sufficient to make a compelling case in the public interest.

2.2 RSP's Need Case appears to be as follows:

- aviation is important to the national economy and will become more important post-Brexit;
- there is a shortage of airport capacity in the South East of England, ignoring the impact of the development of a third runway at Heathrow (R3) and other committed or proposed expansions of capacity at the other London airports;
- pure freighter traffic has not been growing in the UK due solely to shortage of airport capacity;
- so there must be a need for a dedicated freight airport to address this shortfall;
- Manston has spare capacity so could fulfil that role.

[4] We are unaware of any other published reports by Azimuth Associates and are unclear of the extent of their relevant experience across the aviation sector more generally.
[5] Azimuth Report Vol I, para. 1.3.1.

2.3 In practice, the RSP Application Documents, including the Statement of Reasons, continue to rely on circumstantial evidence, references and quotations relating to the need for more air passenger connectivity, the economic benefits of addressing that need, and the need for a hub airport in the South East of England as evidence to support their case. As we set out at length in our November 2017 Report, most of these references are irrelevant to the asserted need for a dedicated air freight hub as most of the economic benefits cited relate specifically to passenger connectivity through more global air service connections offering passenger and bellyhold[6] freight capacity. Many of the reports and quotations have been misconstrued or misrepresented by the RSP team. We do not seek to address each and every erroneous reference in this Report. Circumstantial evidence supporting the need for more airport capacity in the South East of England simply does not provide specific justification of the need for the development of Manston as a dedicated air freight hub sufficient to make a compelling case.

2.4 Indeed, the Planning Statement itself (para 1.47), sets out the key test, namely that:

"Significant weight should be attached to the considerations of need and the weight to be attributed to need in any given case should be proportionate to the anticipated extent of the Manston Airport Project's contribution to meeting that need"

The extent to which the Manston Airport Project would contribute to meeting that need can only be assessed by reference to the reasonably expected usage of the Airport, if it re-opened, and does not follow from a general description of the situation appertaining across the London Airport system if a third runway at Heathrow is not constructed. This assessment requires a proper examination of the air cargo market, which does not support that the contention that there is a role for Manston in meeting the need for more air freight capacity in the UK as we set out later in this report.

2.5 The work of Azimuth Associates is also stated in other Application Documents to set out not only the need for development but also the Business Plan and the viability of the development[7]. Such an assessment of the Business Plan for the operational airport would be normally expected to include financial projections, the wider business case and an assessment of viability but this is completely absent from any of the documents submitted by RSP. We return to the business case and viability in **Section 7**.

2.6 As explained in detail in our Summary Report of November 2017, we consider the report by Azimuth Associates to be infected by manifest flaws, including in its interpretation of our earlier work for Transport for London (TfL) and the Freight Transport Association (FTA). Despite providing detailed rebuttal of the interpretation of our work by Azimuth Associates in consultation responses submitted by Stonehill Park, many of the RSP Application Documents continue to misrepresent the conclusions of our work as the basis of their case. We do not repeat these criticisms here[8] but, in this section, we comment more generally on the overarching aviation policy case being made by RSP drawing on our understanding of the Government's aviation policy as set out in the Airports NPS and Aviation Green Paper. We address the implications of the errors and inconsistencies in the Azimuth Reports further in the next section.

[6] Bellyhold capacity is capacity for air freight on passenger aircraft, typically below the passenger deck.
[7] RSP Environmental Statement (ES) para. 3.3.275, RSP Planning Statement para. 9.35.
[8] These are set out in full in Section 2 of our November 2017 Report.

Aviation Policy

2.7 RSP's Planning Statement includes the extraordinary statements (paras 9.16 and 10.6) that:

"The APF[9] makes it clear that it is not appropriate to re-examine the need for increased aviation capacity or, indeed, to question the Government's clear policy position that increases in aviation capacity are necessary and that they bring significant benefits. It states that it is the purpose of national policy to settle these issues."

"Government policy on aviation makes it clear that it is not appropriate to re-examine the need for increased aviation capacity or, indeed, to question the Government's clear policy position that increases in aviation capacity are necessary and that they bring significant benefits"

This appears to be an attempt to suggest that there is no requirement to examine the specific need case for development at Manston or, indeed, any other airport. This is patently nonsense as it would suggest that airport development across the UK should proceed unfettered regardless of whether there is any underpinning justification for each specific development or a proper balancing of benefits and environmental costs in each individual case. The apparent absurdity of this suggestion is even greater when compulsory acquisition of land is in prospect requiring a compelling case in the public interest to be made.

2.8 The Airports NPS[10] sets out clearly, in Sections 2 and 3, the Government's settled approach to meeting the need for increased airport capacity in the South East of England by provision of a third runway at Heathrow (R3), such that the need for that specific development as a response to the economic need for growth in aviation capacity is established. However, this is not the case for other proposed airport capacity developments. Indeed, the NPS is specific as to its applicability in relation to all other airport developments (para 1.41):

"The Airports NPS does not have effect in relation to an application for development consent for an airport development not comprised in an application relating to the Heathrow Northwest runway, and proposals for new terminal capacity located between the Northwest Runway at Heathrow Airport and the existing Northern Runway and reconfiguration of terminal facilities between the two existing runways at Heathrow Airport. Nevertheless, the Secretary of State considers that the contents of the Airports NPS will be both important and relevant considerations in the determination of such an application, particularly where it relates to London or the South East of England. Among the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme is the most appropriate means of meeting that need." (emphasis added)

[9] Aviation Policy Framework, Department for Transport, March 2013, Cm8584.
[10] Department for Transport, June 2018.

2.9 This means that the NPS cannot be construed as creating a general presumption in favour of schemes, other than the Northwest Runway at Heathrow, which seek to address the shortfall in airport capacity within the South East of England. In fact, the wording of the NPS suggests the exact converse is true. Hence, it is not sufficient to rely, as RSP seek to do, on any general presumption in favour of increasing airport capacity for the broader economic benefit. Rather, the proponent of any other airport development proposal is required to justify that proposal by reference to the NPS and the specific benefits to users and society more generally that would arise from the specific proposed expansion.

2.10 RSP's Need Case is, in essence, based on the position before the NPS was designated[11]. Indeed, para 9.18 of the Planning Statement refers specifically to and relies on para 2.12 of the NPS that outlines the capacity shortfall that would exist in the absence of any additional capacity in the South East as a context for the Government's decision to support the development of another runway at Heathrow. This is a recurrent theme throughout the RSP documents, which seek to rely on the implications of no additional capacity being provided at Heathrow or, indeed, any of the other main London airports. Hence, in the light of proposals to increase capacity across the London airports, including the provision of R3 at Heathrow and recently approved capacity increases at Stansted, the alleged capacity shortfall on which RSP's case is based no longer exists. We discuss the extent to which there remains a capacity shortfall for air freight further in **Section 4**.

2.11 There is recurrent use by RSP of data relating to the economic cost of not addressing the need for additional hub airport capacity for passenger services and the benefits of overcoming that constraint[12], implying that the economic and connectivity benefits that are cited in respect of a passenger hub could, in some way, be realised by the development of Manston as a dedicated air freight hub. This creates a misleading impression of the specific benefits that the scheme might bring even if it did develop an air freight role, which we address further in later sections.

2.12 Despite the settled policy in terms of the Government's preferred option for meeting the principal need for more airport capacity in the South East of England, RSP's case remains that there is a shortage of airport capacity in the South East of England and that there must, therefore, be a need for a freight focussed airport in the South East to meet the need for more air freight capacity. This no longer follows if, indeed, it was ever a logical conclusion that could have been drawn from the evidence. The NPS settles how Government intends the shortage of airport capacity in the South East of England to be addressed, particularly in terms of meeting the requirement for additional capacity for air freight:

"The Heathrow Northwest Runway scheme delivers the greatest support for freight. The plans for the scheme include a doubling of freight capacity at the airport."[13]

2.13 Indeed, it is relevant that the Airports Commission[14] made clear one of their reasons for recommending the choice of a third runway at Heathrow over the option of a second runway at Gatwick was because:

[11] For example, Azimuth Reports Vol I, paras. 2.1.4, 2.1.5, 4.4.1, 4.4.5, 4.4.7, 9.0.4, 9.0.5.

[12] For example, the RSP Planning Statement, para 1.9 refers to work by Oxford Economics and Ramboll for Transport for London 2013 (see Azimuth Report Vol I, para. 4.4.1) which clearly relates to DfT's capacity constrained scenario.

[13] Airports NPS, Department for Transport, June 2017, para. 3.73.

[14] Airports Commission: Final Report, July 2015, Executive Summary, page 24.

"Gatwick's position to the south of London limits its effectiveness as a national freight hub."

Clearly, such considerations would apply even more so to Manston, which is even further away from the main centres of population, the sources of freight requiring shipment and the location of the main air freight consolidation and distribution centres adjacent to Heathrow and in the 'golden triangle' for distribution in the East Midlands.

2.14 Hence, references at para. 6.28 of RSP's Planning Statement to paras. 2.7 and 3.23 of the NPS as providing underpinning justification for the provision of a dedicated freight airport are misplaced as these clearly provide a context for the importance attached to meeting growing demand for air freight in the Government's decision to support the Heathrow Northwest Runway option as providing the scope for the greatest growth in air freight capacity including both bellyhold services and the opportunity for additional dedicated freighters.

2.15 A doubling of air freight capacity at Heathrow would allow for at least 31 years of extrapolated growth based using the updated analysis of future air cargo[15] tonnage growth potential set out in **Section 4**, assuming Heathrow sustains its current share of the market. We discuss the future of the market and trends further in that section. On the basis of realistic projections of cargo tonnage growth and the availability of capacity at Heathrow, it is hard to see how there is likely to be any shortfall of in air freight capacity in the South East of England for the foreseeable future, leaving aside the shorter term implications of capacity constraint at Heathrow until R3 is operational, which we also discuss further in **Section 4**.

2.16 RSP also seek to rely (Planning Statement, para 6.65) on the policy promoting best use of runway capacity at all UK airports, published alongside the Airports NPS[16]. This does not, however, settle that it will always be the case that best use should be made of any given runway, nor that runways should be protected in perpetuity as implied by the RSP's Statement of Reasons (para. 9.56). The policy, as set out in the 'Making Best Use' document, is clear that whilst there is a policy presumption in favour of making best use of existing runways, each case falls to be considered on its merits (para 1.29):

"We therefore consider that any proposals should be judged by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts and proposed mitigations."

[15] Cargo includes freight and mail.

[16] Beyond the Horizon, The Future of UK Aviation, Making Best Use of Existing Runways, Department for Transport, June 2017.

2.17 Whilst this paragraph refers specifically to local decision making rather than an NSIP, the NPS makes clear that there is no automatic presumption of need for any other airport NSIP within the South East of England. There is, hence, still a requirement for a full justification to be provided for the best use of existing runway capacity at any individual airport on its own merits in terms of the demand it may reasonably be expected to handle and the benefits to consumers (or shippers) of using that airport rather than other available capacity. It is not sufficient to seek to make the case based on an inference of some general shortfall of capacity across the South East. Re-opening a runway only for it to be little used in practice does not constitute an economically efficient usage of that runway and so would not be likely to equate to 'best use'. There is a requirement for specific justification of how the capacity would be used and the benefits flowing from that usage at the airport in question rather than generic estimates of the economic value of overcoming the capacity constraints at the UK's main passenger hub airport that are peppered throughout the RSP documents and upon which RSP seek to rely for the substance of their need case.

2.18 More recently, the Government published a Green Paper on Aviation Strategy[17] as a pre-cursor to an updated strategy later in 2019. The section on air freight (paras. 4.45-4.50) makes clear that the three principal air freight airports are Heathrow, East Midlands and Stansted, highlights the doubling of air freight capacity that R3 at Heathrow will provide and stresses the key role that night flying plays in the air freight industry. The section also makes clear the role these airports play in meeting the need for air freight from across the whole country, i.e. it does not follow that because air freight is carried from a London airport that the freight has an origin or destination in the South East. This is relevant to consideration of alternatives, as we go on to discuss in **Section 4**.

2.19 It should be noted that the need for a dedicated freight focussed airport was previously considered in the Future of Air Transport White Paper in 2003, which stated, in relation to a proposal for a dedicated freight airport at Alconbury (arguably better located in relation to the total UK market than Manston being close to the A1M in north Cambridgeshire):

"The concept of Alconbury as a specialist freight facility attracted little support, especially from within the industry."[18]

Alconbury at the time was owned by Prologis (distribution experts) and BAA Lynton (airport developers) but they chose not to promote Alconbury as a freight airport. There are reasons why this is so, related to the complex inter-relationship between the freight forwarding sector, consolidation of freight loads, use of bellyhold capacity and the residual role of pure freighter operations that we explain further in **Section 4**. We have seen no analysis by RSP or Azimuth as to whether this position has changed, nor can we find specific policy support for a dedicated freight airport in more recent Government policy documents or consultations.

2.20 Indeed, in the same 2003 policy document, the Government set out its consideration of the potential role for Manston:

[17] Aviation 2050, The Future of UK Aviation, A Consultation, Department for Transport, December 2018, Cm 9714.

[18] Department for Transport, Future of Air Transport White Paper, December 2003, para 11.105

"11.98 The operators of Southend, Lydd and Manston argue that their airports could grow substantially and each has plans for development. The potential of other airports, including, Shoreham, and Biggin Hill, should also not be overlooked.

11.99 We consider that all these airports could play a valuable role in meeting local demand and could contribute to regional economic development. In principle, we would support their development, subject to relevant environmental considerations.

Had the Government considered there was a need for Manston as a specialist air freight airport at the time, it would have said so, not least as, in 2003, Manston was the UK's 7th busiest airport in the UK for air freight after Heathrow, Gatwick, Stansted, East Midlands, Manchester and Prestwick.

2.21 Nor can RSP take comfort from the work of the Airports Commission in considering whether there is a role for reliever airports[19] to add weight to there being a potential role for a dedicated air freight hub. The discussion in the Airports Commission Interim Report[20] dealt with the potential role of smaller airports in acting as relievers to capacity pressure at the main London airports principally for general and business aviation, which makes up a minor part of the RSP case. Indeed, the specific reference to Manston in Appendix 2 (page 16) to the Interim Report makes clear any consideration given to a potential role for the Airport was within the context of the Commission's broader consideration of reliever airports as referred to above rather than any specific role as a dedicated freight airport. Manston was promoted by its then owner, Infratil, to the Airports Commission as having potential as a major cargo hub airport but this was not taken up by the Commission.

Treatment of Alternatives

2.22 As noted in para. 2.9 above, it is notable, therefore, that the Application Documents, including the ES, contain no proper assessment of the ability of capacity that is, or will be, available at the London airports and across the UK to accommodate the asserted air freight demand that could be attracted to Manston by way of a full assessment of the alternative ways of meeting that demand. RSP's case is wrongly based on the position without the provision of additional capacity at any of the other London airports and is, incorrectly, based on a presumption that air freight currently being flown from the London airports reflects demand for air freight based within the South East; neither of which is valid. Hence, there should have been an assessment of the alternatives available for handling any excess demand for air freight rather than the simply considering whether there are alternative locations for the asserted requirement for a specialist freight airport (ES para. 2.3.3) within the South East of England. It is asserted, but not evidenced, that there are no alternatives to handle air freight growth. This is patently wrong as examination of the UK air freight sector demonstrates as set out in **Section 4**.

[19] RSP Planning Statement, paras. 6.67 to 6.71.

[20] Airports Commission, Interim Report, November 2014, paras. 5.96 to 5.100

Conclusions

2.23 The whole of the RSP need case for the development of an air freight hub at Manston is based on the Azimuth Reports. A flawed interpretation of Aviation Policy is set out in Azimuth's Volume I, which seeks to infer support for the development of a mainly freight airport at Manston based on the evidence before the Airports Commission of the potential damage to the UK economy if no additional hub airport capacity was provided at Heathrow (or a reasonable alternative to Heathrow). This was never a relevant basis for considering whether there was a case for re-opening Manston as a primarily air freight airport, as the vast majority of the economic benefit cited relates specifically to the benefits to passengers in the main using global passenger services from an expanded hub Heathrow – a need that Manston patently cannot and does not claim that it will be able to meet.

2.24 The clear decision by Government in favour of the building of an additional runway at Heathrow will transform capacity available to the air freight sector. There can be no doubt that the use by RSP of pre-NPS evidence on the need to address the shortage of airport capacity overall to serve London is misleading and incorrect. Properly interpreted, Government Aviation Policy makes clear that expansion of capacity at Heathrow, allowing more global air connections providing additional bellyhold capacity and scope, if required, for more dedicated freighter movements at Heathrow, is the identified means of meeting future air freight demand, along with the continued role for East Midlands and Stansted as air freight gateways.

3 ERRORS AND INCONSISTENCIES IN THE EVIDENCE PRESENTED BY RSP

In this section, we catalogue ongoing errors of analysis and the lack of supporting information which render the 'forecasts' presented to underpin RSP's application wholly unreliable. Indeed, they are not 'forecasts' in any meaningful sense given the absence of proper analysis of the market and any evidenced assessment of the extent to which Manston might capture any share of that market at any future date.

At best, the projections set out in Azimuth Vol III represent no more than an aspirational 'wish list' of what RSP would like to be able to attract to use Manston but, even then, this 'wish list' is infected with errors in terms of airlines that do not operate freighter aircraft, and patterns of operation, particularly in terms of the balance of movements between day and night time, that are wholly inconsistent with the patterns of operation that the airlines would require if they were even to consider operating some flights to Manston.

The Azimuth Reports

3.1 The Azimuth Reports are, in practice, little changed from those published for the supplementary consultation in January 2018, which we had previously commented on in our November 2017 Report and Supplementary Note of February 2018. In our original Report, we commented on the lack of realism in the so-called 'forecasts' for Manston and highlighted the lack of methodological rigour, particularly in relation to the adoption of the 'Delphic Approach'[21]. Azimuth have subsequently claimed that their forecasts have been subject to a peer review by Loughborough University[22] but this review has not been made available as would be normal good practice. It remains the case that the freight aircraft movement and tonnage forecasts, along with the passenger forecasts, set out by Azimuth have not been correctly derived from market data or using standard industry analytical techniques as would be normal practice in presenting the case for a planning or development consent application. As such, they cannot be relied on.

3.2 Furthermore, we have noted further errors in the use of data and information by Azimuth as well as further inconsistencies between the information presented in the four Azimuth volumes and material relied on in the Environmental Statement. These errors and inconsistencies go to the heart of the reliance that can be placed on RSP's need case for Manston. Indeed, the nature of the errors is such that the 'forecasts' are simply not realistic or achievable.

3.3 In this section, we highlight a number of areas where the information relied on by RSP is:

- unsupported by the evidence of how the airfreight sector actually operates;
- infected by mathematical errors;
- inconsistent;
- wrongly applied to the local market.

[21] York Aviation Report, November 2017, paras. 2.77-2.79.
[22] Azimuth Vol III, para. 2.1.6.

Air Freight Forecasting

3.4 There are two principal problems with the air freight demand forecasts presented by Azimuth:

- the absence of any justification for the short term forecasts for the first 10 years of the proposed airport operation;
- erroneous use of growth rates from other industry or Government publications to project forward from Year 10 to Year 20.

We set these issues out in some detail in our November 2017 Report (Section 2) and do not repeat them all here. In combination, these issues render the so-called 'forecasts' meaningless and misleading.

3.5 At the outset, any forecasts for air freight growth need to be seen within the context of deceleration of growth trends in the face of economic uncertainty. This has recently been reported as a concern by the airport's trade body, ACI EUROPE.[23]

Short Term

3.6 It is notable that the Azimuth Reports provide no detail or justification for the forecasts of air cargo aircraft movements by type, airline or world region for the first 10 years of the forecast period. The 'forecasts' are based on unevidenced interviews and indications of the types of markets which Manston might hope to serve[24]. This is simply not a sound basis for establishing the need for Manston. Similar issues infect the passenger forecasts, which we discuss further in **Section 5**.

3.7 The basis for the markets which it is claimed that Manston might serve appears to be comments such as:

"The Indian subcontinent is also a potential exporter and importer of goods to the UK. One interviewee mentioned the potential for airlines from Pakistan to use Manston Airport (Securitas). Pakistan mainly exports clothing and imports consumer goods."[25]

[23] ACI EUROPE, https://www.aci-europe.org/media-room/mediaroom.html, Press Release 6.2.19.
[24] Azimuth Reports Vol III, para. 3.2.1. We note that most of the interviewees were local haulage firms or similar, some of which are no longer in business. The interviews do not directly relate to the list of airlines that it is claimed might operate.
[25] Azimuth Reports Vol II, para. 4.2.37

3.8 There is a further list of possible geographic markets set out at para. 5.2.5 of Azimuth Vol II and then a discussion of sectoral markets which might offer opportunities for growth in air freight. However, none of this represents an assessment of the likelihood of dedicated freighter services operating at Manston but represents a generic discussion of areas where there may be growth in air freight tonnage across the UK as a whole and where increased bellyhold capacity on passenger aircraft to/from these destinations will assist the development of these import/export markets. For example, Jet Airways has recently commenced a 5 days a week service from Manchester to Mumbai with an A330-200 offering bellyhold cargo capability as part of the offer within the context of a liberal air service agreement that allows for capacity increases across the market[26] between the UK and India.

3.9 So, whilst Section 3.2 of Vol III of the Azimuth Reports sets out how the cargo tonnage forecasts have been derived from the cargo aircraft movement forecasts, the basis for the movement forecasts is not set out at all. Hence, without a reasoned justification by reference to the scale of the market for each service proposed, little reliance can be placed on the asserted aircraft movement forecasts. These appear to represent nothing more than an aspirational list rather than a robust assessment of the extent to which such services might be operated. For none of the assumed services is there any analysis presented of markets, costs or alternatives available now or in the future for such freight and for none of the assumed services is any commitment documented.

3.10 The 'guesstimates' of the aircraft movements projected each year by airline(s), aircraft type and world region are set out, without further explanation, in Appendix 3.3 to the ES[27]. We set out below our comments on a number of the suggested airlines shown as assumed to be operating at Manston should the Airport re-open as an air freight hub.

- Amazon - it is not clear why Amazon would operate up to 4 return flights a day (1 in the first year of operation) from the US to Manston as the goods which Amazon sells in the UK are not, in the main, US manufactured. This seems to confuse the asserted role as an Amazon distribution hub with a requirement for long haul freight operations. Amazon's own flights in the US are between its main hub and secondary regional hubs, they operate no international services. Manston is not well located to operate as a distribution hub either for the London area or for the country as a whole so transatlantic flights by Amazon are not a realistic prospect.
- Cargolux - this assumes reinstatement of the previous Cargolux flower operation which has relocated to Stansted. This is only likely to take place should the charges to the airline be set at a very low level at Manston, as was the case previously, given the better location of Stansted relative to the totality of the UK market for the distribution of fresh flowers. Whether this would be commercially viable given RSP's asserted £300m investment in Manston is not assessed.

[26] https://www.gov.uk/government/news/deal-agreed-to-ease-restrictions-on-flights-between-the-two-nations

[27] TR020002-002418-5.2-6 - Environmental Statement - Volume 6 - Appendices 1.4-7.2.

- Fedex/DHL- the aircraft types proposed seem to pre-suppose a DHL operation. The integrator operation is expected to account for 22.8 movements per day on average or 48% of the total at Year 20 (a higher proportion in some of the earlier years). Manston is simply in the wrong location to perform as a hub for an integrator as we explain further in **Section 4**. Based on our knowledge of the integrator operations, this is completely unrealistic for Manston.

  Overall, the number of movements would imply around 8,322 annual movements by an integrator. This is around 43% of the total number of freighter movements at East Midlands Airport (EMA) in 2016 or around 2/3 of the current DHL operation there. This is hardly realistic as it would imply Manston would be a major integrator hub, duplicating the EMA operation, which acts as the main DHL hub for the UK working in tandem its main European hub at Leipzig. Freight tonnage continues to grow at EMA but the number of freighter movements have not systematically grown over the last decade. Further detail will be set out in the next section.

- Pakistan Airlines - The airline no longer operates pure freighter aircraft. The airline operates 22 passenger flights a week to and from the UK (Heathrow, Manchester and Birmingham) offering 208.5 tonnes of freight capacity each week[28].

- Postal - The B737 operation presupposes the development of a mail hub. Royal Mail have pared back on flying even at their main hub at EMA so it is unclear why a dedicated B737 operation is expected at Manston.

- Russian - Whereas the PEIR showed Russian airlines operating with aircraft types that have noise quota counts of 8 and 16, which meant that they could not operate according to the noise mitigation plan. The proposed aircraft type has been changed to a B747-400 in the ES but with no explanation as to whether the proposed Russian airline plans to operate such an aircraft or not.

- TAAG Angola – Do not operate any dedicated freight aircraft, let alone the B747 freighters, which is the type shown as expected to operate to Manston.

- Iran Air - Had a limited freighter fleet which is now stored and no longer in service. The airline placed no new freight aircraft orders when ordering a vast number of new passenger aircraft after the lifting of sanctions so it would not have aircraft to operate to Manston.

- Qatar Airways - Operates a significant schedule of dedicated freight services at London Stansted as part of its agreement to take over British Airways' freight commitments at the Airport. This British Airways/Qatar joint operation was in place when Manston was previously operational, and there were no services at Manston at that time, so it is not clear why they would not move from their established base if Manston was re-opened.

[28] Official Airline Guide (OAG) database.

3.11 At the very least, even without the other issues that we discuss in this section, consideration of the list of airlines and the type of operation shown in the ES gives rise to serious doubts about the credibility of the air freight movement forecast overall. These airlines account for 90% of the aircraft movements projected by RSP for Manston in the first year of operation and over 80% in Year 20. Regardless of whether a list of supposed operating airlines is produced, the absence of any analysis of the market for the proposed flights and a reasoned explanation for why each of the named airlines would operate to Manston means that the forecasts lack any credibility at all. In practice, most of the airlines relied on within RSP's 'forecasts' would or could not operate, invalidating the forecast and the assessments that depend on it.

3.12 It would be normal practice to set out clearly the markets that the Airport believes could be served, taking into account demand within its catchment area, and then to indicate the airlines and the aircraft types most likely to serve those markets. No assessment is presented by RSP of the extent to which the markets that it has identified are already being served by existing bellyhold or dedicated freighter operations nor any assessment of the extent to which future demand will be met through increased freight capacity at Heathrow and elsewhere. It is not sufficient to simply hypothesize a list of airlines as a basis for a forecasts of cargo movements and tonnage without supporting evidence and analysis of the market.

3.13 We recognise that Azimuth have sought to justify the absence of any mathematical demand model[29] to assess air freight demand for Manston on the basis of the difficulty of establishing relevant market data in the circumstances when Manston is not currently operational and in the light of the RSP claim that the re-opening of the Airport could bring about a step change in performance. However, the sources that they rely on to vindicate a purely qualitative approach to preparing the forecasts do not support the position adopted. For example, the US Transportation Research Board approach cited as justification for the approach adopted[30] makes clear that any qualitative approach should be based on the clear identification of the scale of the market, the drivers for change and an assessment of the potential market share that could be achieved as well as consideration of alternative future scenarios. It is evident that Azimuth has not completed these steps in a systematic and transparent fashion based on analysis of the actual demand for dedicated freighter aircraft to and from the UK today.

3.14 Hence, it is our view that no credence can be placed on the short term demand projections presented in the Azimuth Reports. It is simply not credible that Manston would attain 50% of the number of freighter aircraft movements currently operated to Stansted Airport within its first year of operation or that it would match Stansted in its second operational year (Year 3 2022).

3.15 We set out, in **Section 4**, a proper analysis of the market and the competitive drivers using publicly available data to substitute for the lack of proper analysis carried out by Azimuth. This will demonstrate that there is no pent up excess demand waiting for the re-opening of Manston, leaving aside that the Airport is simply in the wrong place to serve the UK market.

[29] Azimuth Reports Vol II, para. 2.22.4
[30] Ibid, para. 2.22.5

Longer Term

3.16 The short term 10 year forecasts are then extrapolated forwards by Azimuth for the following 10 years based on an assumed growth rate in underlying dedicated freighter aircraft movements. It is important to note that, if the forecasts for the first 10 years are not properly grounded in an assessment of the market for Manston, then any extrapolation forwards will lack validity whatever the realism or otherwise of the growth rate selected. This is fundamentally the case.

3.17 Even if the short term forecasts were reliable, which they are not, we dealt at length in our November 2017 Report (Section 2) with the errors made by Azimuth in its interpretation and use of Boeing and Airbus forecasts of the potential global growth in air freight RTKs[31] as the basis for its long term trend based forecasts using a 4% per annum annual growth rate for dedicated freighter movements. We do not repeat these criticisms here but the points remain valid.

3.18 It remains significant that the latest Government UK Aviation forecasts[32] continue to assume that there will be no net growth in pure freighter aircraft to and from the UK over the period to 2050:

"Freight is not modelled in detail. An assumption about the number of freighter ATMs is nevertheless required in the model as freighters potentially affect the space for passenger ATMs available where capacity constraints exist and, as discussed in Chapter 3, CO_2 emissions. At the airport level the number of freighter movements has been volatile with some evidence of overall national decline in recent decades. In the absence of clear trends for individual airports, the modelling now assumes that the number of such movements will remain unchanged from 2016 levels at airport level across the system.

If DfT has believed that there was likely to material growth in demand for dedicated freighter aircraft, it would have made a different assumption so as not to understate the need for more airport capacity across the UK's airports and the carbon effects of growth more generally.

3.19 We know that Azimuth do not agree with this view[33] but we are unaware of any intention by DfT to revise this no net growth assumption regarding the long term growth potential for dedicated freighter movements across the UK. This is in the context of the role of Heathrow and the additional capacity to be provided by R3 in increasing capacity for freight carried in the bellyholds of passenger aircraft and even in providing some increase in capacity for dedicated freighter aircraft at the UK's principal air freight hub to the extent that there is specific demand for additional movements at Heathrow connected with its hub role. We address the role of Heathrow within the UK air freight industry and the relationship between freight carried in bellyholds of passenger aircraft and in dedicated freighters further in the next section. We addressed Azimuth's use of alternative global forecasts of freight tonnage growth as the basis for forecasting dedicated freighter movement requirements in our previous reports but we draw some additional conclusions below.

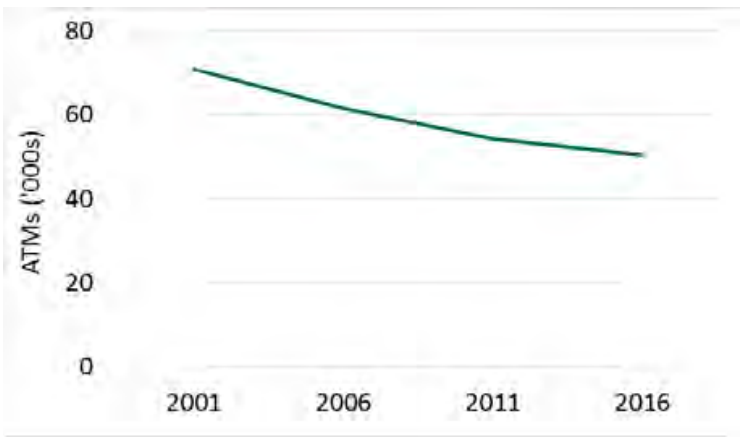
[31] Revenue Tonne Kilometers
[32] UK Aviation Forecasts, October 2017, as amended 25th January 2018, para. 2.56.
[33] Azimuth Report, Vol III, para. 2.1.14.

3.20 The trends in terms of tonnage growth are set out in paras. 4.4 and 4.5 and illustrated in Figure 4.5 of the UK Aviation Forecasts 2017. The Azimuth Report, Vol II, para 2.6.4 and Vol III para. 2.3.6, quotes from the DfT's original version of the UK Aviation Forecasts 2017. Azimuth appear not to have realised that this text was amended and an updated version issued on 25th January 2018[34].

"Freight, in terms of both tonnage and numbers of aircraft movements, has not kept pace with the growth in passenger numbers. In 2011 (70%) and 2016 (69%) most freight by tonnage is carried in the holds of passenger aircraft ('bellyhold'). Total freight carried at the UK airports rose from 2.3 million tonnes in 2011 to 2.4 million tonnes in 2016, with a growth of about 5% in the weight of cargo carried on both freighter and passenger aircraft."

3.21 The key point is that, whilst there has been growth in tonnage carried on both dedicated freighter aircraft and in the bellyholds of passenger aircraft over the 5 year period from 2011 to 2016, there has been an ongoing decline in the number of movements by dedicated freighter aircraft as illustrated in **Figure 3.1** below. Our analysis of the trends is echoed in the recent Altitude Report[35]. Notwithstanding a small increase in dedicated freighter operations in 2017, the general trend remains downwards. Our analysis of Civil Aviation Authority (CAA) Airport Statistics[36] suggests that there were just under 55,000 such aircraft movements in 2018 across all UK reporting airports[37]. This downward or static trend in relation to dedicated cargo aircraft movements across the UK as a whole is important in terms of setting a context for considering the reasonableness of Azimuth's projections by reference to the implications for the market share of the total market that it is claimed Manston could attract.

Figure 3.1: Trends in Dedicated Freighter Air Transport Movements (ATMs)



Source: DfT UK Aviation Forecasts 2017, Figure 4.5

[34] As a result of inconsistencies in the original pointed out to the DfT by York Aviation.
[35] Altitude Aviation Advisory, Analysis of the Freight Market Potential of a Reopened Manston Airport – Addendum: UK Regional Airport Financial Performance and Debt Funding Characteristics, February 2019.
[36] https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-airport-data/
[37] i.e. excluding the Channel Islands and the Isle of Man.

3.22 Of the 55,000 freighter aircraft movements to/from the UK in 2018, some 34,000 movements were non-domestic; the domestic flights being mainly mail operations and feeder flights to the EMA freight hub. In terms of the domestic flights, it is important to recognise that they are counted twice in the CAA statistics, once at each end of the route, e.g. EMA and Belfast. Hence the number of such individual flights is actually under 11,000. On the basis that the small turboprop aircraft (ATR72s), making up 28% in Year 1 falling to 25% in Year 20 of the freighter movements shown in the ES Fleet mix[38], are operating principally on domestic routes, this would imply a market share of total UK domestic freighter flights starting in Manston of 13% in Year 1 rising to 40% by Year 20. This assumes no further decline in the number of domestic cargo flights, although this sector has a longstanding historic trend of decline numbers of flights. In terms of international operations, the Azimuth projections for Manston, would imply a market share of international freighter operations of 11% in Year 1 rising to nearly 40% in Year 20. If the market for Manston is narrowed down still further to principally day time operations, the asserted share of the available market would rise much further. In either case, the market share implications of Azimuth's 'forecasts' simply defy credibility in a market already well served by the better located operations at East Midlands and Stansted in addition to the contribution at Heathrow and other airports.

3.23 Azimuth use the original DfT estimate of 4% growth in tonnage carried on dedicated freighter aircraft (which was amended by DfT to 5%) over the period 2011 to 2016 as a key part of their justification for using the 4% per annum (p.a.) growth rate that they apply to the Year 10 freighter aircraft movement 'forecast' to extrapolate the freighter aircraft movement forecasts to Year 20. This leads to 2 fundamental errors:

- firstly, in applying a growth rate for cargo tonnage (or RTKs in the case of the Boeing and Airbus global forecasts cited by Azimuth) to aircraft movements ignoring the increase in tonnage carried per movement meaning that the growth in movements will always be lower over time than the growth in tonnage; and
- secondly a failure to understand the difference between the growth rate over a period of time (5, 10 or longer number of years) and an average annual growth rate applicable each year within the period to achieve that level of growth.

3.24 This latter and fundamental mathematical error undermines their use of average annual growth rates applied to derive both the longer term air freight movement and passenger growth rates and results in grossly overstated long term demand projections for Manston, leaving aside the reliability of the short term forecasts upon which the extrapolations are based. The specific errors are:

- The DfT trend of 4% growth over 5 years that is relied on by Azimuth is equivalent to 0.8% p.a. growth which, even if the Year 10 forecasts were valid (which they are not), would reduce the Year 20 forecast of freighter aircraft movements to 12,550 aircraft movements rather than the 17,170 projected by Azimuth.

[38] ES Appendix 3.3

- ✈ The 4% trend growth in the passenger forecast is cited by Azimuth as being conservative[39] by reference to a peer review undertaken by ourselves of the passenger forecasts for Liverpool John Lennon Airport in 2017, which found growth of 50% over the period from 2016 to 2030 and 120% over the period to 2050 to be reasonable. Based on growth of over 50% (62.5%) and 120% over 24 and 44 years respectively, the average annual growth rate was just over and just under 2% p.a. respectively in the case of Liverpool, which we considered reasonable in the context of DfT's overall projections for the UK market. Hence, again, proper analysis of growth rates does not support the use of 4% p.a. growth rate adopted by Azimuth for Manston over the longer term.

We discuss the appropriate basis for passenger forecasting in both the short and longer term in the **Section 5**.

Displacement Implications

3.25 It is notable that the implication of the Azimuth freighter forecasts is that the Airport is predicted to handle 5,252 freighter aircraft movements in its first year of operation (Year 2). This is almost five times the number of freighter aircraft handled in the previous peak year for the Airport of 2003[40]. On this basis, Manston would have almost a 10% share of the total market for dedicated freighter aircraft in the UK (based on just over 55,000 such movements in the rolling year to October 2018) in its first year of operation and assuming no net growth in freighter movement activity across the UK in line with DfT assumptions, or 15% of the international freighter movements. The Year 2 figure amounts to around 25% of the total number of freighters handled at the UK's main airport for dedicated freight aircraft, East Midlands (EMA), or around 50% of those handled at Stansted in the rolling year to October 2018. As noted above, the Year 3 figure for freighter aircraft movements would place Manston on a par with Stansted within 2 years of opening. This is not credible.

3.26 The only assumption that can be made is that Azimuth/RSP are relying on freighter aircraft at Manston being wholly or largely displaced from elsewhere in order to achieve the growth projected in a single year or over 2 years. Even if there was some latent demand for additional freighter movements to the UK, which we do not believe to be the case, it is not reasonable to assume that Manston would be the first choice for such freighters. We discuss the availability of spare capacity and market trends more generally in the next section.

3.27 Although Azimuth claim that the costs to airlines, freight forwarders and shippers of switching between airports have been taken into account in preparing the forecasts[41], this is nowhere transparently explained and, in particular the implications this might have for the revenues that RSP could earn and the viability of the development overall. Azimuth helpfully identify the factors that airlines, forwarders and shippers would need to take into account in considering the desirability or otherwise of relocating operations:

- *"The cost of physical relocation*
- *Cancellation of long-term contracts*
- *Loss of economies of scale, although if an entire operation is switched, economies*
- *of scale would be gained at the new airport*

[39] Azimuth Report Vol III, para. 4.0.3.
[40] See Table 1.1 of our November 2017 report.
[41] Azimuth Report Vol III, para 2.2.10.

- *Market effects such as marketing new routes and a potential loss of custom in the*
- *early years following the switch*
- *Network effects lost by switching to a smaller airport*
- *Capacity constraints at other airports, particularly in slot allocations*
- *Sunk costs such as an airline's investment in the airport from which they are switching"*

This means that any decision to relocate to Manston would be costly and would only be taken in the face of major disadvantages. Notwithstanding the claimed advantages of a dedicated purpose built cargo airport, we do not believe that these would outweigh the costs of switching or the fundamental disadvantages of being wrongly located in terms of serving the UK market.

3.28 Given these switching costs, the only way any freighter movements could be attracted to use Manston would be by offering lower prices than elsewhere, not least to compensate for greater trucking distances and time to the principal distribution centres in the UK Midlands (see our November 2017 Report and the Altitude Aviation Advisory Report of November 2017). We understand that this was the case when the Airport was previously operational and it almost certain to be the case if it re-opens. The need to charge lower prices would necessarily have an impact on the viability of the Airport, given the scale of RSP's claimed proposed investment which we discuss further in **Section 7**.

3.29 At 17,170 freighter aircraft movements and following DfT's assumption of no or negligible growth in dedicated freighter operations to/from the UK, then Azimuth's projections would result in Manston having attained a market share of 30% over 20 years (or 50% of international freighter aircraft movements), almost entirely at the expense of other airports. Again, the implications of such displacement need to be considered, not least in terms of whether there is actually a need for Manston given the capacity available at other better located airports to meet the demand.

3.30 The key point to make here is that the Azimuth forecasts are silent on the extent to which its forecasts rely on displacement from elsewhere, which has implications for any assessment of the net economic value of activity at Manston within the socio-economic assessment when measured, as Azimuth do, at a national scale (see later in this section). When the nature of the UK air freight market is properly understood (see next section), we consider the extent of displacement of freighter activity implied if Azimuth's 'forecasts' were correct as simply implausible, further invalidating the assumptions that underpin the case for the development.

3.31 Fundamentally, the Azimuth 'forecasts' appear to rely on substantial displacement of dedicated freighter aircraft movements from other airports that have already invested in the infrastructure to handle such movements, or, as we discuss further in the next section, already have adequate capacity to handle air freight, including the reasonably expected number of dedicated freighter movements. This is not plausible. Hence, the only opportunities for Manston will, in all likelihood, be niche operations not currently being served from elsewhere. In practice, we would expect the latter outcome to be more likely, meaning that there would be very limited, if any, demand for Manston.

Fleet Mix

3.32 Even if the 'forecasts' had any credibility at a headline level, which they do not, there are substantial discrepancies in how the forecasts have been disaggregated to inform the environmental assessment. These discrepancies further undermine any credence that can be placed on the forecasts themselves, particularly given that they are essentially derived from subjective judgements as to the airlines that might operate and the types of aircraft they would use.

3.33 The fleet mix proposed for Manston is set out in Appendix 3.3 of the ES (Vol 6). The information presented shows the expected operating airlines (as discussed above), the aircraft types and whether the operation is expected to be during the day or night time. Without prejudice to our view about the realism of the level of freighter aircraft movements projected, we consider here the reliability of the specific fleet mix forecast that underpins RSP's case.

3.34 In the first instance, we note discrepancies between the mix of claimed aircraft types (sizes) set out in Appendix 3.3. of the ES and those shown in the Azimuth Report (as well as between versions of the Azimuth Report) and the mix of aircraft types shown as the basis of assessment in Table 3.7 of the ES for Year 20. We illustrate the discrepancy in **Table 3.1** below.

Table 3.1: Fleet Mix of Freighter Aircraft by Aircraft Size Category (ICAO Design Code)

Code	C	D	E	F
Original Azimuth Vol III, Table 2	43%	42%	13%	2%
Updated Azimuth Vol III Table 2	43%	17%	40%	0%
ES Table 3.7	43%	40%	17%	0%
ES Appendix 3.3	43%	12%	40%	5%
Source: RSP Application Documents				

3.35 Hence, there appears to be confusion as to the actual forecast usage of Manston by RSP. No explanation is provided as to the reason for these discrepancies, or indeed why the fleet mix projections changed between the original version of the Azimuth Reports and the final submitted version. This is material as the airfreight tonnage 'forecasts' are apparently derived from assumptions made about the average tonnage per aircraft[42] so changing the fleet mix should inevitably have resulted in changed tonnage projections given the changing fleet mix assumed. The fact that the total airfreight tonnage 'forecasts' set out by Azimuth have not changed is a further illustration of the cavalier way in the forecasts and the whole case have been put together.

[42] Ibid, para 3.2.2.

3.36 Such inconsistencies must inevitably raise further doubts about the robustness of the forecast overall. These discrepancies have implications for the assessment of infrastructure required and the assessment of environmental effects[43] and reduce any reliance that can be placed on the assessments given that the basis of assessment appears to be different from the asserted Need Case as set out in the Azimuth Reports.

Pattern of Operations

3.37 The pattern of aircraft movements projected by RSP for Manston, in terms of its day/night balance, is inconsistent with industry norms. It is our view that the proposed day/night operating pattern is a further reason why the air freight forecasts for Manston are unattainable.

3.38 In the first instance, we have looked at the pattern of aircraft movement operations that we would expect based on the patterns seen elsewhere in the UK for similar types of aircraft, operator and destinations. Although Appendix 3.3. of the ES gives an indication of the proportion of movements by each aircraft type that would operate in the day time and the night time, no explanation is given for these day/night splits. In particular, it is not clear how the ES allocation of flights by day and night would fit with the airlines' required operating times to meet customer requirements. Whereas it may be possible to confine some specialist ad hoc freight operations to operate only within the day time period (07.00-23.00), many dedicated freighter operations are geared to collecting goods at the end of the working day, transporting them during the night and ensuring early morning deliveries the next day. This is particularly so for the integrators, for whom it is key to their business model and which are proposed in the ES forecasts to make up 48% of all freighter movements at Manston in Year 20. For an integrator, such as DHL, the timings of flights are, in large, part geared to the requirements for connecting operations at their main European hub in Leipzig and so are non-negotiable.

3.39 Without prejudice to our views on the overall number of freighter aircraft movements projected for Manston or, specifically, the likelihood an integrator operating to Manston at all (considered further in the next section), we have examined the validity of the pattern of operation proposed by RSP, particularly in relation to whether it is realistic to claim that Manston could operate as a major air freight hub with such a small number of night flights. In order to consider the reasonableness of the pattern of movements assumed by RSP (as set out in the ES), we have used our understanding of flight patterns and fleet mixes for cargo operations at other UK airports, specifically referencing the UK's main airport for dedicated freighter operations East Midlands Airport (EMA) current cargo movement schedule[44]. **Table 3.2** below shows that 56% of the total freighter aircraft movements at EMA operate between the hours of 23:00 and 07:00.

[43] For the purpose of our infrastructure assessment later in this report, we have worked from the more detailed data set out in Appendix 3.3 of the ES.

[44] EMA Cargo Schedule - http://aerofred.juice.org.uk/EMA/east_mids_cargo.html

Table 3.2: East Midlands Cargo Schedule Splits For Day Time And Night Time Movements By Operator Type				
	Integrator	**Mail**	**Other**	**Total**
Day Time Movements	37%	31%	74%	44%
Night Time Movements	63%	69%	26%	56%
Source: York Aviation Analysis of EMA Cargo Schedule[25]				

3.40 Clearly, this is significantly different from the 86%/14% day/night split of freighter aircraft movements assessed by RSP in the ES based, we assume, on the requirements proposed by Azimuth. As previously explained, this is in large part because the integrators, which make up nearly 64% of freighter movements at EMA operate to specific patterns linked to overnight delivery. It is, therefore, important to note that by RSP's forecast show that only 32% of Manston night movements are expected to be by integrators, despite such operations being projected to make up 48% of all freighter aircraft movements, whereas 70% of total night time movements at EMA are by integrators. This strongly suggests that the dependence of the integrators on night time operations has not been properly reflected in RSP's assessments.

3.41 We have used information on the patterns of operation observed for integrators, mail operators and for general air freight operations to assess the pattern of operation which the airlines would naturally seek to operate. We would have expected the rationale made for the assumed day/night time split of operations to be have been fully explained in RSP's Need Case (the Azimuth Reports) and the ES. It is not.

3.42 In the first instance, we have assumed that freighter operations are principally on weekdays and so have assumed 250 operational days per year. To the extent that some freighter operations might be at weekends, the effect of this assumption will have been to over rather than understate the number of daily movements. However, the assumption will be neutral in terms of its effect on the day/night balance of movements. We have applied RSP's assumptions as to the extent to which movements would bunch into busier periods (the 'Busy Day' multiplier as set out for each type of movement in Appendix 3.3 to RSP's ES).

3.43 Our specific assumptions for the main market sectors are as follows:

- *Integrators* - Based on the movement types expected by RSP/Azimuth to operate at Manston, with over half of the integrator movements expected to be ATR72s or other smaller Code C[45] turboprop aircraft, experience at other airports shows that these aircraft tend to operate a late evening arrival, early morning departure pattern as they act principally as domestic feeders from/to the UK's main integrator bases at East Midlands and Stansted. Closer inspection of the integrator fleet mix and, specifically, the volume of turbo props in the predicted aircraft movements by RSP has led us to estimate a higher percentage of movements requiring to operate at night than the 63% of integrator movements observed at EMA as a direct consequence of the high volume of predicted DHL/Fedex ATR72 aircraft operating feeder routes in Azimuth/RSP forecast, taking into account the times at which they will require to operate to fulfil the customer requirements. If there were fewer turboprops in the mix, this would, of course, have negative implications for the noise assessment assuming they were replaced by jets.

  Using realistic operational timings to the ES fleet mix leads to a roughly 10%/90% split of movements day to night for the integrators. EMA has a higher proportion of larger integrator aircraft in its operation as it fulfils a secondary hub role itself, which results in a proportion of the movements by these larger aircraft operating outside of the night period. In total, only 4% of integrator movements at EMA are by turboprop aircraft such as the ATRs, with a further 29% of movements by full size Code C aircraft, such as the B737. The remaining 67% of integrator movements at EMA are by the larger code D and E aircraft such as B767s and B777s. This reflects its role as an integrator hub for the UK given its central location.

  RSP's assumed mix of aircraft types for the integrator operation further highlights the lack of realism in the presumption that a substantial integrator operation is plausible at Manston, as it relies on a large number of feeder flights by small aircraft serving other hubs which would, in practice be more likely to be dispersed across a range of airports so as to serve local markets with efficient close out times for the collection of urgent packages. Manston simply could not fulfil that role and is not in the correct location to operate as a hub itself.

- *Mail* – Based on the busy day forecast calculated from RSP/Azimuth's data, there were 3 daily movements on average for postal services, which we rounded up to 4 to allow for a realistic pattern over a single 24-hour period. The RSP/Azimuth split of movements between the day and night was suggested as 50%/50%. However, as shown in **Table 3.2,** we found that 69% of mail movements were typically at night based on the EMA experience. This is hardly surprising given that the principal requirement is for overnight mail deliveries. Given the small number of such movements expected at Manston, it seems likely that all would need to operate during the night.

[45] The aircraft Codes referred to are aircraft size categories that determine the physical dimensions of the airport infrastructure required to handle them.

- *Other Freighters* – We have included all other freighter movements in this category. This is wider than the RSP/Azimuth forecast, which specifies 'Other Freighters' as relating only to a small number of movements by B737-300 freighter aircraft. For the purposes of building the busy day schedule, we have considered all non-integrator and non-mail movements as 'other'. RSP/Azimuth propose that, of all these other cargo movements, nearly 93% will be during the day. However, considering the nature of the flights proposed by Azimuth and typical operating times for these flights having regard to world time zones, we found that a more likely day/night distribution to be 80%/20%. This is closer to the split we found at EMA for general cargo operations of 74% day/26% night.

3.44 On the basis of a rational patterns of operations for RSP's claimed mix of aircraft and operators, we find that the same overall pattern of operations as EMA would be required if Manston is to allow airlines to fly when they wish to do so, i.e. 44% day and 56% night. Our analysis would strongly suggest that the pattern of day and night time operations being proposed by RSP is not realistic and that, for Manston to have any hope of attracting freighter operations in line with Azimuth's projections, there would have to be a substantially greater number and proportion of the operations taking place at night, giving rise to substantially different noise implications.

3.45 The pattern of operations put forward for Environmental Assessment by RSP, hence, runs entirely contrary to what is claimed in RSP's Statement of Reasons (para 4.23) that:

"other unique advantages of the Proposed Development include: dedicated air freight stands, aprons, handling, storage and processing facilities; prioritisation of freight with quick turnaround and unloading time of aircraft; and availability and flexibility of slots none of these advantages are likely to be sustained by any of the other airports in the south east of England",

and in the NSIP Justification Statement[46] that:

"our business model is to provide sufficient capacity to be able to accommodate aircraft when the airline wants to operate rather than to suit the airport through slot management, which requires a much greater availability of stands."

3.46 The proposals for Manston rely on constraining the times at which airlines could operate to a sub-optimal slot pattern, particularly for the intergrator and mail operations that require to operate largely at night. More likely, when coupled with the structural factors in the air freight market that we discuss further in the next section, the consequence of seeking to force an integrator to adopt RSP's proposed operating pattern reinforces our expectation that integrator operations are simply an unrealistic aspiration at Manston. This is significant as they account for 48% of the projected freighter aircraft movements in Year 20 (and higher in earlier years). If integrator operations are excluded from RSP's 'forecasts' then the number of freighter movements in Year 20 is only 8,843, leaving aside other errors and discrepancies in the assessment. Royal Mail flights, which would also require to operate at night make up a further 4.5% of freighter aircraft movements in RSP's 'forecasts'.

[46] RSP NSIP Justification, para. 29.

3.47 Furthermore, there is some confusion across the submission documents as to whether integrator operations are a core part of the demand projections in any event as the Planning Statement (para. 9.39) comments that:

"Additionally, there is the potential to attract an integrator to Manston Airport, which would dramatically increase the profitability of the airport."

This implies that this is an upside potential not part of the core Business Case as claimed to be set out in the Azimuth Reports and, hence, the assessment of need would need to exclude such operations in the core case and illustrate only the upside potential if such operations could be attracted.

Night Quotas

3.48 There remains further confusion regarding the intentions for night time operations as we understand that RSP has in public statements, on occasion, suggested that there would be no scheduled aircraft operations at night, i.e. the Airport would only accept delayed aircraft operating in the night period. Such a situation would be even more untenable for integrator and mail operations. Such a ban does not form part of the Noise Mitigation Plan and, hence, we have considered the implications of the Plan as published[47].

3.49 This gives rise to another key point regarding the fleet mix as RSP's Noise Mitigation Plan states that only aircraft of QC8 and QC16[48] will be banned from operating at night. This is inconsistent with best practice at other airports that ban scheduled operations at night by aircraft of greater than QC2 or even QC1[49]. The lax policy being adopted by RSP for Manston could act as an incentive for the operators of noisier aircraft to use the Airport within the proposed night quota available. Whilst this might bolster the attractiveness of the Airport for ad hoc freighter movements, e.g. by Russian airlines, it would not overcome the fundamental restriction on the principal operations by integrators such as DHL which would be heavily constrained by the night movement restrictions proposed in terms of the number of movements allowed within the quota.

3.50 We note that the proposed night movement quota of 3,028 QC points for the period 23.00-07.00 has been further reduced compared to the 4,000 QC points proposed for the period 23.000-06.00 at the consultation stage, with the additional 2,000 QC points available for scheduled passenger departures during the period 06.00-07.00. This imposes further severe restrictions on the ability of the cargo and passenger airlines to schedule their operations at times necessary to their operational viability in terms of meeting customer needs for delivery of goods and in ensuring optimum aircraft utilisation and efficiency.

[47] RSP 2.4: Noise Mitigation Plan.

[48] The QC (Quota Count) system is a classification system for the noise made by aircraft and has been adopted at most of the main UK airports as the basis for defining a night movement quota related not just to the number of movements but the level of noise each aircraft makes. The higher the QC number the noisier the aircraft. A movement by a QC16 aircraft would be equivalent in quota terms to 16 movements by a QC1 aircraft.

[49] Luton - https://www.acl-uk.org/wp-content/uploads/2016/10/Local-rule-1.pdf , Birmingham - https://www.acl-uk.org/wp-content/uploads/2018/10/Night-Flying-Policy-2018-2021.pdf , Stansted - https://live-webadmin-media.s3.amazonaws.com/media/3682/stn-noise-action-plan-consultation-15818.pdf.

3.51 Furthermore, examination of the day and night time split of movements as set out in Appendix 3.3 of the ES suggests that by Year 20 there are expected to be approximately 10 aircraft movements per weekday night[50] according to Azimuth/RSP's forecasts. Although the QC points per movement are not clearly set out in the ES, an approximate estimate using Heathrow's QC point attribution by aircraft type[51] would suggest that an average weekday quota count of between 8 and 8.5 based on the night movements indicated in Appendix 3.3 of the ES and assuming an even balance of arriving and departing aircraft movements per night. This would amount to around 2,460 movements per year using just over 2,000 of the 3,028 proposed night quota points, dependent on the split of arriving and departing aircraft and the precise aircraft variant used. Whilst this would allow additional movements to be scheduled at night, it would still not be sufficient to allow for an integrator operation to be established, even assuming that Manston was geographically in the right place – a point that we discuss further in the next section. However, it is notable that, assuming the noise assessment has been based on the data supplied in Appendix 3.3 of the ES, the full impact of the proposed noise mitigation strategy and quota appears have not been assessed in the ES.

3.52 Appendix 3.3 of RSP's ES indicates that none of the passenger aircraft operations would be at night. This is equally unrealistic. We set out in the next section the typical rotation pattern for a based low cost carrier (LCC) aircraft at a regional airport. These airlines maintain low fares by optimising the time that the aircraft are in the air each day. To achieve this, they typically make their first departure before 07.00 and often return after 23.00. Hence, we would expect there to be at least some night movements by passenger aircraft in addition to freighter movements. Constraining an LCC to daytime operations only would render Manston particularly unattractive as a base for aircraft.

Socio-economic Assessment

3.53 Whereas our previous criticisms of Azimuth's approach to air freight movement projections have been ignored, there appears to have been some attempt to take on board criticisms of the socio-economic assessment (Azimuth Reports Vol IV). Nonetheless, the assessment of the socio-economic impact of the development remains badly confused, unclear and riddled with errors and ultimately, even if the socio-economic assessment undertaken were robust, it would be rendered meaningless by the manifest errors in the demand 'forecasts' that feed into it. What is put forward with RSP's submission should, therefore, be accorded no weight whatsoever.

3.54 In our previous report, we considered the methodology adopted by Azimuth Associates in some detail and although some minor changes have been made to the approach reflecting our comments, little has really changed. We would, therefore, refer the Examining Authority back to our November 2017 Report[52] for a complete assessment of the RSP case. However, we would reiterate a number of key points:

[50] Freighter movements typically operate principally on weekdays.

[51] https://www.heathrow.com/file_source/HeathrowNoise/Static/HCNF_WG1_QC_and_chapter_correlation_Feb_18.pdf .

[52] York Aviation November 2017 Report, Section 5.

- The study area that is being considered by this assessment remains completely unclear and Azimuth repeatedly uses assumptions that would not be appropriate for the assessment they appear to be trying to make at the level of Kent or East Kent. At points, it appears that the impact of Manston is being considered at a UK level and multipliers are being used that reflect this size of study area. However, at the same time the Azimuth Reports and the Planning Statement talk about impacts in much more localised areas, particularly East Kent, but no change appears to be made to the multipliers to consider these smaller areas. Multipliers for smaller geographic areas must be smaller than those for larger areas as they will not include as much supply chain or as much expenditure of employees' salaries. Failure to realise this suggests a fundamental lack of understanding of how multipliers work and how they should be applied. As RSP's submission stands, it does not actually include a socio-economic impact assessment because it does not properly define the geographic area it is assessing. All that is presented are a series of random, meaningless inferences of what the impact of an airport might be.
- Azimuth continue to use an on-site employment density for a re-opened Manston that is too high. We continue to believe that Prestwick Airport is a better comparator for Manston, with a density of around 650 jobs per million passengers per annum or 100,000 tonnes of freight. Azimuth has revisited their assumptions and concluded that East Midlands Airport is an appropriate comparator, with a job density of around 887 jobs per million passengers per annum or 100,000 tonnes of freight[53]. However, what Azimuth have failed to account for is the substantial amount of non-aviation related employment based on the Pegasus Business Park at East Midlands which is included in this employment estimate. This means that the basis for the calculation used is inflated resulting in a higher employment density. If this non-aviation related employment were to be removed from the assessment the employment would actually be similar to that at Prestwick and is a better comparator to Manston given that much of the non-airport related employment at EMA relates to businesses located there adjacent to the M1 and centrally located for the three main cities in the East Midlands region.
- Azimuth are also incorrect[54] to assert that our economic assessment set out in our November 2017 Report must be wrong because our estimate of catalytic impacts in terms of jobs is lower than our estimate of direct airport related jobs (based on RSP 'forecasts'). Whilst we would agree that the catalytic effects of airports are often larger than the direct, indirect and induced effects, that does not make it true in all cases. Consideration of individual circumstances is vital. Our assessment considered a properly defined area, Kent. Given Kent's location, its industrial base, population and the size of freight catchment areas, it is unlikely that a significant number of potential freight users will be located within that area and, hence, the amount of impact captured will be relatively small. The passenger services envisaged are likely to be focussed on outbound leisure markets and, hence, inbound tourism impacts are likely to be small. In Manston's case, there is no reason to expect significant catalytic effects within a properly defined catchment area.

  In practice, the catalytic effects tend more often to manifest themselves in increased productivity and so appear as GVA[55] effects rather than necessarily employment effects. Azimuth do not appear to understand this and have not taken into account how any catalytic effects would actually materialise within the local context.

[53] This economic impact assessment was undertaken by York Aviation.
[54] Azimuth Reports Vol IV, para 4.3.6.
[55] Gross Value Added

- Following on from the failure to properly define a study area and the use of national multipliers, it should again be re-emphasised that if Azimuth are looking at national effects they failed to allow for any displacement of economic activity from other parts of the UK from the abstracting of demand from other airports. In our view, Manston is not going to generate new demand for freight services. It will have to capture demand from other airports. This will have an effect on these other airports in terms of their ability to support employment.
- Azimuth has also failed to properly define the baseline for the socio-economic assessment. Their assessment has implicitly assumed that if the RSP proposals are rejected then the Manston site will not support any economic activity. This is again inaccurate. The current owners have put forward plans for a mixed use development and this should be considered as the counterfactual for the assessment. Any impacts from RSP's proposals should be reported net of impacts from the alternative uses for the site.

Passenger Terminal Parameters

3.55 As we discuss in **Section 6**, no explanation or justification is provided for how the air freight movement or tonnage forecasts have been converted to facility requirements. The requirements are simply reported in Table 6 of Vol III of the Azimuth Reports. This is a significant gap in the justification for the scale of facilities required, as we discuss further in **Section 6**.

3.56 Despite there being no information provided in relation to the cargo terminal requirements associated with the freight tonnage forecast, some information is provided in relation to the scale of passenger terminal facilities required in Table 7 of Vol III of the Azimuth Reports. In this case, there are obvious errors of analysis in terms of the 'pax per hour' requirements set out. There can be no certainty that similar errors have not been made in assessing the facility requirements for air freight but no explanation is provided.

3.57 At para. 4.0.5 of Vol III of the Azimuth Reports, it is stated that a low cost carrier (LCC) (elsewhere shown to be assumed to be Ryanair) would base 2 aircraft at the Airport initially, increasing to 3 from Year 6. Based on the pattern of Ryanair operations seen elsewhere across their network, these aircraft are likely to all need to depart in the first operational hour of the day in order to achieve optimum utilisation of the aircraft over the day. Similarly, they are likely to arrive back at a similar time of night, particularly if night time operations after 23.00 are not expected (as indicated by the ES Appendix 3.3 data). Hence the terminal would need to be sized to accommodate the full passenger load from 3 aircraft within an hour for each of arrivals and departures. Ryanair's current fleet of aircraft (B737-800s) typically have 189 seats and, over time, these will be replaced by B737 Max aircraft of 200 seats. Hence, at Ryanair's typical summer load factor of 97%[56], the number of passengers per hour that the terminal would be expected to handle in each direction would be 550-580. It is also possible that the KLM operation to/from Amsterdam would also operate at similar times in order to maximise connections available at the Amsterdam hub increasing the number of passengers requiring to be handled within an hour.

[56] https://investor.ryanair.com/traffic/

3.58 According to Table 7 of Vol III of the Azimuth Reports, the required terminal capacity is 171 departing passengers per hour (less than the load of a single Ryanair aircraft) and 43 arriving passengers per hour or around 23.5% of the load of the smallest Ryanair aircraft. This simply does not make sense, particularly in terms of the large differential between departing and arriving capacities assumed. Should the capacity of the terminal be constrained to these levels, it is unlikely that a single aircraft could be based at Manston at all. The arrivals capacity would relate only to the ability to handle a single very small turbo-prop aircraft at any one time. We consider further the terminal capacity requirement in **Section 6**.

Conclusion

3.59 Whilst individually some of these errors and discrepancies might seem small in scale and impact, others are highly significant and serve to undermine the credibility of the whole approach outlined in the Azimuth Reports and throughout RSP's Application Documents. The combined implications are significant in terms of whether a) the application should actually have qualified as an NSIP; b) in terms of the level of demand that Manston might attract if it re-opened as an Airport and the viability of the proposed operation; and c) whether the environmental assessments undertaken are robust.

3.60 The most significant of these errors relate to:

- the lack of any soundly based forecasts – instead of forecasts based on an understanding of markets, costs and real potential, RSP's case is founded on a flawed list of airlines that it claims will definitely operate at Manston and then grow their business at Manston. This is no more than a 'guesstimate', without any supporting evidence. These are not 'forecasts' in the sense that is normally recognised in the industry;
- the lack of realism in the fleet mix overall and the assumed pattern of day/night time operations, particularly in relation to the implications for the prospect of integrator and mail operations being attracted to use Manston at all. This further undermines the credibility of the short term 'forecasts';
- the overstatement of longer term demand projections through the use of unjustified growth rates.

3.61 These errors and inconsistencies render the so-called 'forecasts' completely unreliable as a basis for assessing the extent and nature of any usage of Manston in the event that the Airport re-opens. In the next section, we set out our assessment of the market potential for Manston to assist the Examining Authority.

4 UNDERSTANDING THE AIR FREIGHT SECTOR

In this section, we summarise the performance of the UK Air Cargo market and demonstrate that there has been an inexorable trend away from the use of dedicated freighter aircraft towards a clear preference for the use of bellyhold capacity on passenger aircraft on the growing network of global air service connections. The exceptions to this are the operations of the integrators, which have well established UK operational bases, particularly at Heathrow, East Midlands and Stansted serving the main conurbations.

There is a strong concentration of freight handling and forwarding facilities in the vicinity of Heathrow, drawn by the air freight capacity offered by the global hub network of air services. This means that much airfreight is inevitably consolidated at Heathrow to avail of the lowest possible freight rates using bellyhold capacity. These facilities are being modernised to increase capacity and this will reinforce the dominant position of Heathrow in the sector. Development of the third runway at Heathrow will enable that Airport to double its freight handling capacity, principally in bellyhold capacity but also for dedicated freighter aircraft to the extent required by the integrators or to supplement bellyhold capacity in core markets and to feed the hub.

Alongside growth at Heathrow, there is increasing bellyhold capacity being made available at other airports as they develop a broader range of long haul services, in particular at Manchester. This may be expected to see further growth in consolidation activities adjacent to other major airports as their global connectivity increases.

Overall, within the context of an industry dominated by consolidation, bellyhold capacity and integrator operations, it is difficult to see any potential role for Manston other than in relation to niche services and specialist consignments, similar to the cargo handled when it was previously operational. This is unlikely to result in usage of Manston Airport by dedicated freighters to any greater extent than historically seen.

Introduction

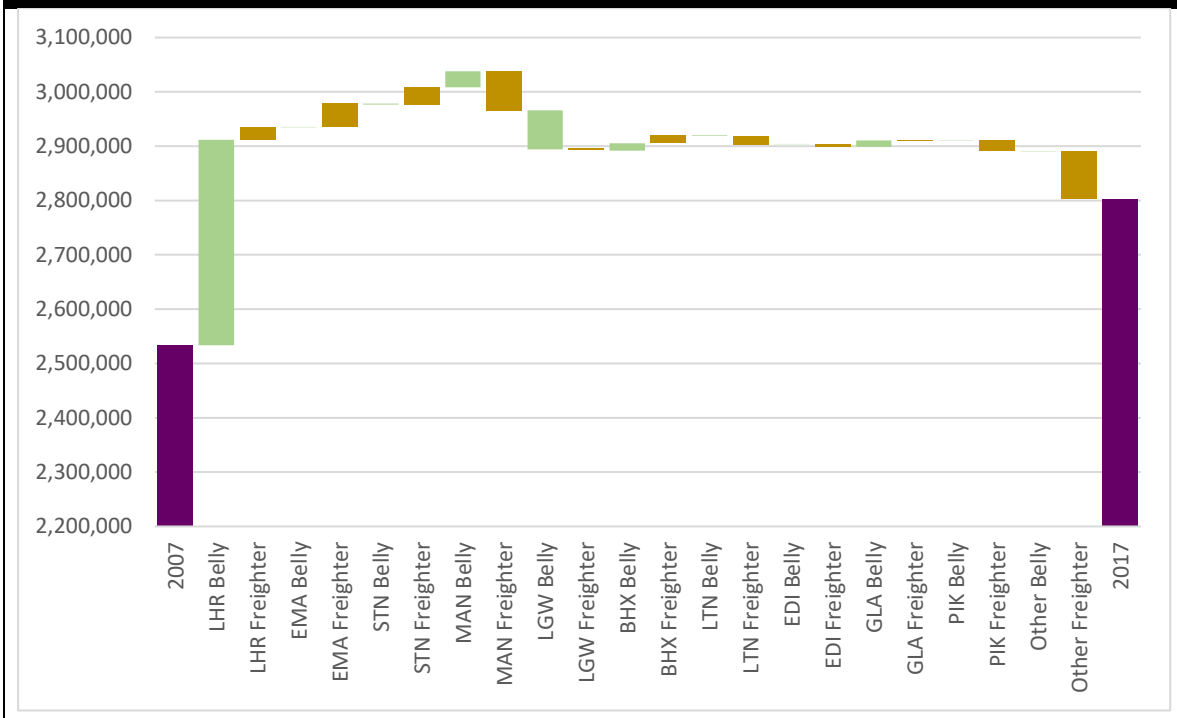
4.1 In this section, we update our consideration of the air freight sector in the UK, the way it functions and the key trends that have been observed in recent years. This analysis updates the evidence presented in our November 2017 report, including new data where it is available. However, it should be emphasised that the key messages from our previous report have not changed and our views on the key dynamics in the market and their implications for Manston similarly have not changed. The November 2017 analysis is important as it updates and correctly interprets the work that we undertook for the Freight Transport Association and TfL in 2015 upon which Azimuth still seek to rely as the basis for their justification of the number of freighter aircraft movements that Manston might attract.

Historic Performance of the UK Air Cargo Market

4.2 The evidence set out in our November 2017 Report and in the Altitude Aviation Advisory Reports[57] provides a detailed picture of the UK air cargo market over the last thirty years and we do not seek to repeat that analysis here. However, in the context of considering whether RSP has presented a compelling case for development, we have sought to re-emphasise several key themes which are central to any consideration of the UK air freight market generally and a re-opened Manston's potential market performance specifically.

4.3 What is evident is that there has been a fundamental structural shift to using available bellyhold capacity in passenger aircraft and away from pure freighter operations. This is illustrated in **Figure 4.1**, which sets out a bridge diagram between 2006 and 2017 showing the change in freight handled via bellyhold and pure freighter at major UK freight airports.

Figure 4.1: Drivers of Change in the UK Air Cargo Market – 2007 to 2017[58]



Source: York Aviation analysis of CAA Statistics

4.4 There are a number of key points to note:

[57] Altitude Aviation Advisory, Analysis of the Freight Market Potential of a Reopened Manston Airport, November 2017 and Addendum: UK Regional Airport Financial Performance and Debt Funding Characteristics, February 2019.

[58] LHR = Heathrow, EMA = East Midlands, STN = Stansted, MAN = Manchester, BHX = Birmingham, LTN = Luton, EDI = Edinburgh, GLA = Glasgow, PIK = Prestwick.

- the market has continued to consolidate into Heathrow, in particular through increased bellyhold capacity, enabled by the ongoing rebalancing of that airport's passenger network towards long haul destinations. There has been a 29% growth in tonnage carried in the bellyholds of passenger aircraft and 31% on dedicated freighter aircraft over the period 2007 to 2017[59], with Heathrow increasing its share of the total UK air freight market from 82% to 86% in terms of bellyhold freight and from 8% to 11% in terms of freight carried on dedicated freighter aircraft. This increase in market share has been achieved even in circumstances where the airport has been operating with a capacity constraint and whilst other airports have had spare capacity available for dedicated freighter aircraft, indicating that there have been other economic and structural factors at play, including the structure of the freight forwarding sector and the economics of consolidation;
- elsewhere in London, Gatwick has seen both bellyhold and freighter capacity significantly eroded as that airport has become more capacity constrained and it has focussed increasingly on low fares passenger airlines offering short haul services, albeit this trend has started to reverse as more long haul operations come on stream with Gatwick recording a 50% increase in tonnage carried on passenger aircraft between 2017 and the rolling year to October 2018;
- Stansted has seen 14% growth in freighter tonnage but has not increased its freighter activity despite having spare slot capacity available to do so strongly suggesting that the effect of any capacity constraints at Heathrow have not resulted in displaced dedicated freighter demand to other London airports;
- East Midlands, with major DHL and UPS bases, has seen 17% growth in air freight tonnage on an 11% increase in freighter movements over the period 2007 to 2017 and had been the only airport that has seen significant growth in pure freighter traffic, but again this has not offset losses in freighter traffic from elsewhere, suggesting that, for more general air cargo, bellyhold capacity is fundamentally more attractive, even potentially if this involves trucking to more distant airports;
- this is reinforced by what has happened at Manchester, which has seen 21% growth in its bellyhold air cargo market, relating to its growing long haul network, but has seen freighter traffic fall away significantly, with a 91% reduction in cargo carried in dedicated freighter aircraft despite the airport having spare capacity to handle such freighters. Again, this demonstrates that a shift to bellyhold is not driven by capacity constraints as Azimuth claim but by underpinning structural and economic factors;
- the growth in bellyhold traffic at Birmingham is also probably reflective of its growing long haul passenger network;
- in general, there has been a noticeable switch towards the use of bellyhold capacity. Since 2007, pure freighter cargo's share of the UK market has dropped from 36% to 30%, while actual freighter tonnage has dropped by 9%;
- it is interesting to note the performance of Prestwick in the context of Manston, as it provides perhaps the most obvious direct comparator, with a similar sized freighter operation in 2007 to Manston at its peak. Freighter traffic at that airport has dropped by 64% since 2007. It is also worth noting that, in the meantime, Prestwick has also had to be nationalised to maintain operations as it had been heavily loss making for a considerable period of time.

[59] York Aviation Analysis of CAA Airport Statistics.

4.5 Whilst the volume of air cargo flown to/from the UK's airports over the past 15 years has grown only incrementally, there have been considerable changes in the way that demand has been serviced, which again reflect the drivers and constraints on demand described above. Essentially, the market has been consolidating to a small number of airports and bellyhold cargo has become more dominant.

Understanding the Sub-Markets

4.6 The air freight market can be categorised into 4 sub-segments, as set out in a report by Steer for Airlines UK[60] was published by the DfT to accompany the Aviation Strategy Green Paper[61]. These are:

- **General Air Cargo** – which makes up the majority of air cargo and is carried principally by IAG Cargo (British Airways and partners), Virgin Atlantic and a number of American and Asian airlines. As Steer make clear, such cargo is predominantly carried in the bellyholds of passenger aircraft and so would not be available at all to Manston;
- **Express Freight** – carried principally by the four main integrators (DHL, Fedex, TNT and UPS). The integrators use their own aircraft for intra-European flights and on the main long haul sectors but use bellyhold capacity for the remainder of their operations. These operators are well established at East Midlands, Stansted and Heathrow, with satellite operations at other airports such Luton, Manchester, Edinburgh and Belfast. The report by Steer also makes clear, as we set out in the previous section, the high dependence of the integrators on night time operations which would rule out operations at Manston based on the proposed night flying policy:

"Integrator stakeholders consulted as part of this study stated that the way in which these operating restrictions [Night time operations] a*re applied impacts their ability to operate effectively, as the express business model (described above) is dependent on being able to ship goods during the night to enable maximum productivity for customers who rely on shipments being picked up close to the end of the working day and delivered as early as possible the next"*[62];

- **Specialist and Niche Cargo** – classified as freight that has specific requirements in terms of storage, security or regulatory requirements, including perishables or dangerous goods. Such goods are unlikely to be suitable for carriage in bellyhold capacity so may require dedicated aircraft;
- **Mail** – where international mail principally uses bellyhold capacity but chartered freighters can be used for some longer distance mail deliveries between the main centres of population in the UK.

Examination of these categories demonstrates that the only category that might have any use for Manston would be the Specialist and Niche Cargo category. Although, no data is available, this is a very small part of the overall airfreight market.

[60] Assessment of the Value of Air Freight Services to the UK Economy, Steer, October 2018, paras. 2.8 to 2.16.
[61] Aviation 2050, The Future of UK Aviation, a Consultation, Department for Transport, Cmnd 9714, December 2018.
[62] Assessment of the Value of Air Freight Services to the UK Economy, Steer, October 2018, paras. 2.33.

The Economics of Bellyhold

4.7 From discussions with airlines, we understand that modern long haul aircraft operating primarily passenger services from airports such as Heathrow or Manchester can typically carry around 15 tonnes of cargo per sector and airlines would expect to earn around 10% of total revenues from cargo. Whilst this is only indicative, it would follow that an airline may expect to earn around 0.66% of the revenues from operating a flight from 1 tonne of cargo. In contrast, a dedicated cargo flight needs to cover all of its operating costs from the cargo carried. At the average tonnage per movement projected by Azimuth for Manston[63] of c.13.9 tonnes per aircraft this means each tonne of cargo has to earn enough to cover over 7% of the costs of operating the flight. Taking an equivalent long haul aircraft (Code E), which Azimuth's work suggests could be carrying 33 tonnes per movement, this would require each tonne of cargo carried to cover 3% of the cost of the flight. Accepting that dedicated cargo aircraft like for like with the same aircraft type may have lower operating costs per flight than a passenger aircraft (no cabin crew or meals), it would also be likely that the dedicated freighter aircraft would be an older variant and use more fuel than the more modern equivalent that tends to be used on passenger operations, particularly from an airport such as Heathrow. The two factors may be expected to largely cancel each other out. On balance, then, a tonne of cargo carried in a dedicated freighter aircraft is likely to cost around 4.5 times more per tonne to transport than the same tonne of cargo carried in the bellyhold of a passenger aircraft. This will almost certainly translate into a higher price to the shipper.

4.8 It is for this reason that we see an inexorable shift from the use of dedicated freighter aircraft to bellyhold capacity due to the sheer cost advantages of availing of bellyhold capacity. The availability of bellyhold capacity is a powerful reason why the UK has lower dependence on dedicated freighter aircraft than the global average. We see this shift to bellyhold in the data from the UK regional airports noted above, which have seen little or negative growth in dedicated freighter operations (except for the integrator operations at EMA) but growth in flown cargo tonnage as their long haul passenger operations offering bellyhold capacity have grown. This demonstrates that, contrary to the assertion by Azimuth that the shift to the use of bellyhold capacity in the UK is a response to a shortage of capacity for dedicated freighter aircraft at the London airports, the shift towards a preference for bellyhold capacity for the carriage of the majority of airfreight reflects the economics of the industry, i.e. shippers and forwarders choose the most cost effective solution for moving goods from A to B which may include an element of trucking to avail of the lowest air freight rate.

4.9 Indeed, the Steer Report confirms that dedicated freighter operations are on the decline globally:

"The market for dedicated freighter services has struggled globally since the financial crisis due to falling seafreight rates and the continued rise of air passenger demand (and associated bellyhold capacity), which have driven down freighter yields. Although some UK airports have retained important integrator, and to lesser extent, freight operations, freighter activity has remained relatively flat in recent years and is currently lower than pre-crisis levels."[64]

[63] Analysis of Azimuth Report Vol III, Tables 2, 3 and 4.

[64] Assessment of the Value of Air Freight Services to the UK Economy, Steer, October 2018, para. 3.8.

4.10 The implications for Manston from this analysis are clear. Bellyhold is the preferred option for a significant proportion of the air cargo market and that this trend has intensified in recent years. This is a function of price and the relative urgency in relation to general air freight, as opposed to either express freight or niche products which may justify a higher cost dedicated freighter services such as operated at the existing integrator hubs. For express freight or niche products, shippers are prepared to pay a premium which allows the use of freighter aircraft because either speed is of the essence, or the destination is hard to reach, or the cargo is difficult to handle in some way. For general air freight, these drivers are not the same. Accepting that all air cargo is to some degree sensitive to speed of delivery, it seems that what is likely to be pushed from bellyhold capacity, in a capacity constrained environment, is less time sensitive and shippers' willingness to pay is lower. Hence, in the current market with relatively high fuel prices, freighter options are not an adequate or economically realistic substitute.

4.11 The only UK airports experiencing dedicated freighter growth are those with significant integrator activity. This suggests that Manston's likely freighter offer, on the assumption that an integrator operation would not realistically be attracted, would struggle to penetrate the market. There has been consolidation into larger airports, which again suggests that Manston will struggle to establish market presence. Finally, the experience of Prestwick, its nearest comparator in many ways, is not encouraging for Manston. Its well established dedicated freighter operation has been heavily eroded and the airport has had to be nationalised to maintain its operation. It continues to be heavily loss making, losing £7.6 million in 2017/8[65].

4.12 This is very important from the perspective of considering the potential role of Manston. It suggests it will be very difficult for the Airport to compete effectively for any traffic displaced as a result of constraints in the London market as it cannot and will not be able to provide the price, frequency and breadth of destination advantages that bellyhold freight can offer. In this context, the airports competing for cargo traffic being pushed away from Heathrow now and in the future are the large UK regional airports with growing long haul passenger networks, such as Manchester or Birmingham, and the near European global hub airports, which offer the closest substitutes to Heathrow and are within easy trucking time of, certainly, the London and South East market. In any event, bellyhold capacity at Heathrow is expected to increase substantially once the third runway becomes operational so driving down the competitive prices in the market, making it even more difficult for freighters to compete. In fact, as we have discussed above, the NPS cites one of the key reasons for the choice of the North West Runway option at Heathrow being the opportunity to double freight capacity.

The Role of Trucking

4.13 The Steer Report for Airlines UK also explains the role of trucking, noting that[66]:

"a significant amount of air freight is transported in customs-bonded trucks between the UK and continental Europe and is classified as air freight with an assigned flight number. Freight is often flown to continental Europe, particularly from Asia, as there is often more available air freight capacity than to UK airports, partly due to lack of available slots for freighter aircraft at Heathrow……..

[65] https://beta.companieshouse.gov.uk/company/SC462050/filing-history

[66] Assessment of the Value of Air Freight Services to the UK Economy, Steer, October 2018, paras 2.24, 2.25.

In contrast to goods from Asia, Heathrow stated that goods destined for North America are also often trucked to the UK, in particular Heathrow, from continental Europe in order to take advantage of cheaper rates from the UK on North American routes. As Heathrow is the primary European hub for North American passenger connections, there is a significant level of bellyhold capacity available, which means air freight rates are cheaper compared to other European airports."

4.14 There is a further reason why trucking to airports in Europe is an inherent part of the industry as also set out in the Steer Report[67]:

"Many of the largest freight airports in the EU are concentrated in North-West Europe, which is relatively well off and densely populated (therefore generates demand for imports), and is the home of a lot of European industry (therefore produces a large amount of goods for export). The close proximity of many large freight airports to the UK may also to some extent explain why so much air freight is flown to continental Europe and trucked to the UK, as there is much greater capacity available to continental North-West Europe than to the UK."

Hence, even if Manston was operational, the structural factors that mean that freight loads are consolidated at the main freight hubs in continental Europe and then trucked to and from the UK would still result in this freight being trucked and by-passing Manston. The concentration of markets around these continental European hubs also allows them to support some dedicated freighter activity, reinforced by trucking and consolidation.

4.15 As explained above, the reasons why trucking is an inherent part of the industry is cost. It is simply cheaper in overall terms to truck to an alternative airport offering cost effective bellyhold capacity than it is to seek out dedicated freighter capacity. This applies to the vast majority of general air cargo. Ultimately, shippers and forwarders seek the cheapest option. Having a dedicated freight airport at Manston would not 'intercept' this freight travelling to and from Europe as Azimuth claim[68] as such freight would still seek the cheaper bellyhold capacity regardless of the potential option of a dedicated freighter or, where a dedicated freighter aircraft was the most cost effective option, seek to operate that aircraft to the main centres of economic activity in Central Europe or the UK's main distribution focus around East Midlands Airport[69] so as to optimise distribution of goods overall.

Heathrow

4.16 As noted above, despite the acknowledged runway capacity constraints, Heathrow has increased its share of UK air freight carried. This indicates a strong structural preference for Heathrow as the UK's main air freight hub, as identified in the NPS. It is important to understand why this is so. The Steer Report referred to at para 4.6 above makes clear the importance of Heathrow within the air freight sector:

[67] Ibid, para 3.21.
[68] Azimuth Reports Vol I, para. 6.4.13
[69] Altitude Aviation Advisory, Analysis of the Market Potential of a Reopened Manston Airport, October 2017 paras. 114, 115.

"One notable feature of the UK air freight market is the huge importance of Heathrow and its surrounding freight facilities, with most forwarders having major consolidation centres in the vicinity of the airport. Very significant volumes of air freight are trucked to such facilities near Heathrow, processed and then trucked to another airport, either in the UK or in continental Europe, without ever flying in or out of Heathrow itself."[70]

4.17 The Steer Report goes on to state:

"Historically, much of the UK air freight activity is concentrated around Heathrow due to its significantly more extensive intercontinental passenger network compared to those of other UK airports. Although this remains the case, new intercontinental passenger connections at regional UK airports have increased possibilities for transporting long-haul freight as bellyhold cargo."[71]

Hence, regional airports developing bellyhold capacity are likely to be the principal gainers from any freight displaced from Heathrow as a consequence of short term constraints until R3 is operational.

4.18 Even where capacity constraints at Heathrow are noted as a potential problem, the reasons cited in the Steer Report[72] do not lend credence to there being a need for additional air freight capacity at Manston:

"The importer stated the reason such a high proportion of its goods are flown to the UK via Europe, is because the UK's air freight capacity is not sufficient to service the required import volumes. Goods are trucked as bonded freight to avoid having to undergo Dutch or German customs procedures, as the importer incurs fewer administration costs as it is only required to deal with UK customs.

The importer stated that, as most of its imports are flown in freighter aircraft, one of the reasons why it often cannot fly its goods into the UK, is because not enough UK airlines operate these types of aircraft. Many airlines that in the past operated long-haul freighter services, for example IAG Cargo at Stansted, no longer do; therefore, there are fewer long-haul freighter options available. However, the main problem the importer cited with UK air freight capacity was the quality of the infrastructure.

The importer stated that it avoids using UK airports because they are too congested and therefore not efficient; air freight infrastructure has not been upgraded in line with increased traffic, which causes delays that can be avoided at continental European airports. The importer stated that there should be better utilisation of regional airport capacity at, for example, Manchester, which was cited as a relatively good operation with not enough freight capacity."

[70] Assessment of the Value of Air Freight Services to the UK Economy, Steer, October 2018, Executive Summary.
[71] Ibid, para. 2.36.
[72] Assessment of the Value of Air Freight Services to the UK Economy, Steer, October 2018, Case Study Example at Page 11.

4.19 Properly understood, this highlights a desire for more freighter capacity at Heathrow, concerns around infrastructure constraints at Heathrow, and issues caused by the willingness of airlines to operate such flights. As the case study makes clear, Stansted and the existing regional airports provide potential available airport capacity but the lack of airlines willing to operate dedicated freighters is the issue rather than the capacity of the airport infrastructure. To illustrate the point, Cathay Pacific Airways operated a dedicated freighter aircraft to Manchester until recently but this has been replaced by more cost effective bellyhold capacity on their now daily A350 service to Hong Kong[73].

4.20 As noted above and in RSP documents[74], there have been concerns expressed about both slot constraints at Heathrow and the adequacy of capacity for freight more generally as well as the quality of the infrastructure. However, as we have made clear at para. 2.12 above, this shortfall in capacity for air freight will be addressed by R3. Indeed, recent proposals by Heathrow Airport Ltd to introduce mixed mode operations ahead of R3 will provide short term relief to the capacity constraints over the same time period as Manston might become operational[75]. In the longer term, freight capacity at Heathrow is expected to virtually double to 3 million tonnes a year from the 1.7 million tonnes handled in the rolling year to the end of October 2018[76].

4.21 Facilities at Heathrow are also being expanded and modernised in line with Heathrow's Cargo Strategy[77]. The strategy is firmly aimed at ensuring that Heathrow is able to capitalise on the opportunity offered by R3 by providing state of the art cargo handling facilities and overcoming the identified bottlenecks and congestion, including improvements to local road infrastructure[78]. Examples of new facilities being provided include the recently opened facilities for Virgin Atlantic and Delta Airlines aimed explicitly at increasing the amount of cargo that they carry through Heathrow on their passenger operations[79]. There is clearly substantial investment being made to ensure that Heathrow can efficiently increase its cargo throughput, negating the need for spill to other airports[80].

4.22 In overall terms, then, it is clear that there are powerful structural factors as to why air freight is concentrated at Heathrow, based around the strong bellyhold offering and the existence of the freight forwarding/consolidation activity. Evidence would suggest that this is not replicable elsewhere in the UK and certainly not at a small niche airport such as Manston. This has implications for the need case for the development as a whole and, in particular, the likelihood of RSP being able to attract freight forwarders as occupiers of the proposed infrastructure at the Airport, including that on the Northern Grass.

[73] https://news.cathaypacific.com/cathay-pacific-s-manchester-service-to-go-daily-from-december-180062#
[74] RSP Planning Statement, para 6.29 and Azimuth Reports Vol I, para. 4.1.3.
[75] https://afo.heathrowconsultation.com/wp-content/uploads/sites/4/2019/01/Making-better-use-of-our-existing-runways-Final-single-pages.pdf
[76] York Aviation analysis of CAA Airport Statistics.
[77] https://www.heathrow.com/file_source/Company/Static/PDF/Partnersandsuppliers/heathrow-cargo.pdf.
[78] https://www.aircargonews.net/news/airport/single-view/news/segro-planning-to-replace-heathrows-cargo-horseshoe.html.
[79] https://www.aircargoweek.com/virgin-and-delta-to-move-into-dnata-city-east/.
[80] This does not mean that airports with growing bellyhold capacity, such as Manchester will not also increase tonnage carried nor that there will not be growth at existing integrator bases such as EMA and Stansted reflecting their key role in the UK distribution network.

The Geographic Distribution of UK Air Cargo Demand

4.23 Another key factor to understand is the geographic distribution of air freight demand. It is important not to confuse, as Azimuth do, the clear economic preference for freight to be flown out of Heathrow due to the economics of consolidation with the true origin of the demand for air freight. This is important as it influences the choices made as to how any excess freight that Heathrow cannot accommodate in future would be shipped as well as the economic choices that drive the point of consolidation in the first instance.

4.24 At the outset, it should be made clear that there is very limited data on where air cargo originates from or is destined for within the UK. However, some indications are available from other research, notably work by MDS Transmodal, in conjunction with York Aviation, for Transport for the North in relation to its International Connectivity Strategy[81]. MDS analysed a series of datasets on air freight and road haulage and estimated that around 14% of UK air freight demand originates in or is destined for the North of England, for example. We also know that air cargo is often trucked a considerable distance before being loaded on to aircraft.

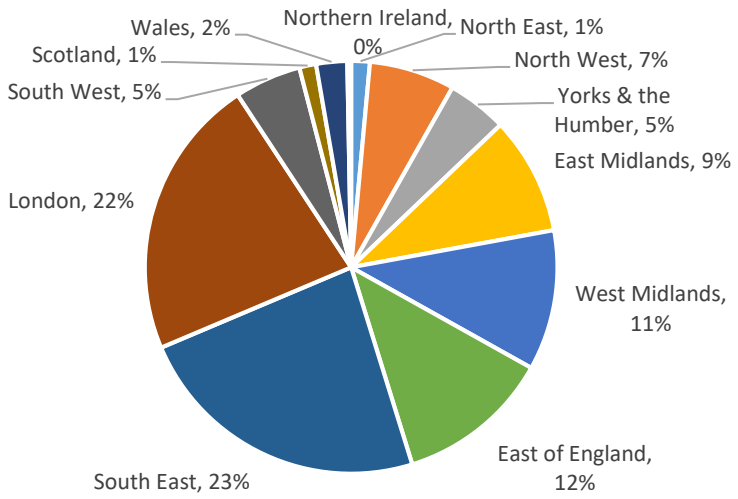
4.25 To estimate the amount of cargo tonnage originating in or destined for the different regions of the UK, we have used a simple gravity model that distributes air cargo regionally across the UK based on:

- for exports, the distribution of manufacturing employment in the UK. This is intended to reflect that air cargo exports are likely to be primarily manufactured goods;
- for imports, the distribution of UK population. This is intended to reflect that imports are in many cases destined either for consumers directly or retailers. This is clearly a simplification but we believe a sensible one given the data available;
- a relatively low distance decay factor of 1.5, reflecting the relative insensitivity of air freight to trucking times. This has also, in part, been calibrated to reflect MDS's findings for Transport for the North.

4.26 The resulting distribution of air cargo demand is shown in **Figure 4.4**. It shows that, while there is a heavy concentration of demand in the Greater South East, there is significant demand located across the country. It is misleading to assume that cargo that is currently flown from the London airports is necessarily destined for or originating in the South East and so easily available to Manston.

[81] https://transportforthenorth.com/wp-content/uploads/Final-International-Connectivity-Evidence-Report.pdf, para.

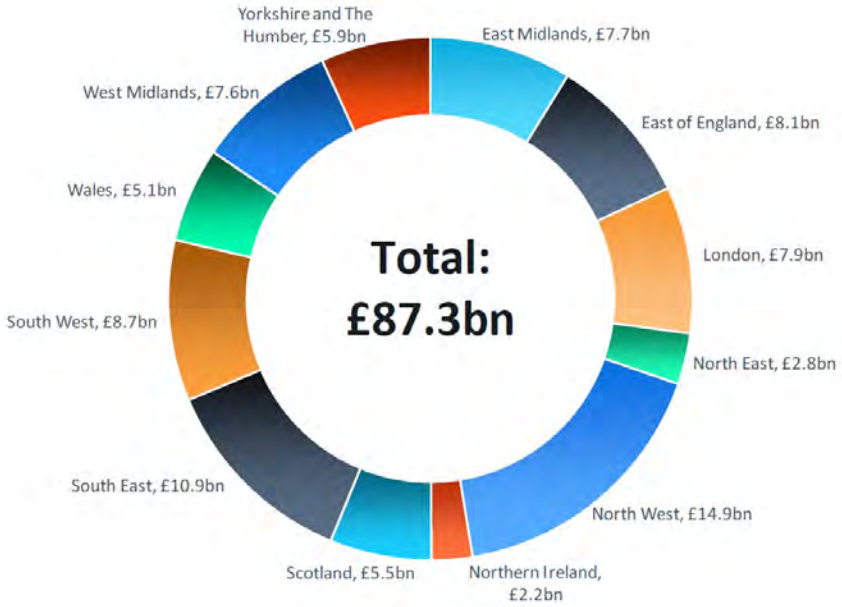
Figure 4.4: Modelled Regional Distribution of UK Air Cargo Demand



Source: York Aviation analysis of CAA Statistics, ONS and Google Maps Data

4.27 More recent analysis by Steer for Airlines UK[82] provides more specific data on the GVA value of air freight exports by air by region. This is shown in Figure 4.5.

Figure 4.5: GVA Currently Dependent on Air Freight by Region



Source: Steer 2018

[82] Assessment of the Value of Air Freight Services to the UK Economy, Steer, October 2018, Figure 5.6.

4.28 The issue for Manston is that it is poorly placed geographically to serve the totality of this demand. In the event of air cargo capacity constraints in London this demand is likely to look initially for cargo capacity closer to home at the major regional airports, particularly those that that are developing broader long haul passenger networks. Even if freighter aircraft are required for this demand, there are likely to be substantially better options than Manston, not least the national air freight hub at East Midlands, with its central location in the UK.

Air Cargo Capacity at UK Airports

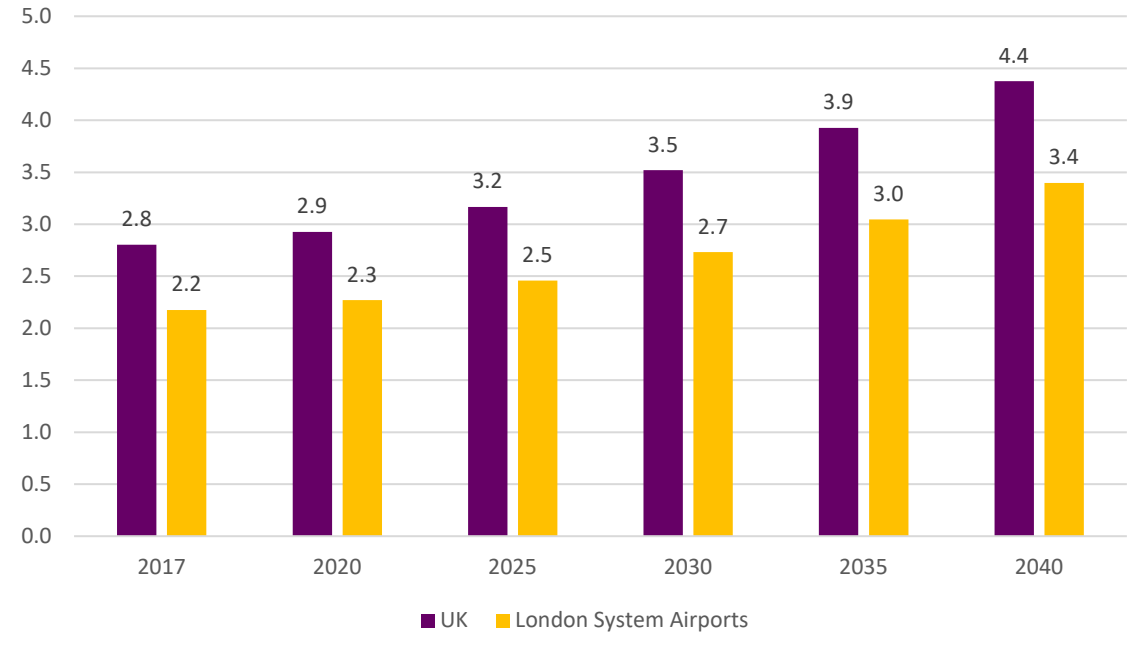
4.29 In our November 2017 Report, we set out an assessment of expected cargo tonnage growth by reference to GDP. We have updated this to enable an assessment of the extent to which there is likely to be any shortfall in capacity available across UK airports as a whole. As in our 2017 report, we have adopted a relatively simple approach, growing existing air cargo demand forward in line with GDP projections for the UK economy. This is in line with our analysis of the link between cargo volumes and the key economic drivers described in our November 2017 Report. The GDP forecasts used are the latest forecasts produced by the Office for Budgetary Responsibility at the time of writing. These are taken from:

- Economic & Fiscal Outlook (October 2018), which provides short to medium term forecasts;
- Fiscal Sustainability Report (July 2018), which provides long term forecasts for the UK economy.

4.30 These forecasts suggest average real growth in UK GDP of around 2% over the period to 2040. These forecasts are slightly lower than those used in our November 2017 report, reflecting more fully the outlook for the economy post Brexit. These slower growth rates have been offset by the uptick in growth observed in the UK air cargo market in 2017, which has increased our baseline. The resulting projections of air cargo demand at the London system airports and across the UK are set out in **Figure 4.6**. This analysis sees total UK air cargo demand reach around 4.4 million tonnes by 2040 and demand in the London system[83] of around 3.4 million tonnes by 2040.

[83] Based on the London airports current share of the national market.

Figure 4.6: Air Cargo Tonnage Forecasts (million tonnes)



Source: York Aviation

4.31 Next, we considered the extent to which the demand identified above could be met by UK airports and the London system airports. This is, again, in line with our approach taken in our work in November 2017 and with our previous research for the FTA in 2015 relied on, wrongly, by Azimuth.

4.32 The first step is to assess the extent to which the bulk of air freight demand will be accommodated in passenger aircraft. In order to estimate the likely bellyhold capacity that will be available through the period to 2040, we have produced projections of passenger ATM[84] demand for each of the top 10 freight airports in the UK in 2017, along with a residual forecast for Other UK airports. For Heathrow, Gatwick and Manchester, these forecasts have been split into domestic, EU and non-EU ATMs. The future years for each airport have been based on the ATM forecasts produced by the Airports Commission for which detailed data files have been released[85]. Years prior to the opening of Runway 3, use the Base ATMs scenario, while post opening uses the Heathrow's ATMs scenario, which reflects the third runway. This will understate the potential at Heathrow in the short to medium term if it gains approval for full mixed mode use of the runways as an interim step before R3 allowing additional global air services providing bellyhold capacity.

[84] ATM – air transport movement.
[85] https://www.gov.uk/government/publications/airports-commission-documents-and-data.

4.33 The existing freight loads per passenger ATM for each airport have been estimated using CAA Airport Statistics. These average loads have then increased by between 0.5% and 0.75% per annum at Heathrow. These rates have been slowed in the short term compared to our 2017 report to reflect the increase in average loads at Heathrow seen in the last year. CAA Airport Statistics suggest that the average tonnage per passenger ATM has grown by 8.5% in the last year. This may reflect the introduction of new aircraft such as the Airbus A350 that have higher freight capacity. The implication of this large short term change is that Heathrow's total bellyhold capacity may actually be higher than previously forecast. This ultimately reduces the chance of there being excess demand for Manston to capture and this has been a strong contributory factor to the decline in some of the forecast scenarios. Other airports have also seen some increase in average loads in the past year, which has further increased available bellyhold capacity. At these other airports, we have assumed that loads will grow at around 1.6% per annum tapering to 1.0% per annum in the longer term. This reflects trends in average loads identified from CAA Airport Statistics over recent years.

4.34 Having assessed the extent to which future air freight demand is likely to be accommodated in the bellyholds of passenger aircraft, we then consider the capacity provided by likely freighter ATMs at the existing airports handling such movements. This 'Business as Usual' assessment of freighter tonnage expected at these airports takes, as a conservative assumption, growth in freighter ATMs at each airport of 0.4% per annum, in line with expected growth rate from the Department for Transport's Aviation Forecasts 2013[86] so as not to understate any potential demand for additional air freighter movements. We have used a 0.4% p.a. growth assumption although the more recent DfT position, as reported in para 3.18 above, is that no growth is a more reasonable assumption. Taking this assumption is inherently conservative and more likely to overstate than understate the actual need for freighter movement capacity and understate the available headroom to accommodate such movements.

4.35 Once again, average loads per freighter ATM have been estimated for each airport from CAA Statistics. As with bellyhold cargo per ATM, there has been an upward trend in average loads on freighters in recent years of around 1.1% per annum (York Aviation analysis of CAA Airport Statistics). This is assumed to continue over the period. This gives us an estimate of the upper bound of tonnage likely to use dedicated freighter aircraft based on the projected movement growth set out above. We term this 'Business as Usual' Freighter tonnage, i.e. the tonnage we would expect to be carried on freighter aircraft based on extrapolation of current patterns of freighter operations at existing UK airports.

4.36 Having assessed the volume of tonnage likely to seek to use freighter aircraft, we have also taken a view as to the likely total tonnage capacity over time of the two largest freighter airports in the UK, East Midlands and Stansted, based on those airports' development plans, and the proposed increase in total cargo capacity at Heathrow, as set out within the NPS:

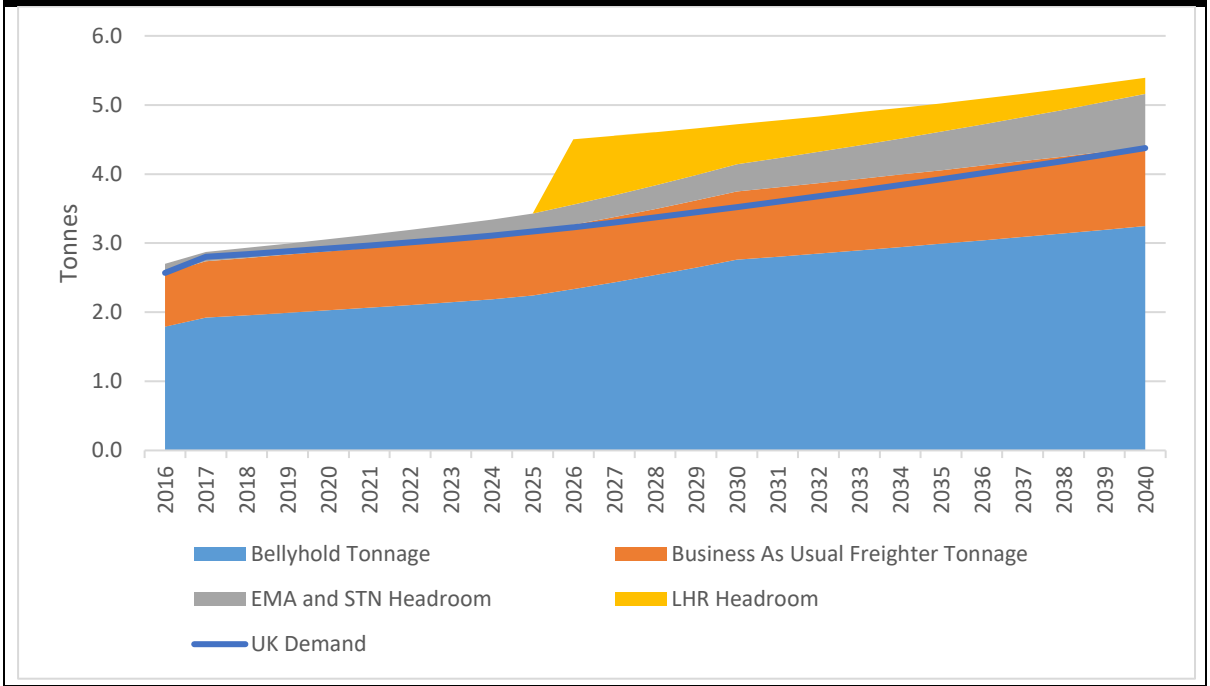
- the Stansted Sustainable Development Plan talks about developing cargo capacity to handle around 400,000 tonnes of cargo. We have assumed that current capacity is around 300,000 tonnes and that this grows steadily over time to 400,000 tonnes by 2040[87];

[86] The exception to this is the small number of freighter movements at Heathrow, which are not allowed to grow until the Third Runway is opened.
[87] Stansted Airport, Sustainable Development Plan, 2015, Summary, page 9.

- the East Midlands Sustainable Development Plan describes its runway capacity as being able to support a 10 million passenger and 1.2 million tonne cargo airport[88]. We have assumed that this capacity could be developed over time to 2040 from an assumed base capacity of 400,000 tonnes. The airport is not subject to any specific ATM limit;
- the NPS states that the development of the third runway at Heathrow will enable a doubling of freight capacity at the airport[89] This would suggest that the cargo facilities will be able to handle around 3 million tonnes per annum. We have assumed that this headroom would be available from the point of the new runway opening.

4.37 This assessment of the cargo capacity headroom at Heathrow, Stansted and East Midlands helps provide an assessment of how any excess demand identified could be handled by freighters in the UK if this were the response of the market to any shortage of bellyhold capacity, after having taken account of bellyhold capacity. The resulting estimates for air cargo tonnage capacity for the UK as a whole and the London system over time are shown in **Figures 4.7** and **4.8**.

Figure 4.7: UK Air Cargo Capacity

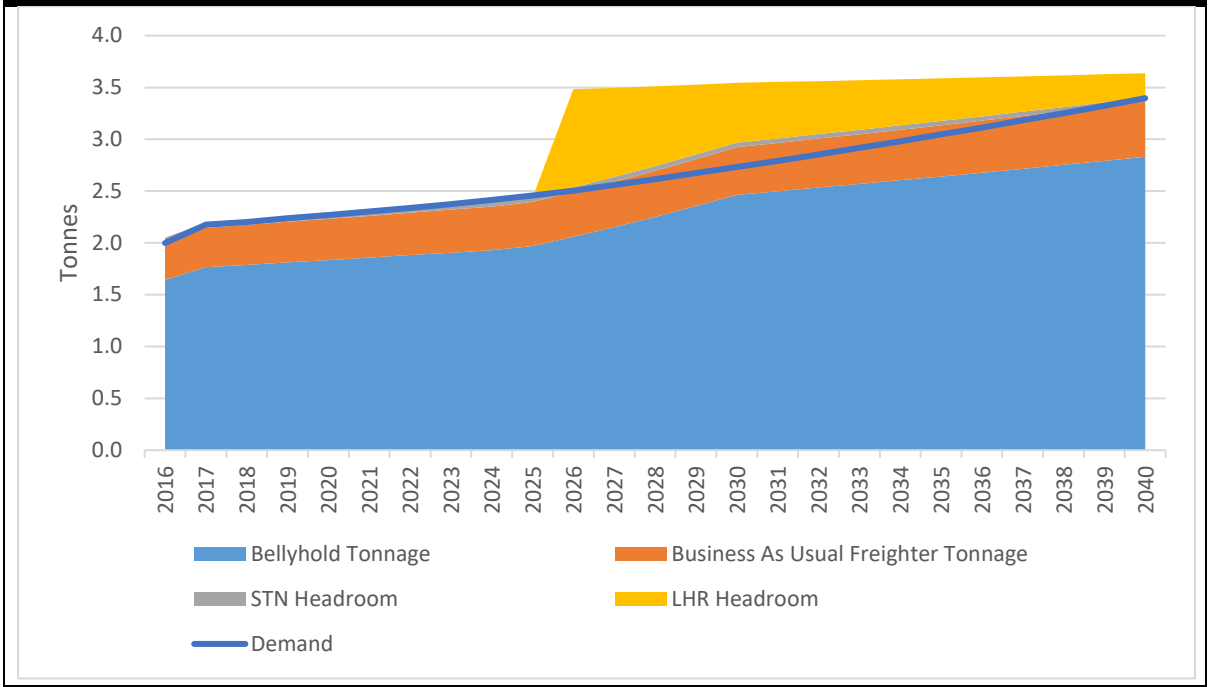


Source: York Aviation

[88] East Midlands Airport Sustainable Development Plan, 2015. Page 75.
[89] Airports National Policy Statement, 2018. Page 32.

4.38 At a UK level, our analysis suggests that there are unlikely to be capacity issues in the cargo market until well beyond 2040 even on the conservative (worst case) basis that we have adopted by retaining the DfT's 2013 projection of possible growth in freighters. Based on the latest DfT projections of no such growth, there is simply no capacity shortfall at all. Once the third runway is opened at Heathrow, there is in fact likely to be excess capacity in the market particularly in the light of the expected doubling of freight capability at the Airport as set out in the NPS, which is likely to soften demand for supporting freighter capacity dedicated to general air freight (accepting that integrator/express freight is a separate market to a significant degree).

Figure 4.8: London System Air Cargo Capacity



Source: York Aviation

4.39 The situation at the London airports is slightly different. With Heathrow's bellyhold growth relatively constrained in the short term, there could be potentially some limited capacity constraints in the very short term before mixed mode and R3 are operational. However, allowing for headroom at Stansted, there are no capacity constraints in the medium term. Once R3 is opened, excess capacity develops rapidly. The London system's freight capacity does start to fill up as Heathrow begins to fill up once again but Heathrow's freight capacity plans suggest that there will still be headroom by 2040. Assuming mixed mode (independent parallel approach operations are permitted at an early date), this shortfall will not arise.

4.40 The implications for Manston Airport are that, even in pure volume terms, push factors from other airports in London are unlikely to provide opportunities for growth before at least 2040 and beyond assuming no further airport capacity comes on stream at the main London airports. This is before any consideration is given to Manston's suitability to serve the markets in question. In the short to medium term, there might be some very limited constraint in the London system before the third runway at Heathrow is opened. However, this is largely a function of bellyhold constraints at Heathrow and it is clear that the preferred option for such freight is alternative bellyhold capacity.

4.41 Logic would suggest that what will be pushed out is relatively low yielding, general air cargo that is more sensitive to price and less sensitive to time. Essentially, this is akin to business passengers forcing leisure passengers out of Heathrow. This type of air cargo is not likely to see pure freighters as an effective alternate, given the higher prices involved. It is more likely to seek out alternative bellyhold capacity at UK regional airports (which might actually be closer to its point of origin given our analysis above) or travel via truck to the continental European airports.

Prospects for Manston

4.42 In our November 2017 Report, we set out 'realistic' forecasts of freighter movements and freight tonnage at Manston, drawing on the methodology that we used in our earlier work for the Freight Transport Association and upon which Azimuth seek to rely. In essence, these have not changed, except that our previous projections may have been on the optimistic side given the continued trend away from the use of dedicated freighter aircraft and with greater clarity regarding the expected increases in capacity for freight at Heathrow. Even on the most optimistic basis, we would not expect Manston to be able to attract more than around 2,000 annual freighter aircraft movements and, more likely, it may struggle to attract more movements than it did when previously in operation. If we were to fully update our forecasts for Manston, we would expect the realistically projected number of dedicated freighter movements to be even lower given deteriorating market conditions, increased competition and economic uncertainty.

Conclusions

4.43 Examination of market trends and the structure of the air freight market make clear that there is no role for Manston, other than possibly as a niche cargo operation, as with its historic operation. The trend in favour of bellyhold for the carriage of general air freight is clear. This freight forwarding sector is heavily concentrated around Heathrow for this very reason and the associated consolidation activity essential drives the choice of airport based on the most economical freight rates available for any consignment. This is highly unlikely to be a dedicated freighter option from an airport remotely located in East Kent.

4.44 Going forward, Heathrow will have substantially enhanced capacity for air freight operations (around double its current throughput) and modernised facilities negating any 'push' factors that might drive users to even consider Manston.

4.45 The integrators are already well established at East Midlands Airport in particular as well as using Heathrow and Stansted to serve the main markets in England, with these airports stated as having scope to increase air freight capacity by 800,000 and 150,000 tonnes per annum respectively[90]. Manston is too far from the distribution centres along the M1/M6 axis to function as an integrator base, leaving aside that the proposed night movement restrictions would render any such operation unviable for the airline/integrator.

4.46 This leaves niche/specialist cargo operations as the only possible market for Manston. This would be consistent with the types of cargo that Manston used to handle[91]. Ultimately, this is a very small market and unlikely to result in Manston handling more freighter movements than it did historically. This has profound implications for the Need Case as a whole.

[90] See para. 4.36 above.
[91] See Figure 3.9 of our November 2017 Report.

5 AIR PASSENGER FORECASTS

In this section, we set out our analysis of the passenger potential for Manston. The Azimuth Reports set out no analysis of the market and merely assert that certain airlines might operate. This is not credible and certainly not sufficient to underpin any business case for investment in the development of Manston. Given the importance of passenger related revenues to the viability of any airport's operation, this is significant.

We set out here an analysis of the passenger market that Manston might serve and demonstrate that, at best, it might achieve around half of the number of passengers that RSP's need case depends on. To do so, there will need to be an allowance for passenger aircraft movements in the night period, which have not currently been assessed in RSP's ES.

The viability to the airlines of passenger operations remains questionable and there is no guarantee that any passenger services would be viable for the airlines on a sustainable basis and without some form of public subsidy.

Basis for Passenger Forecasting

5.1 In our November 2017 Report, we set out the basis for assessing any potential for cargo operations at Manston. Whilst we indicated that more likely passenger forecast would be of the order of half[92] of those set out in the Azimuth Report, we did not set out further detail. As the passenger market is significant in terms of assessing the potential for viable operations at the Airport taken as whole, we set out further detail on the likely passenger market in this section in order to assist the Examining Authority. We have adopted the same approach to developing these forecasts as we do for other clients operating or investing in regional airports in the UK.

5.2 Whilst the need for the Airport and its designation as an NSIP is fundamentally driven by the asserted need for a dedicated air freight hub, passenger services and the economic benefits that potentially derive from such passenger flights form part of RSP's socio-economic case. Taken in the round, then, these services form part of the need case and, hence, the demand for such services requires full justification. Passenger operations, both in terms of revenues and costs, will also be key elements that underpin the financial viability of the operation and whether the proposition is likely to be economically sustainable.

5.3 Azimuth provide no details of how the specific passenger and associated aircraft movement forecasts have been built up. It is simply postulated that a number of airlines and air services might operate. This is not sufficient nor consistent with the approach to forecasting normally required to justify an airport planning application in our experience.

[92] York Aviation, November 2017, Executive Summary, para 12.

5.4 We note that RSP's Planning Statement, at para. 9.44 asserts the passenger 'forecast' of 660,000 passengers in first year of passenger operations (Year 3) is driven by lack of capacity at other London airports. This statement appears to ignore capacity developments at other London airports, including the planning approval recently granted to Stansted to increase from 35 million to 43 million passengers a year[93] or developments such as Ryanair's decision to base aircraft at Southend Airport from summer 2019[94].

Methodology

5.5 Unlike Azimuth, our approach to forecasting the potential of Manston for passenger services is to consider the level of demand in the Airport's catchment area and how this might grow in future. We accept that there is a need to consider the airline response to this demand in terms of the frequency of flights they might offer as a basis for setting out the number of passengers they might carry. However, it is not sufficient to simply assert that IF an airline was to commence services it would carry X thousand passengers, the requirement to present a compelling case requires some evidence as to the likelihood of each airline commencing services (absent any firm documented commitment), which would normally be based on the assessment of the levels of demand and whether these would be sufficient to support viable services.

5.6 Given the importance of passenger services to the viability of airport operations, developing a robust forecast of passenger demand is critical to the assessment of the overall viability and sustainability of the operation of the Airport, which we consider further in **Section 7**. We present here an assessment in a form consistent with that which would be expected in support of an airport planning application.

Kent Passenger Market

5.7 The UK Civil Aviation Authority (CAA) undertake sample surveys of departing passengers using the main UK airports on a continuous basis[95]. This data base runs to almost 200,000 records and contains information about the passengers' home or journey origin, their end destination airport and any intermediate stops, the purpose of travel, the airline flown with and other demographic information. Summary reports are published[96] but York Aviation, in common with most other experienced aviation consultants, use the raw survey data purchased from the CAA to analyse and produce passenger forecasts for airports in the UK. This data enables the scale of the market in any individual airport's catchment area to be estimated along with the nature of that demand – business/leisure, UK outbound or foreign visitor, destination or origin of the air journey.

[93] https://mediacentre.stanstedairport.com/london-stansted-gets-the-go-ahead-to-boost-the-regions-economic-growth-and-create-5000-new-jobs/
[94] https://www.independent.co.uk/travel/news-and-advice/ryanair-southend-airport-base-easyjet-cheap-flights-stansted-a8396956.html
[95] This includes all of the main London airports but not Southend. Smaller regional airports are surveyed on a more periodic basis, typically every 3-5 years.
[96] https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Consumer-research/Departing-passenger-survey/Survey-reports/.

5.8 We have analysed the 2017 CAA Survey data to look at the scale and nature of the air passenger market in Kent. We have chosen to restrict the analysis to Kent because it is unlikely that a re-opened Manston Airport would attract passengers to any substantial degree from outside of the County due to the surface journey distance and time from Manston to areas beyond Kent, as well as the fact that most of these areas are located closer to larger airports, including London Gatwick, with a much wider range and frequency of passenger services than is ever likely to be delivered at Manston. We recognise that the planned Lower Thames Crossing may make access times quicker from north of the Thames but this will, of course, also speed up journey times from Kent to larger, more established airports with broader networks and frequencies, such as London Stansted, London Luton and even London Southend. Hence, any potential passenger gain for Manston is likely to be more than offset by passengers travelling north of the river to more easily avail of a wider range of air services. There is a real risk that the attractiveness of services from the larger airports could further reduce the pool of demand available to a re-opened Manston compared to that which we have assessed below.

5.9 In 2017, as can be seen in **Table 5.1** below, the total market size for Kent was 4.97 million passengers[97]. Over 1.2 million of these are travelling to long haul points and so, other than via a hub connection, these are unlikely to be served by a re-opened Manston Airport[98]. This leaves around 3.8 million short haul and domestic passengers in the County.

Table 5.1: Kent Passenger Demand 2017

Passenger Type	All Catchment
Domestic	372,000
Long Haul	1,221,000
Short Haul	3,373,000
Grand Total	**4,966,000**
Source: CAA Survey 2017	

5.10 However, Manston Airport's location at the eastern extremity of the Kent peninsula means that the Airport is unlikely to draw equally from all districts within the County and, as such, the total underlying market for the Airport is likely to be well below 3.8 million passengers. **Table 5.2** illustrates the time taken to drive to competitor airports from key urban centres in each district. As can be seen, Manston Airport would have the shortest drive time from only 6 of the 13 Kent districts.

[97] This figure may not include some passengers who chose to use London Southend Airport which was not included in the CAA Survey for that year. We would anticipate the figure to be relatively low given the scale of operations at Southend and the route overlap with other larger airports accessible to Kent.

[98] We note the aspiration for a small number of charter flights bringing cruise passengers to Manston

Table 5.2: Drive Time to Competitor Airports from Kent Districts				
District	Manston Airport	London Gatwick	London Stansted	Southend Airport
Thanet	14	91	111	108
Canterbury	30	65	85	85
Dover	35	70	104	105
Swale	40	50	70	65
Shepway	45	65	90	90
Maidstone	45	40	60	60
Ashford	50	55	80	80
Medway	50	45	60	60
Gravesham	55	40	45	50
Dartford	60	35	45	45
Tonbridge & Malling	65	30	80	60
Sevenoaks	65	30	60	55
Tunbridge Wells	75	40	70	90
Source: York Aviation/Google Maps				

5.11 A key differentiator for Manston Airport when compared to other UK regional airports is that its location on a coastal peninsula means that it is not surrounded on all sides by population centres from which it can draw demand, with a large part of the area surrounding Manston being sea.

5.12 In making decisions on which airport to use, passengers would be likely to weigh up three key elements, service frequency (convenience), fare price and journey time/cost to airport. Of these, Manston is always likely to be beaten on the first by larger airports in the South East, whilst fares are likely to be no better than available elsewhere due to the spread of low fares airlines across all airports surrounding London. This means that the only benefit Manston Airport could offer would be on journey time savings and, even then, this would be limited in some cases. In determining the scale of the market which may, thus, be available to Manston, we have made assumptions about how much of the market could be attracted to use the Airport if services were provided based on experience at other regional airports seeking to penetrate their local market in competition with larger airports.

5.13 It is not realistic to assume that Manston Airport would be able to attract all of the market from any district, either in totality or even at individual route level for a number of reasons, but principally because:

- for many destinations, there is insufficient demand to make operations viable for the airlines even with market stimulation from low fares, meaning these passengers must be consolidated on to services at larger airports; and
- routes operated from Manston Airport would still be competing with services from other airports which may have more attractive frequencies, flight times, or fares.

5.14 It is, therefore, necessary to determine how much demand could realistically be attracted to the Airport. In our previous work in Kent, in relation to Lydd Airport, we assumed that, in core districts adjacent to the Airport, 60% of the market could be captured if regular services are operated to any given destination and that other, more distant districts, would attract a much lower % share of the total available market given competition from other airports. In practice, this approach may now be generous to the Manston because, in the intervening years since the Lydd Inquiry in 2011, there has been significant growth of low fares services from London Gatwick that will be very appealing to passengers from much of Kent. Furthermore, given how little difference there is in journey times between airports from some key districts, the attractiveness of larger airports is likely to be far higher than Manston Airport overall other than in the very local area.

5.15 The 60% level of market capture is also higher than we observe elsewhere in the UK when regional airports are in competition with their larger, more dominant, neighbours. Nonetheless, we have adopted a 60% local market capture from districts where Manston is the closest airport in order not to understate the potential demand that Manston might attract as an upper bound. We have assumed that for all other districts in Kent, 5% of passengers could be attracted to Manston. Overall, we have erred on the optimistic side in our projections of how much passenger traffic Manston could realistically attract and sustain over a 20 year period so as to indicate a maximum potential rather than a most likely forecast.

5.16 Following this approach shows that, in 2017, the total market available to the Airport would be around 1 million passengers, across all short haul and domestic routes (point to point). However, this demand is spread across a total of nearly 240 destinations (some of which were reached via hubs rather than on direct services). On the assumption that Manston Airport will neither serve all of these destinations nor have sufficient hub connectivity, notwithstanding the possibility of an Amsterdam service, to provide competitively convenient connections to all of these destinations, the figure of 1 million passengers represents an unachievable upper bound presently. The realistic potential market is substantially below this figure if the Airport was open for passenger services today.

5.17 Further analysis of this market potential for the Airport shows how quickly the demand potential falls below levels which would be considered viable for most airlines to be interested in operating a service. For an airline, the decision whether to serve an airport is not about the total level of demand in a catchment area but whether there is sufficient demand to a particular destination to make a service viable at a frequency of service sufficient to ensure that an individual route will be competitive with services from other airports and/or whether there is sufficient demand across a bundle of routes to support the basing of aircraft.

5.18 In **Table 5.3**, we set out the 30 destinations with the highest demand based on the applied market capture rates.

Table 5.3: Top 30 Market Potential in 2017	
Destination	**Potential Demand**
Alicante	38,000
Dublin	34,500
Tenerife	32,500
Palma	32,000
Glasgow	30,500
Rome (FCO)	25,500
Lanzarote	25,000
Malaga	24,500
Faro	24,500
Barcelona	23,500
Venice	22,500
Amsterdam	22,000*
Belfast (BFS)	21,500
Geneva	21,500
Mahon	19,000
Edinburgh	19,000
Malta	17,000
Oslo	14,500
Paphos	14,000
Fuerteventura	13,000
Ibiza	13,000
Lisbon	12,000
Milan (MXP)	12,000
Bucharest	12,000
Murcia	11,500
Heraklion	11,000
Las Palmas	11,000
Corfu	10,500
Madrid	10,000
Stockholm	10,000
Note: *Excludes onward connecting passengers. KLM typically expect around one third of the route to be point to point, with the remaining two thirds to be onward connecting meaning that, if it operated a service to Amsterdam, the route would carry more passengers when those connecting in Amsterdam are included.	
Source: CAA Survey 2017 and York Aviation	

5.19 On the basis that many airlines would, in our experience, be seeking at least 30,000 passengers for a summer-only service, only one destination would have achieved this level of potential demand in 2017, Malaga (Dublin would reach this level but is a year-round type destination which would likely require greater demand to be sustainable overall). This illustrates how dependent services from the Airport would be on stimulation (or destination switching[99]) to reach viable passenger levels to make them attractive to airlines.

York Aviation Passenger Forecast

5.20 In order to project forward the market, we have applied underlying demand growth rates from the DfT's 2017 UK Aviation Forecasts[100]. In the first instance, it is worth pointing out that applying growth of 2% per annum[101] to the total underlying potential market for Manston would suggest that by 2021[102], the total potential market from which Manston could draw passengers would still be less than 1.1 million passengers. On this basis, 662,000 passengers as forecast for Year 3 of RSP's Manston Airport demand forecasts[103] would amount to the Airport capturing over 60% of all available short haul demand within its reasonable catchment area based on our assumed market capture rates set out above in the first year of passenger service operations. This is simply not credible given how few of the 240 routes are likely to reach a viability threshold sufficient for an airline to commence operations in the first year.

5.21 We have developed more realistic passenger forecasts using a market-led semi-bottom-up approach which takes into account the scale of the market at route level and overlays the bottom-up likely provision of airline capacity to meet this. This is typical of approach to demand forecasting for regional airports that we undertake for numerous airport operators and investors. However, as pointed out above, the market capture assumptions used to assess the total potential market available to Manston err on the optimistic side such that the forecast represents more of an upper bound of plausibility.

5.22 Our forecasts are derived through the following steps:

- identifying the underlying demand for all routes from the catchment area (Kent);
- determining the market capture which could be achieved if services were offered from Manston Airport and applying these to the above;
- applying stimulation to the underlying demand at a route level to reflect stimulation of the market through a new route and as a proxy for destination switching;
- growing the route level demand forward by appropriate market growth rates (usually derived from the DfT UK Aviation Forecasts);
- determining the likely airline type[104], aircraft type/size and frequency to operate each route. Relevant passenger load factors are also applied at this stage based on industry norms;

[99] Passengers choosing where to fly based on the services available rather than their underlying market preference.
[100] UK Aviation Forecasts, Department for Transport, October 2017.
[101] the DfT average growth rate for short haul and domestic passengers from 2016 to 2030.
[102] Indicated as Year 3 in the RSP Planning Statement, para 3.105.
[103] RSP Azimuth Report, Vol III
[104] Low cost, full service etc.

- ✈ growing airline frequency, capacity and load factor as underlying demand grows.

5.23 The first two steps are as previously explained, with the application of 60% market share for districts which are closer to Manston Airport than others and 5% from all others. As previously identified, we believe that the 60% may be generous for a number of reasons.

5.24 In making allowance for some stimulation of the local market associated with the introduction of new services at Manston, we have been cautious for a number of reasons, in part explained previously, but also because much of the stimulation is likely to be effectively destination switching by local passengers choosing to fly from Manston rather than elsewhere rather than pure stimulation of the underlying market[105]. Taken in the round, this does not increase the overall pool of passengers from which the Airport can draw but may result in individual routes becoming viable to the airlines at an earlier date but slowing the introduction of other routes. Typically, in our experience, the level of market stimulation seen at the individual route level can be in the order of 10-40% depending on the airline and route[106]. In order to make routes financially viable, it is likely that airlines will seek to serve well established core destinations and these will be the hardest to stimulate given the sheer level of frequency already offered from competing airports. For this reason, we have adopted a 20% market stimulation rate to reflect the impact of new passenger services at Manston on individual destination markets, which may, in practice, still be too high given the likely route structure focussed inevitably on mature markets already well served. Again, we have erred on the optimistic side so as not to understate the potential.

5.25 Our growth rates are based on the DfT growth rates from 2017 and applied to the latest 2017 CAA Survey data on the scale of the local market. No further adjustments have been made to these to account for Brexit, though clearly there may be circumstances in which the growth rates are supressed by more negative economic outcomes from the Brexit process. This demand suppression would equally apply to any projections of cargo tonnage growth. The growth rates are shown in **Table 5.4** and have been used widely by ourselves in projecting demand for other clients in the UK. These are lower than those used by Azimuth of 4%, partly reflecting a proper interpretation of annual passenger growth rates (see **Section 3**) but also because they are applied to the underlying passenger demand, not the level of growth which could be seen at the individual airport level. The growth at an individual airport could be greater in any one year as new services are launched and step changes in passenger levels from the previous year are achieved. This is taken into account in our overall analysis of the potential for Manston.

[105] High levels of market stimulation were observed with the rapid growth of low fare services in the period 2002-2008 but there is significantly less scope for continued stimulation of the underlying market for air travel through further air fare reductions.

[106] This can be much higher for a limited number of routes, but these levels tend to be for first forays into new markets from much bigger airports

Table 5.4: Applied Annual Market Growth Rates		
Year	Domestic	International Short Haul
2018	1.2%	2.2%
2019	1.2%	2.2%
2020	1.2%	2.2%
2021	1.5%	2.0%
2022	1.5%	2.0%
2023	1.5%	2.0%
2024	1.5%	2.0%
2025	1.5%	2.0%
2026	1.5%	2.0%
2027	1.5%	2.0%
2028	1.5%	2.0%
2029	1.5%	2.0%
2030	1.5%	2.0%
2031	1.2%	1.8%
2032	1.2%	1.8%
2033	1.2%	1.8%
2034	1.2%	1.8%
2035	1.2%	1.8%
2036	1.2%	1.8%
2037	1.2%	1.8%
2038	1.2%	1.8%
2039	1.2%	1.8%
2040	1.2%	1.8%
2018-2040 Average	1.4%	2.0%
Source: Department for Transport		

5.26 Projecting forward the stimulated routes on this basis, we have been able to determine routes which may over time be viable for an airline to from Manston Airport. Whether they would constitute a viable operation for the Airport, particularly given the cost of building a new passenger terminal is debatable and something we consider further in **Section 7**.

5.27 We have assumed that routes would be started when stimulated demand reaches 30,000 passengers per annum. This mainly covers leisure routes, though would also cover Amsterdam and Dublin initially notwithstanding concerns that this passenger volume may not be sufficient for year round services at a reasonable frequency of service, along with Glasgow and Edinburgh over the longer term. The choice of 30,000 passengers per annum equates broadly to:

- 3 flights per week for a 30-week summer period by a 189-seat Boeing-737-800 aircraft;
- 2 flights per week, year round for a 189-seat Boeing-737-800 aircraft;
- 5 flights per week, year round by a 78-seat Dash-8-Q400 or Embraer E175 aircraft.

It should be noted that at these levels of frequency, the 60% market capture share is very optimistic given the level of comparative frequency from neighbouring airports.

5.28 For the Amsterdam route, we have assumed that KLM would potentially return to this route and, therefore, would bring benefits of hub connectivity which would increase demand for the route. We have assumed a ratio of one third point-to-point demand, and two-thirds onward connecting. However, as we have noted in **Section 3**, RSP's detailed fleet forecasts assume the route would be operated by Fokker F70 aircraft, an aircraft type now fully retired by KLM. Given the opportunity costs are higher with newer aircraft, such as the Embraer E175, than for a fully depreciated older F70 aircraft, it is not certain that operating a more marginal route to Manston would be a priority over other route opportunities with a newer more expensive aircraft.

5.29 Overall, we have assumed the following as a basis for assessing what might actually be operated:

- Ryanair would operate the bulk of services to leisure destinations along with city points of Dublin and Belfast (both at low frequency). It would use 189-seat aircraft with a starting load factor of 90% in the first year of operation, growing by 0.5% compound until a load factor limit of 93% is reached. However, there must be considerable doubt over this in the short term given recent statements by Ryanair about reducing the number of its bases due to fuel increases and lower fares realised in the market[107];
- KLM would operate the Amsterdam route with an 88-seat Embraer E175. Load factors are assumed to start at 80% and grow by 0.5% compound per annum until a load factor limit of 88% is reached. These load factors are higher than Azimuth assume but reflect the levels that the service will need to achieve long term for the airline to commit the aircraft resource to the services. This may, hence, overstate the early year forecasts;
- Flybe would operate to Glasgow and Edinburgh[108], although would not launch these routes until both are viable so as to increase market presence in Kent. Routes would be operated with Dash-8-Q400 aircraft with 78-seats and have a static load factor of 75% throughout. Due to the timing of the Edinburgh route reaching viable demand levels, this means these routes are not launched until the end of the forecast period.

5.30 **Table 5.5** presents our forecasts by route at 5-yearly intervals (plus 2039) and indicates the assumed airline and frequencies.

[107] http://www.travelweekly.co.uk/articles/322988/oleary-extends-ryanair-contract-despite-plunge-into-red.

[108] It should be noted that there is some short term doubt as to whether Flybe will continue in operation and, assuming it does, it is not clear that the prospective new owners flying under a Virgin Atlantic brand would be willing to start services at a small regional airport given the stated intention to focus on hub connections at Heathrow and Manchester, as well as serving Southend as part of the tie up with Stobart Air. There would be few alternative airlines suitable to commence domestic flights of this nature.

Table 5.5: Route Level Forecasts for Selected Years							
Destination	**Airline**	**2021**	**2026**	**2031**	**2036**	**2040**	**Notes**
Alicante	Ryanair	41,000	53,000	54,000	54,000	71,000	Starts 2-weekly year-round, increases over time
Dublin	Ryanair	35,000	36,000	54,000	54,000	54,000	Starts 2-weekly year-round, increases over time
Palma	Ryanair	41,000	42,000	42,000	54,000	54,000	Starts 2-weekly year-round, increases over time
Tenerife (TFS)	Ryanair	35,000	36,000	36,000	54,000	54,000	Starts 2-weekly year-round, increases over time
Glasgow	Flybe	0	0	0	0	43,000	Starts as daily service year-round
Rome (FCO)	Ryanair	20,000	31,000	32,000	36,000	36,000	Starts 2-weekly summer only, increases over time
Lanzarote	Ryanair	33,000	36,000	36,000	36,000	36,000	2-weekly throughout
Malaga	Ryanair	20,000	35,000	36,000	36,000	36,000	Starts 2-weekly summer only, increases to year-round
Barcelona	Ryanair	31,000	31,000	32,000	41,000	42,000	Starts 2-weekly summer only, increases over time
Faro	Ryanair	30,000	31,000	36,000	36,000	36,000	Starts 3-weekly summer only, increases to year-round
Venice	Ryanair	0	21,000	21,000	21,000	32,000	2-weekly summer only, increases over time
Amsterdam*	KLM	0	96,000	105,000	108,000	111,000	2-daily throughout.
Belfast (BFS)	Ryanair	0	0	30,000	31,000	32,000	2-weekly throughout
Geneva	Winter Charter	0	1,000	2,000	2,000	2,000	Starts 8 flights per winter, increases over time
Mahon	Ryanair	0	0	30,000	32,000	32,000	3-weekly summer only
Edinburgh	Flybe	0	0	0	0	30,000	5-weekly
Malta	Ryanair	0	0	0	0	32,000	3-weekly summer only
	Total	**286,000**	**449,000**	**546,000**	**595,000**	**733,000**	
Note: *Includes onward connecting passengers							
Source: York Aviation							

5.31 These passenger projections are based on the stimulated market size grown forward route by route with airline capacity increases only assumed once the underlying demand grows to a level to sustain higher frequencies. Over the forecast period, no additional routes would be expected to reach the minimum threshold of 30,000 passengers sufficient to be included in the forecast.

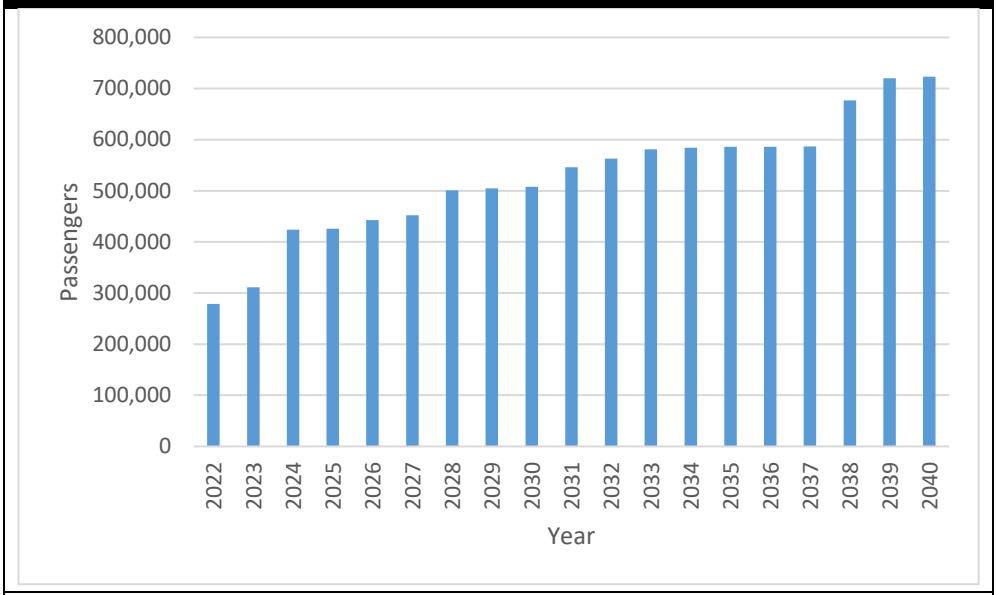
5.32 Crucially, the projected number of viable routes for the airlines and the level of activity may be insufficient to initially sustain any based aircraft by a low fares carrier (such as Ryanair) and, even in the longer term, the demand would likely only support 1 or 2 based aircraft for the summer period only. This contrasts with Azimuth's assertion that they would expect 2 based aircraft from the outset growing over time to 3. Given the nature of the underlying market, we believe this would be unsustainable which would quickly become obvious to any airline. Furthermore, for the reasons identified above, market conditions in the low cost airline sector may rule out the establishment of additional new bases in the short term unless there is a very strong local market, which is not the case at Manston.

5.33 We have not separately included outbound charter flights within the forecasts as leisure demand is already accounted for in our underlying assessment of the market so these flights would not be additional to the assessment above. Some of the routes we have identified as viable on a seasonal basis could be operated by charter airlines rather than a low fares airline; there is increasingly substitutability between the two airline types in short haul markets.

5.34 We have also not directly created a forecast for ad-hoc inbound services associated with the cruise industry. We understand the nature of these and are familiar with the historic aim of Manston Airport to attract more of these flights. It is possible that this sort of service might be attracted given the proximity to Dover but it is difficult to make a precise estimate. We note that the aircraft type assumed by Azimuth for such flights (the Boeing B757-300) has limited range and would not be able to serve Florida as indicated in the ES (Table 3.3). In any event, this aircraft is nearing the end of its operational life and any replacement aircraft is likely to be larger and with different environmental impacts. The estimate of 30,000 passengers, as shown by Azimuth, is significant and probably at the upper end of the range. Any such passengers would be additional to the forecast shown in **Figure 5.1** below, which illustrates our core passenger forecast driven by existing local demand from residents and inbound visitors for all years from 2021 to 2039.

5.35 In overall terms, our passenger forecasts suggest that by Year 20, the Airport might, as an upper bound, be able to attract around 750,000 passengers per annum but the build up to these levels of passenger throughput would be significantly slower than indicated in the RSP Application Documents. Whilst we have updated our assessment of expected levels of passenger demand to the latest full year CAA Survey data for 2017, our overall assessment of a realistic long term passenger forecast for Manston remains at around half of that suggested without supporting evidence, by Azimuth for RSP, as indicated at para. 12 of our November 2017 Report. The maximum forecast for the first year of passenger operations, Year 2, is no more than 280,000 passengers, even assuming any airline could be persuaded to commence operations at all.

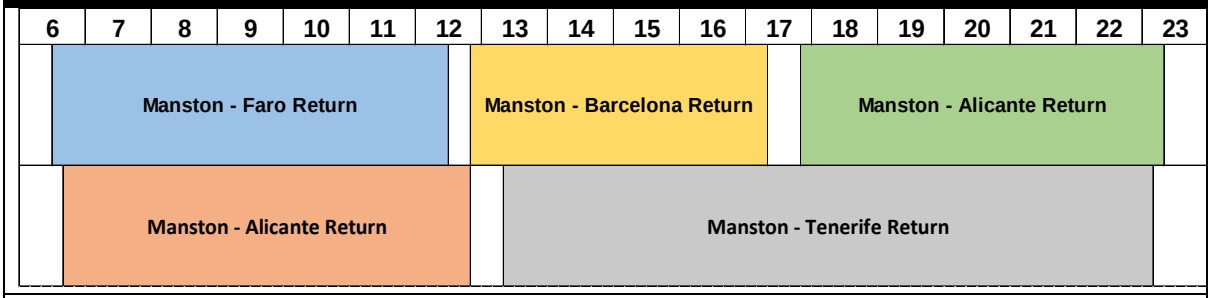
Figure 5.1: Market Based Passenger Forecasts



Source: York Aviation

5.36 Whilst the above assessment represents the potential scale of potential passenger throughput that Manston might attract if it could attract a low cost airline (LCC) to base a number of aircraft at the Airport, this is rendered unlikely given the proposed night movement restrictions in period 23.00-07.00. RSP's stated position that there would be no night flights by passenger aircraft would make it highly unlikely that an LCC would base an aircraft at Manston due to the restricted operating day over and above the market related factors highlighted above. In order to make low cost/low fare operations viable, a low cost airline would expect to be able to make their first departure before 07.00 and/or last arrival after 23.00. This is illustrated by typical aircraft rotation patterns for routes that might operate from Manston in **Figure 5.2** below, showing clearly that in order to achieve 2 or 3 rotations a day (dependent on destination) an airline would likely need to depart before 07.00 and/or arrive after 23.00. By way of illustration, Ryanair's new base at Southend has 48% of the first departures departing before 07.00 and 29% of the last arrivals arriving after 23.00. We would expect a similar pattern at Manston. However, RSP's ES suggests that there would no night movements passenger aircraft – none have been assessed for environmental impact purposes. In the alternative, night operations by passenger aircraft would crowd out freighter movements, which would further restrict the potential for viable freight operations.

Figure 5.2: Typical Low Cost Airline Aircraft Rotation Patterns



Source: York Aviation

5.37 Finally, we would note that these forecasts, whilst optimistic for a number of reasons previously explained, would only be deliverable if an airline could be persuaded to operate the services. The market is not so large, nor the competitive options sufficiently limited, that the Airport would stand out as an underserved market in its own right. Therefore, the only way in which airlines could be persuaded to operate would likely be with very attractive terms. Typically, such terms may involve:

- £0 income per passenger for one or more years from the start of services. This may be followed by gradual step changes;
- A need to underwrite new services until the routes become established, which can lead to an airport having to pay operators for a number of years;
- In addition to both of the above the airport may be expected to provide marketing support and offer accommodation and other services, such as handling, free of charge to the airline.

5.38 Terms such as these are not limited to low fares airlines and indeed major carriers such as KLM and regional airlines such as Flybe are increasingly looking for deals of this nature in the UK. If Manston were to seek to realise £2.50 per passenger as suggested in George Yerrall's 2017 analysis[109], it is more likely that no airline would be willing to take the risk of serving an airport with no track record of viable operations for the airlines or the airport as is the case at Manston. Without substantial incentives, the rational approach by the airlines is instead, to focus on continued consolidation of all regional passengers onto services from the London airports where economies of scale will allow better returns. This has implications for the revenue that could be earned from passenger services which will impact on the potential viability of the development and operation of Manston Airport, as we set out further in **Section 7**.

5.39 It is important to note that our projections are highly optimistic as the maximum passenger throughput previously handled by the Airport was 200,000 in 2005 when EUJet was the principal airline operator. This airline ceased trading as its operations were fundamentally unviable. Subsequent operations by Flybe also failed as they were not viable for the airline. The KLM service to Amsterdam which operated prior to the Airport's closure in 2014 was subject to marketing support from the County Council amounting to at least £100,000 paid via the Airport[110]. In other words, there is no track record of sustainable passenger operations for the airlines at Manston without some form of public sector support. We would expect the same to be true in future if airlines are to be attracted to commence operations in the first place and deliver the longer term passenger potential that we have assessed.

Conclusions

5.40 We have set out in full our market assessment for passenger services at Manston, in part to provide the Examining Authority with an example of the type of market analysis that it would be normal practice to present in support of a planning or development consent application. The RSP case contains no such systematic presentation of the market nor reasoned analysis of how airlines are likely to respond to the market.

5.41 Proper analysis of the market confirms that Manston is, at best, only likely to attract around half of the number of passengers claimed, without analysis, by Azimuth Associates over the 20 year period of the projections. This has inevitable implications for both the scale of facilities required and the viability of the airport operation as a whole.

5.42 It is highly likely that attracting such services will require support from the public sector as well as highly discounted airport charges. Past experience would suggest that there would remain a high risk of the airlines failing to sustain the routes on a viable basis.

[109] George Yerrall Proof of Evidence Appendix 3 submitted to the Planning Inquiry into the Application by Lothian Shelf (718) Limited relating to Buildings 1, 2, 3 and 4 at Manston Airport. (2017), Table 1.
[110] http://www.airportwatch.org.uk/2013/03/farnborough-turns-away-private-flyers/.

6 JUSTIFICATION FOR THE FACILITIES PROPOSED

The RSP Application Documents fail to set out any material that justifies the extent of facilities proposed by reference to their own 'forecasts' both for the core airport infrastructure and any claimed associated development on the Northern Grass.

In this section, we have considered the infrastructure that would be required if RSP/Azimuth's air freight forecasts were correct to assist the Examining Authority. This is without prejudice to the evidence that strongly suggests that they are unattainable. We have set out the basis for estimating the required number of stands and cargo terminal infrastructure to enable RSP's forecasts to be accommodated based on the times that airlines would wish to fly, including the required night operations.

Based on proper analysis of airline operating patterns, the maximum number of stands that would be required, even allowing a buffer for resilience, would be 10. Based on global benchmarks, the scale of cargo sheds could also be substantially reduced, probably to around 1/3 of the scale indicated.

As far as the Northern Grass is concerned, the list of airport related uses provided in response to questions from the Examining Authority is no more than a list of uses that may be required at an airport without any specific reference to whether they are actually needed at Manston or, indeed, the extent to which these uses would need to be accommodated in an airside location in any event.

Based on East Midlands Airport (EMA) and its Pegasus Business Park, despite the major freight hub activity, only around 13,000m^2 of accommodation within the business park is airport related other than hotels. The remainder of the occupiers are non-airport related and therefore not relevant to RSP's asserted used for the Northern Grass. It is simply not credible that Manston could sustain more of these airport related activities than the UK's main dedicated freighter hub at EMA.

6.1 In this section, we concentrate principally on the infrastructure required to handle RSP's projected air freight forecasts and the extent to which the scale of the proposed Master Plan has been justified. This is important in the context of the DCO and justification for the acquisition of land. Whilst we present here an assessment of the infrastructure required if RSP/Azimuth's 'forecasts' were correct, this is without prejudice the clear evidenced view within the remainder of this report that they are not. We have based our assessment here on the more detailed information set out at Appendix 3.3 of the ES, notwithstanding the discrepancies between this information and that set out in the Azimuth Reports and elsewhere as highlighted in **Section 3**.

6.2 We consider separately the extent to which the core aviation infrastructure has been justified and then the use of the 'Northern Grass'.

6.3 A further consideration is the capability of the infrastructure proposed in the RSP Master Plan as this capability is material to whether the impacts of the proposed development have been correctly assessed.

Infrastructure Required to accommodate RSP's Aviation Forecasts

6.4 The Master Plan presented by RSP for the Manston Airport site is shown at **Figure 6.1**. It makes use of the full length of the runway and provides a full length parallel taxiway. The western side of the site is dedicated to freight handling activity and has 19 full Code E aircraft stands[111] for cargo flights and 4 large cargo sheds totalling 65.500m^2 for the processing of freight supported by truck loading and parking areas. The eastern side of the site shows as a new passenger terminal and apron along with a MRO hangar and apron. The existing private aircraft handling facility (FBO) and fire station site are retained. We understand that four phases of development are planned[112] as illustrated in RSP's Design and Access Statement. Notwithstanding our view as to the significantly lower potential demand that might realistically be attracted to a re-opened Manston Airport, we focus here on the overall scale of facilities required at Year 20 based on RSP's forecasts for that year and whether there is an evidenced justification for this scale of facilities in the highly unlikely event that these 'forecasts' were deliverable.

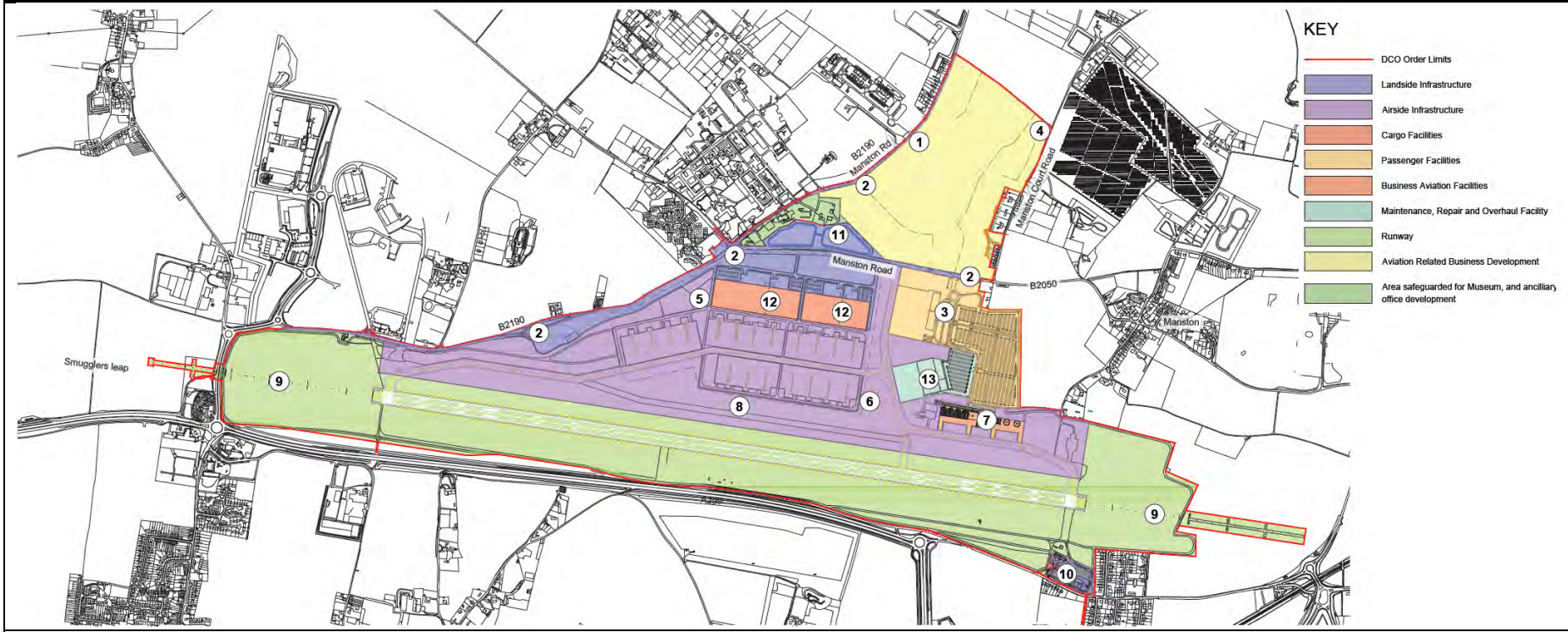
6.5 RSP projects that Manston will need to be able to handle 17,170 cargo related ATMs and that 1.4 mppa[113] will be handled by Year 20. Given that this level of throughput forms the basis of the Environmental Assessment, prima facie it would be reasonable to assume that the infrastructure shown in the Master Plan should reflect that required to handle this level of aircraft movement and passenger activity.

6.6 We note that the RSP Design and Access Statement (sections 3.01, 3.02) states that the requirement of 19 Code E stands for cargo aircraft was a given input assumption in the Client Brief, along with the requirement for 65,500m^2 of cargo facilities[114]. The Need Case for an airport development would normally be expected to set out clearly and transparently how these requirements have been derived from the demand forecasts. We would have expected the Application Documents to contain a specific justification of the scale of airside facilities proposed by way of, as a minimum:

- an indicative busy day schedule of aircraft movement by type time of day;
- a quantification of the number of aircraft stands required to handle those aircraft movements by reference to the schedule;
- the volume of cargo expected each day, the proportion expected to use the cargo facilities on-site and off-site[115], the time such cargo is expected to remain in the warehousing on-site, conversion of the volumes and dwell time to the storage space required.
- similarly for the passenger terminal requirements and number of stands required.

[111] It is unclear how the Code F aircraft shown within the fleet mix at Appendix 3.3 of RSP's ES will be accommodated.
[112] Azimuth Reports Vol III, para 5.1.2.
[113] Million passengers per annum.
[114] We note also that the DAS states that the brief was to double the size of passenger terminal facilities and add 1 passenger aircraft stand. As discussed in Section 3 of this Report, the justification for the scale of passenger terminal facilities given in the Azimuth Reports Vol III is nonsensical.
[115] Much of the cargo previously using Manston was trucked directly off-site from the aircraft side. This is common practice for some types of cargo, particularly where the integrator or forwarder has established consolidation and breakdown facilities located more centrally to the market.

Figure 6.1: RSP Masterplan – Proposed Site Layout



Source: RSP Design and Access Statement

6.7 Such information is missing from all of the key documents where it would normally be found in an airport development application, including the Planning Statement, the ES Scheme Description (Chapter 3), the Design and Access Statement and the Need Case (Azimuth Reports). As we pointed out in **Section 3**, to the extent that there is are any parameters given for the scale of facilities required in relation to the passenger terminal, these are fundamentally flawed.

6.8 Absent such a coherent explanation of how the forecasts translate into a physical requirement for infrastructure, leaving aside the validity of the forecasts themselves, the need for the facilities cannot be stated to have been justified. This is particularly relevant in the context of the required CPO which requires a compelling case to be made for the precise area of land that it is proposed be acquired.

6.9 To assist the Examining Authority, we now set out some of the key considerations in terms of the scale of facilities required relative to what is proposed in the RSP Master Plan.

Stand Requirements

6.10 As we have noted earlier, not all of the aircraft that RSP project to use Manston are Code E aircraft. Leaving aside the discrepancies between the reported aircraft mix in various parts of the Application Documents that we have highlighted in **Section 3**, 40% of aircraft movements are projected to be by smaller Code C aircraft, within which many are very small turbo-prop aircraft. It is normal practice to accommodate 2 Code C aircraft side by side within the area of 1 Code E stand. Hence, the total number of Code E stands required does not equate to the total number of aircraft requiring a stand at the same time. Furthermore, as Code C aircraft are shorter in length than Code E aircraft and, to the extent that all of the stands would not be required to accommodate Code E aircraft based on the proposed fleet mix, the length of a number of the stands could be materially shortened so reducing the overall apron area required[116]. Adoption of such principles would be consistent with ensuring efficient use of space and not over-designing the infrastructure. This would reduce the area of apron actually required to accommodate forecast demand.

Efficient Use of Stands

6.11 Taking into account that a Code E stand can accommodate more than 1 of the smaller aircraft types simultaneously and given the high proportion of such aircraft in the overall fleet mix, it is possible to assess how many aircraft a day each stand would be required to accommodate on RSP's 'forecasts' by using the phased provision of stands set out in the Design and Access Statement and the aircraft movement forecasts set out at Appendix 3.3 of the ES.

[116] The depth of a Code C stand is less than a Code E stand so the use of a Code E stand solely for 2 smaller aircraft does not use all of the stand depth as Code C aircraft are shorter nose to tail, leaving wasted space.

6.12 Using the Busy Day Multipliers set out in Appendix 3.3 to the ES, which show the extent to which the number of movements on a busy day is expected to be compared to an average day in the year, and assuming that freighter operations are typically in weekdays, i.e. only 250 days in a year, the number of peak/busy day aircraft movements by freighter aircraft that RSP claim would use Manston can be estimated. This starts at 24 (23.55) aircraft movements over a 24 hour day in Year 1, increasing to 73 (72.82) aircraft movements a day in Year 20. The number of aircraft requiring to park on a stand would be half the number of movements[117] and this can be converted to a Code E equivalent number of aircraft taking into account the projected fleet mix. Based on the 8 stands to be provided at Phase 1 rising to 19 stands by Year 20, the number of Code E equivalent aircraft that would be expected, on RSP's projections, to use each stand on a busy day would be 1.24 in Year 1 rising to 1.53 in Year 20. The number would be lower on an average day and even lower on an off-peak day. In other words, RSP are providing sufficient stand capacity for over 60% of all daily aircraft movements to be accommodated on stand at the same time. This represents a massively inefficient solution.

6.13 Based on a rational pattern of freighter aircraft operations, as set out at para. 3.44 above, we have set out an indicative stand utilisation chart based on the operating times and stand occupancy times for similar types of aircraft and types of operation (integrator, mail, general freight etc) based on equivalent operations at East Midlands. This is set out at **Appendix E**. This analysis shows an average stand occupancy time of around 3.5 hours within 24 hour period but this is affected by the assumption that, as at EMA, there may some aircraft that stay for longer than 8 hours in order to fit with EMA's integrator secondary hub role for DHL. We have assumed that there could be some similar operations at Manston in the unlikely event that it developed a hub role in order to be conservative in our assessment.

6.14 However, in practice, our analysis shows that the average stand occupancy time for freighter aircraft excluding these movements, is around 2¼ hours, consistent with the assumption of 2.5 hours set out at para. 4.5 of our November 2017 Report and as adopted by RSP[118]. On a conservative basis, our analysis shows no more than 9 Code E equivalent stands would be required to accommodate RSP's forecasts based on realistic patterns of airline operation. If the long stopping aircraft were not in the mix at Manston, as it is not realistically likely to become a secondary hub for an integrator, then it is probable that no more than 6 Code E equivalent stands would be required to meet the airline requirements.

6.15 As we have made clear in **Section 3** above, applying the proposed night movement quota would almost certainly result in a large part of RSP's freighter movement 'forecast' not operating due the effect of the restrictions on the commercial viability of the operation to the airlines, leaving aside the broader question of market viability overall. If, hypothetically, the airlines were willing to operate from Manston at commercially sub-optimal times, this would require extensive changes to the operating pattern but would still be containable within 6 to 9 Code E equivalent stands as a maximum.

6.16 RSP seek to justify the excessive provision of infrastructure by referring to the need for resilience:

[117] A movement comprising the arrival or departure of an aircraft from the runway.
[118] RSP NSIP Justification Statement, para. 22.

"The reason that the physical capability of the Proposed Development is much higher than the expected operational level is twofold. First, significant 'headroom' is required to be able to withstand operational issues that regularly arise and so is for reasons of resilience."[119]

6.17 In the first instance, allowance is typically made for a 'buffer' of time between planned operation of aircraft off of and on to a stand. This allowance is evident in the stand allocation chart at **Appendix E**[120]. This provides resilience for a normal level of operational delay. Over and above that it is normal practice in planning airport facilities to allow 10% additional stands for unforeseen events, e.g. stand outage, aircraft technical delays etc. In the case of Manston, this would require no more than 1 additional resilience stand to be available. Hence, at the very maximum, the number of stands required for 17,170 movements would be no more than 10. Furthermore, the requirement for these stands assumes that no use could be made of any of the passenger apron for cargo operations. Given the high proportion of smaller aircraft types in the fleet mix, this would also be eminently possible so reducing the required number of cargo aircraft stands further.

6.18 RSP appear to have assumed more than 100% over provision with 19 stands compared to the maximum of 9 stands operationally required. As explained earlier, this is a maximum stand requirement and, assuming that Manston could not fulfil a secondary hub role for an integrator, the required number of stands would be materially less.

Cargo Terminal Requirements

6.19 In association with proposed the 19 Code E cargo aircraft stands, the RSP Design and Access Statement Section 1.05 also states that the Brief required the provision of 65,500m^2 of cargo facilities, which is shown on the Master Plan to be 4 large cargo sheds in standard portal frame structures. Again, no justification is provided for this requirement and no explicit linkage is made to the forecasts of tonnage requiring to be processed through the facilities.

6.20 RSP themselves make reference[121], in their Masterplan Design Principles, to the objective that their development:

"'Sustains the improvements to operational efficiency for as many years as is practicable"

This appears to be something of an oxymoron given the above assessment of the efficiency with which the proposed stands would be utilised.

[119] Ibid, para. 29.
[120] We have allowed 30 mins to be cautious for freighter operations. For passenger operations a buffer of 15-20 mins would be more usual.
[121] RSP Planning Statement, para 4.14.

6.21 In the light of the claim about efficiency, we would have expected to see a calculation of the floor area of cargo facilities set out by reference to industry standards. The industry standards are set out in the IATA ADRM[122] explains that a cargo facilities size is a function of its proposed processing capability which it sets out under three categories of operation; Low Automation (mostly manual), Automated (average) and Highly Automated. The processing capability for each category is set by a tonnes per m^2 multiplier ranging from 5 to 17. It is worth noting however that some facilities across the world far exceed the top end of this range with facilities that process possibly more than 30 tonnes of cargo per m^2 of facility.

6.22 Given that Manston is intended by RSP to be a state of the art cargo handling facility, it is reasonable to assume that the tonnage per m^2 multiplier should be towards the top end of the range compared to older facilities which may not have been designed to modern standards. However, the multiplier used by RSP to size the cargo facilities appears to be of the order of 5.2 tonnes per m^2, i.e. at the bottom of the range when a more reasonable multiplier for a modern facility would be expected to be of the order of 13.5 tonnes per m^2. The cargo sheds at Manston, as with number of stands to be provided, are substantially oversized relative to the required throughput, by an order of 3 times at least.

6.23 It would appear that the scale of facilities proposed by RSP may have been based, to some extent on East Midlands Airport (EMA), which has a combined cargo shed footprint of approximately 80,000 m^2 and processed a total of over 375,000 tonnes of air cargo in 2018 at a usage multiplier of 4.7 tonnes per m^2. However, this is not a valid comparison for two principal reasons:

- ✈ Cargo handling facilities at EMA have been recently extended and are unlikely, therefore, to be operating at capacity at current tonnage levels;
- ✈ EMA operates as a hub for domestic road freight in addition to air freight given its position in the centre of the country and proximity to the M1.

For example, the Design and Access Statement for DHL's application to expand its cargo hub terminal makes clear that the primary reason for this expansion was to handle more road freight[123]. Manston is simply in the wrong place for this type of operation and, in any event, extensive road freight operations have not been assessed as part of the Transport Assessment.

6.24 Moreover, the assessment assumes that all of the cargo using aircraft at Manston needs to be handled in on-site cargo sheds. This is unlikely to be the case. Previous Manston operations were based on much of the freight being taken from the aircraft side straight off-site for distribution without entering the on-site cargo sheds, despite these sheds being underused and with ample capacity to handle all of the freight using the Airport. Given the structure of the industry and dependence on consolidated distribution centres in easily accessible locations, we would expect this pattern to continue if Manston re-opened, meaning that Manston would, in practice, require sufficient space for only a proportion of the cargo flown through the Airport to use the sheds, with the remaining freight trucked off-site in bonded trucks to be customs cleared at consolidation or distribution centres elsewhere.

[122] IATA (International Air Transport Association) Airport Development Reference Manual (ADRM) Edition 10, 2017.

[123] https://plans.nwleics.gov.uk/publicaccess/files/2928B5D0A88323F668C0208F281F5AC5/pdf/15_00319_FULM-DESIGN___ACCESS_STATEMENT_PART_1-341251.pdf, page 22.

Overall Capability of the Infrastructure

6.25 As RSP has acknowledged[124], the capability of the infrastructure applied for is at least 83,220 freighter aircraft movements a year. At a projected usage of only 17,170 freighter aircraft movements a year, this is clearly a highly inefficient development. Whilst some discrepancy would be expected between the theoretical capability of airport infrastructure and the practically achievable capacity when actual airline requirements are taken into account, the scale of the discrepancy is far in excess of what would normally be expected.

6.26 In essence, RSP plan to use only 20% of the available aircraft movement slot capability (as defined by the number of stands) that they plan to provide at Manston. As we discuss in the next section, this low utilisation rate of available capacity is highly inefficient and will inevitably result in a lack of viability of the investment. Medium sized airports in the UK typically operate at around 45 to 50% of available slot capacity when the peaks and troughs of airline demand are taken into account. Generally, operations are considered effectively unconstrained, in terms of allowing airlines the ability to operate at times at or close to when they would prefer, up to around 60% utilisation of available capacity. Beyond 70-75% utilisation, an airport is typically considered congested. Gatwick operates at well over 80% of its current capacity and Heathrow at around 99%.

6.27 By any measure, the level of utilisation proposed for Manston is below what would be reasonably expected. At 50% utilisation of available capacity, Manston as planned by RSP could accommodate almost 45,000 freighter aircraft movements a year without undue constraint on the airlines' ability to operate at commercially desirable times, leaving aside the obvious night movement constraint discussed in **Section 3**. It is important to stress that this does not mean there would be a market or need for it to handle this level of movements for the reasons outlined elsewhere in this report. Nonetheless, in order to reasonably accommodate the demand levels asserted as the need for the development and requiring to be assessed in terms of the likely significant effects[125], i.e. 17,170, this would imply a requirement for infrastructure of no more than 40% of the scale of the overall development proposed on the basis of efficient usage of the infrastructure. Any development of facilities above this level could be deemed excessive relative to efficient use of infrastructure and land in the longer term even if the 'forecasts' were correct. To the extent that the 'forecasts' are overstated, the requirement for infrastructure would come down pro-rata.

6.28 Whilst our assessment of the required number of stands takes into account realistic operating patterns which, as is made clear in our November 2017 Report[126], is necessary to assess the capacity of the infrastructure, this is not directly comparable to the theoretical capability of the infrastructure as RSP themselves accept. It remains the case that there is latent capability in the existing airport infrastructure at Manston that would be sufficient to allow it to handle the number of aircraft movements put forward by RSP as required in Year 20 without the need for RSP's development.

[124] RSP 2.3 NSIP Justification, para. 23.
[125] Ibid, para. 26.
[126] York Aviation, November 2017, paras. 4.6 and 4.7.

Passenger Facilities

6.29 As we have already noted in Section 3, the basis upon which the passenger terminal and apron facilities have been planned is unclear given the obvious errors in the design parameters set out. The proposed passenger terminal is stated in the Design and Access Statement (DAS) to have a footprint of 2,200m^2 initially, increasing to 4,500m^2 as demand requires[127]. However, there is lack of clarity as to what is actually proposed as the DAS variously refers to different footprints for the terminal. Whilst Vol 1, para. 2.01 cites the size as being 2,400m^2, the DAS also refers to there being only an extension of the existing passenger facilities rather than a new terminal (para. 1.05). The scale of the facility has not been justified even if it was clear what is proposed.

Other Aviation Facilities

6.30 RSP also cite a requirement for the Master Plan to accommodate other uses, namely General Aviation, Aircraft Recycling, and Maintenance Repair and Overhaul (MRO). As with the core air freight and passenger projections, RSP provide no assessment of the market for such activities specifically at Manston nor any justification for the scale of facilities proposed. To the extent that these occupy a material part of the site proposed to be acquired through compulsory purchase, this represents a substantial omission. As we set out at para. 2.65 of our November 2017 Report, these are highly competitive markets in terms of the number of airports seeking to attract such activities. In terms of Business Aviation, Manston is too far from London to be a major player in this market. The third opportunity, the MRO sector, other than related directly to major airline operations at larger airports, is limited in the UK as is evidenced by the recent failure of Monarch Engineering. Aircraft recycling has also been slow to develop despite active interest and operations at airports such as Newquay and Durham Tees Valley. We see very limited scope for Manston to attract these activities to any material extent so as to justify facilities beyond those that already exist on the airfield.

Northern Grass

6.31 To the north of the site, on the 'Northern Grass', a general business park development is shown. The RSP Design and Access Statement (Vol 3) shows the Northern Grass area laid out as a fairly conventional business park with a mixture of B8 warehouse units and B1 office buildings, each with their own car parking areas associated. In total, 105,100m^2 of accommodation is proposed and the DAS shows all of this being built out by Phase 2 of the development (Years 2-4). These buildings are located entirely on the landside of the B2050 and so will be unsuitable for activities integrally linked with the direct operation of the Airport.

6.32 The only justification originally given for these facilities were general statements about providing for airport related businesses "critical" to running the Airport:

"The Northern Grass area will accommodate infrastructure critical to the running of the airport including airport related businesses which do not require an airside location."[128]

[127] RSP Design and Access Statement Vol 4, para 7.17.4.
[128] RSP Planning Statement, para 3.76.

and

"A Business Park consisting of B1 and B8 units accommodating airport related businesses"[129]

6.33 These statements provided no justification for the scale of development proposed and how this relates to the operation of the Airport. RSP's Statement of Reasons simply says that this area has *"sufficient space on the Northern Grass to accommodate airport - related businesses that can be seen occupying premises in and adjacent to the vast majority of UK and European airports"*. This provides no specific justification for why any such uses would seek a site adjacent to Manston nor why they would qualify as associated development.

6.34 A further list of potential uses was set out in Appendix to the updated NSIP Justification Statement (published on 25th January 2019):

- *"radar equipment and its accompanying safeguarding clearances (these also limit the building heights across the remainder of the Northern Grass),*
- *airport management offices offering visibility over the airfield, with associated marketing suites and secure storage for equipment and materials that do not require an airside location (i.e. inside the security fence),*
- *offices and crew facilities for airlines (passenger and cargo),*
- *offices and flight planning facilities for flight schools,*
- *catering operation for passenger and business aviation flights,*
- *covered secure and valet parking operations,*
- *rental car operators – overnight garage, cleaning and office facilities,*
- *garage and offices for airside public transport providers,*
- *airport taxi company garage, cleaning and office facilities,*
- *vehicle depots and storage facilities for air cargo handlers and associated logistics*
- *companies,*
- *specialist bonded warehouses and other facilities (e.g. stables and other animal handling and veterinary facilities) that do not need to be constrained by an airside location,*
- *offices and warehousing for storage associated with MRO and aircraft recycling (including parting out) operations,*
- *office and storage facilities for outsourced contractors providing services to the airport (e.g. – maintenance, security, operations) that do not need to be airside,*
- *project offices for construction companies working on the airport, and*
- *offsite offices for Border Force, Police.*

[129] Ibid, para. 3.76.

6.35 However, this list appears to comprise not of airport-related businesses needing a landside location but of a mixture of essential airport facilities which would need to be located within the zone to the south of the B2050, e.g. airline crew offices, offices for Border Force, flight briefing facilities and facilities, garages for airside transport given that vehicles will typically not be licensed for the public highway, and those which do not appear relevant to the proposed use of Manston, e.g. airport taxi garages, covered valet parking, catering for passenger and business aviation flights. There remains a complete absence of any justification for the totality of the development proposed in this landside area save that RSP has indicated that it *"will seek to provide to the Examining Authority further examples of this type of airport-related development from other UK airports and important cargo led airports in Europe and North America."*

6.36 Taking into account the projections for Manston upon which RSP seek to base their case, the most relevant comparator, in this regard, remains EMA in the UK. East Midlands Airport has an associated landside business park, Pegasus Business Park comprised of c.52,000m^2 of accommodation. However, of this, c.16,000m^2 is comprised of 3 hotels associated with 4.9 million passengers using the Airport in 2018. Of course, hotels do not form part of the proposed used for the Northern Grass at Manston and, in any event, there is ample local supply in Ramsgate and Margate, as well as the Holiday Inn Express at Minster adjacent to the Airport, for any usage associated with the significantly lower volume of passengers projected by RSP. Of the remaining 36,000m^2 at EMA's Pegasus Business Park, many of the premises are vacant or occupied by non-airport related tenants amounting to around 23,000m^2, based on an examination on Google Earth. The proximity to the M1 and a location in the centre of the three East Midlands cities makes the site attractive to a broader range of non-aviation related business seeking proximity to the motorway. This leaves around 13,000m^{2}of accommodation occupied by what would be deemed airport-related or ancillary uses on RSP's definition.

6.37 There can be no justification for the scale of development proposed for the Northern Grass relative to the scale of operation which RSP put forward for Manston. By way of a further example, the proposed New Century Park Business Park proposed for land adjacent to Luton Airport comprises just under 60,000m^2 of accommodation, including a hotel of 6,600m^2[130]. Of the remainder, 11,100m^2 are expected to be used for airport-related business, with the remainder for general warehousing and office use. This has to be seen within the context of Luton being an airport handling over 17 million passengers a year with 1,400 freighter aircraft movements and over 22,000 tonnes of freight annually with plans for further expansion.

Conclusions on Justification for the Scale of Facilities

6.38 Without prejudice to our view that demand to use Manston is not likely to be anything like 17,170 cargo aircraft movements a year, we consider that the land required to accommodate such a number of movements would be substantially less than shown on the RSP Master Plan. The RSP Application Documents fail to set out any evidence or calculations to justify the extent of facilities proposed by reference to their own 'forecasts' both for the core airport infrastructure and any claimed associated development on the Northern Grass.

130 https://planning.luton.gov.uk/onlineapplications/files/5562977400C860F9DD68F7F243FEB90B/pdf/17_02300_EIA-Planning_Statement_Addendum_Final_V2-769078.pdf, page 31.

6.39 To assist the Examining Authority, we have set out the basis for estimating the required number of stands and cargo terminal infrastructure to enable RSP's forecasts to be accommodated based on the times that airlines would wish to fly. This does, of course, confirm the extent to which there would be dependence on night flying. Based on proper analysis of airline operating patterns, the maximum number of stands that would be required, even allowing a buffer for resilience, would be 10. Based on global benchmarks, the scale of cargo sheds could also be substantially reduced. This represents a topside estimate of the infrastructure required to handle RSP's 'forecasts' so as to provide sufficient capacity at the times that airlines would wish to fly and fully taking into account the need for resilience. This is not the same as the theoretical capability of the infrastructure, nor comparable to the capability of the existing infrastructure at the Airport if it re-opened.

6.40 As far as the Northern Grass is concerned, the list of airport related uses provided in response to questions from the Examining Authority is no more than a list of uses that may be required at an airport without any specific reference to whether they are actually needed at Manston or, indeed, the extent to which these uses would need to be accommodated in an airside location in any event. We can see no justification for the inclusion of the 'Northern Grass' within the DCO as associated development as there will be little requirement for the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow or elsewhere to Manston and any requirement could be accommodated south of the B2050. The development on the Northern Grass site appears to be speculative commercial development which, based on the precedent at East Midlands Airport – the UK's principal airport for pure freighter operations – would be expected to be largely for non-aviation related uses and, therefore, not qualify as associated development.

7 IMPLICATIONS FOR VIABILITY AND FUNDING

In the absence of any assessment of the Business Case for the development within the RSP Application Documents, in this section we have undertaken an assessment of the potential viability to assist the Examining Authority to assess the likelihood of the development plan being implemented if consented.

Our analysis shows that the RSP proposals for Manston Airport are not commercially viable even based on their optimistic traffic 'forecasts'. Fundamentally, the analysis of potential viability strongly suggests that no rational private sector investor would fund the re-opening of Manston Airport on the basis proposed by RSP. The Airport was never previously a financially viable operation and we see no reason for this to be any different in future.

When properly analysed, there is little prospect of the operation generating sufficient revenues to cover the costs for the investors nor deliver any returns on the investment for the foreseeable future. In the absence of evidence to the contrary, it is our judgement that investment would not be forthcoming to the extent necessary to even secure the re-opening of the Airport.

The upfront costs of re-opening the Airport, on the basis of a minimum initial capital spend of £145m for Phases 1 and 2, are such that EBITDA losses and a cash flow negative position are inevitable even with this lower magnitude of expenditure, i.e. replicating the position that existed historically and which, ultimately led to the Airport's closure.

Clearly, to the extent that traffic growth does not materialise as RSP envisage following the initial investment, it is clear that the financial position of the Airport would be materially worse.

Introduction

7.1 RSP's Funding Statement provides no information regarding the viability of the operation of the Airport on the scale proposed, nor sufficient information for an investor to consider whether it would be willing to contribute towards the funding of the investment. The only statement regarding the viability of the project is at para. 20 of the Funding Statement relating to capital costs estimates at para. 15:

"RiverOak has taken expert advice from RPS on the cost estimate for the project that is the subject of the application. The initial phase of the project, which will bring the airport back into use, is estimated to cost about £100 million. The cost of developing the remaining phases of the project over a 15-year period is estimated to be an additional £200 million, i.e. a total of £300 million. This cost estimate includes the cost of implementing the project, the cost of construction and the funding of the acquisition of the necessary rights over land, including any interference with rights"

"RiverOak has assessed the commercial viability of the project in the light of this information and is confident that the project will be commercially viable and will therefore be fully funded if development consent is granted"

7.2 As Altitude Aviation Advisory set out in their Addendum Report[131], this falls far short of the information that investors or lenders would require in order to consider whether or not to provide finance for the re-opening of the Airport. A full Business Plan and Business Case, accompanied by detailed financial modelling and sensitivity testing would be required. The information that would normally be expected within a Business Plan sufficient to secure investment are set out in Altitude's Addendum Report[132]. This accords with our experience in preparing such advise for investors in airports.

7.3 Although as noted in para, 2.5 above, the Planning Statement and ES assert that the Business Case and Business Plan are set out in the Azimuth Reports, these reports contain no financial analysis at all. Indeed, the Azimuth Report Vol II (para. 6.1.1) expressly refers to RSP needing to draw up a future marketing and development plan, which would necessarily need to form a crucial part of the Business Plan to inform the viability assessment. Hence, the Examining Authority has no basis for assessing the likelihood of the development being viable on an ongoing basis or whether it is likely to attract investment such that it would proceed at all. These matters are further explored in the Altitude Addendum Report.

7.4 The RSP Planning statement also claims, at para. 6.47, claims Funding Statement complies with Airports NPS requirement that development will be cost efficient for users. This would clearly not be the case if the costs of the excessive infrastructure, as discussed in the previous section, were passed onto users. A key issue that we go on to consider in this section is whether the development would be viable and at an efficient or competitive price for users even based on RSP's overstated 'forecasts'.

Assessment of the Financial Viability of Re-opening Manston Airport

7.5 In this section, we consider the financial viability of RSP's proposals for Manston Airport. The assessment of viability is crucial, as unless the operation of the Airport can be financially viable, it cannot survive in the medium to long term. If it cannot survive, it makes the investment and development superfluous and the Airport will not deliver any of the economic benefits claimed by Azimuth in Volume IV (albeit we believe these to be substantially overestimated in any case). Nor would the opening of an airport on an interim basis before failing comprise of a compelling case in the public interest for the development. A non-viable airport operation would in fact act as a drag on the economy as it would be abstracting resources that could be used more efficiently for other purposes.

7.6 Our assessment of potential viability has been undertaken using a range of information:

- we have been provided with historic and projected financial information on the operations of the Airport when it was still operating and used this information, along with the published accounts, to assess the potential EBITDA[133] performance of the Airport, taking into account the scope for material improvements in financial performance;
- we have used historic operating data provided to us along with CAA Statistics to identify key metrics for the Airport;

[131] Altitude Aviation Advisory, Analysis of the Freight Market Potential of a Reopened Manston Airport – Addendum: UK Regional Airport Financial Performance and Debt Funding Characteristics, February 2019.
[132] Ibid, Section 4, Figure 3.
[133] EBITDA – Earnings before Interest, Tax and Depreciation/Amortisation.

- we have examined the financial analysis of the RSP proposals prepared by George Yerrall on behalf of RSP[134]. This includes, in particular, assumptions around the potential capital expenditure relating to RSP's plans and its phasing. There is no more recent information on capital expenditure phasing has been brought forward by RSP so we have retained this as our basis for assessing the costs of development;
- our experience of unit revenues for aeronautical activities (including cargo handling) at UK and European airports;
- the traffic forecasts for the Airport set out by Azimuth, albeit, as described in **Sections 3**, **4** and **5**, we do not believe that these forecasts are anywhere close to being achievable.

7.7 We note that, whilst the RSP Funding Statement[135] asserts confidence in the Business Plan for the Airport, we have seen no other explanation of this than is contained in George Yerrall's 2017 analysis which we, therefore, assume represents the basis upon which this assertion is made.

7.8 We have structured this section as follows:

- Previous Financial Performance;
- Economics of Attracting Operations;
- Airport Profit & Loss;
- Covering the Costs of Investment.

Previous Financial Performance

7.9 The poor financial performance of Manston Airport previously was, ultimately, the reason for its closure. The Airport had been loss making for a considerable period of time. Our analysis is based on the Airport's report and accounts and financial information provided to us by the current owners which sets out the Airport's Profit & Loss performance for the financial years 2011/12 and 2012/13. Key parameters from this analysis are set out in **Table 7.1**.

[134] George Yerrall Proof of Evidence Appendix 3 submitted to the Planning Inquiry into the Application by Lothian Shelf (718) Limited relating to Buildings 1, 2, 3 and 4 at Manston Airport. (2017)
[135]RSP Funding Statement, para. 20.

Table 7.1: Manston Airport Historic P&L Performance (£000s)		
	FY2011/12	**FY2012/13**
Freight Related Revenue	£1,275	£1,398
Passenger Related Revenue	£105	£23
Fuel	£575	£280
Other	£700	£450
Property Revenue	£248	£155
Concession & Retail Revenue	£68	£16
Total Revenue	**£2,971**	**£2,322**
Operating Expenditure	**-£5,724**	**-£4,496**
EBITDA	**-£2,753**	**-£2,174**
Depreciation	-869	-£749
Amortisation		£105
EBIT	**-£3,622**	**-£2,818**
Interest and Similar Charges	-720	-£731
Net Profit before Tax	**-£4,342**	**-£3,549**
Source: York Aviation analysis of Report & Accounts and Stone Hill Park data.		

7.10 The extent of losses was significant at between £2.2 million and £2.8 million per annum on an EBITDA basis. It should also be recognised that these were years in which Manston's freight throughput was close to its historic peak.

7.11 There are several points to drawn out from this analysis that are important in considering Manston's future potential viability. We contrast these with the only financial information relating to the potential viability of a re-opened Manston put forward by RSP, contained in George Yerrall's Proof of Evidence to the Manston Change of Use Inquiry in 2017[136]:

- this historic analysis gives significant clues as to what revenues might be achievable in Manston's market place. The analysis suggests that Manston was achieving around £45 per tonne of cargo, which appears to include both landing fees and cargo handling revenue. We understand that these figures may have been inflated in the short term due to temporary contract that was lucrative for the Airport and that the underlying earnings potential per tonne was below this figure. £45 per tonne is approximately what George Yerrall has assumed for landing fees alone at Manston in his modelling. He then assumes a further £63 per tonne (at Year 5) for cargo handling. This does not appear credible given historic performance[137];

[136] George Yerrall Proof of Evidence Appendix 3 submitted to the Planning Inquiry into the Application by Lothian Shelf (718) Limited relating to Buildings 1, 2, 3 and 4 at Manston Airport. (2017)
[137] Ibid, Page 3.

- in 2011/12, when the Airport was handling around 35,000 passengers, it was achieving passenger related aeronautical charges income of around £3 per passenger. This, however, reflects rates being paid by Flybe and a small number of charter operations, which typically pay higher charges. George Yerrall assumes £2.50 per passenger will be attained in Year 5[138]. However, this is almost certainly too high, for the reasons outlined in **Section 5**, in the light of the significant incentive payments Ryanair, and probably the other carriers, will require to commence operations and based on our experience of the charges that they are prepared to pay at small airports;
- retail and concession revenue was around £1.95 per passenger in 2011/12. In our experience, this seems reasonable given the scale of operations and we would expect some growth in passenger income over time to reflect improved retail offer and similar as the passenger numbers grow. George Yerrall uses a £3 per passenger figure over the whole period[139]. This appears optimistic in all but the later years of the RSP's 'forecasts';
- operational expenditure (OPEX) per workload unit[140] was around £17.50 in 2011/12. This is exceptionally high and we would not expect this to be reflective of the OPEX per workload unit that could be achieved in the unlikely event that the levels of throughput projected by RSP/Azimuth were achieved. George Yerrall's analysis suggests OPEX per workload unit of around £11 in Year 5 dropping to around £8 in Year 25[141]. Our modelling based on the financial information we have reviewed and experience at other small regional airports suggests that these assumptions may actually be slightly too high.

7.12 It is clear from this analysis that there are substantial challenges in making Manston Airport commercially viable. This is partly about volumes, in that in its previous guise operations were too small to cover its fixed costs and realise economies of scale, but volumes in themselves are a significant challenge as has been set out earlier in this report. However, it is also about yields. To the extent that any figures have been produced by RSP (in George Yerrall's 2017 Proof of Evidence), they appear, in our experience, to rely on assumptions around the yields that the Airport can achieve that are substantially out of line with its historic performance, especially in the cargo market, even with significant investment in the product offered by the Airport, and taking into account the assumption that low fares airlines are expected to deliver much of the passenger throughput.

Economics of Attracting Operations

7.13 Prior to presenting our own assessment of the Airport's viability, it is important to consider the economics of attracting operations to Manston Airport as these clearly influence the assumptions made, particularly those around revenues.

[138]Ibid, Page 3.
[139] Ibid, Page 3.
[140] Workload Unit or WLU is a method of standardising combined throughput of an airport. 1 WLU comprises 1 million passengers or 100,000 tonnes of cargo per annum.
[141] Ibid, Page 4.

7.14 Fundamentally, an airport's attractiveness is about the market that it provides access to, the price at which it offers its services and the availability of other options (competition). Other factors are clearly important, such as the quality of infrastructure, but these are less important than the fundamental drivers identified. It is worth considering Manston's position in relation to these factors in both the cargo and passenger market.

7.15 In relation to cargo, Manston is not well located. It is on a peninsula at the periphery of the UK. Its local market is very limited and it is, in reality, peripheral to the London and south east markets, with relatively poor links to the motorway network. In terms of competition, although it has no competition locally, there are a wide range of airports better placed to serve the London and South East market. As we have seen above, although there may be some very minor and fleeting capacity issues in London in the very short term, capacity for additional cargo at these airports is unlikely to be an issue until well beyond 2040. This suggests that Manston's only lever for attracting traffic is price. It needs to offer its services at a significantly lower price in the market than its better geographically placed competitors (which it should be noted also have first mover advantages as well as the overwhelming advantages at Heathrow with a third runway and with its concentration of forwarding and consolidation activity).

7.16 Based on discussions with Manston's previous cargo management, we understand that this is precisely the situation that the Airport was in before it closed. Its only way to attract cargo traffic was to 'buy' it in by significantly undercutting charges and handling rates at other airports. There is no reason why this is likely to have changed given our analysis of the market set out in **Section 4**. We, therefore, believe that its historic cargo revenue performance is probably a strong guide to the future. However, we have assumed that, in the highly unlikely event that the Airport is able to establish itself in the market to the degree suggested by RSP, it may be able to begin to raise prices in the longer term.

7.17 The situation in the passenger market is essentially the same. The Airport has a very limited local market, particularly given that a significant proportion of its natural catchment area is sea. It is peripheral to the London and South East market and there are a wide range of airports better placed to serve this market. Once again, therefore, its only lever to attract traffic is price. Azimuth's passenger 'forecasts' (and indeed our own) essentially identify a low fares intensive airport, with a single hub service and some charter activity. This is likely to be an airline market heavily driven by price and potential market incentives, such as marketing support. This means that net revenues to the Airport from direct passenger charges are likely to be very low, particularly in the first few years of operation when start up incentives will undoubtedly need to be in place.

7.18 Overall, any assessment of the commercial viability of Manston Airport needs to be realistic about its situation and the yields that it is likely to be able to achieve. It should also be recognised that, however low its pricing, it still suffers from fundamental weaknesses that will mean attracting traffic will be very difficult. It remains our assessment that the Airport, if re-opened, would be unlikely to attract more movements by dedicated freighter aircraft than it previously handled and certainly no more than 2,000 such movements per year even in the long term.

Manston Airport Profit & Loss

7.19 Notwithstanding the lack of credibility of the 'forecasts' presented by RSP, York Aviation has undertaken an assessment of the commercial viability of re-opening Manston Airport based on the traffic 'forecasts' that underpin RSP's proposals (as presented in the Azimuth reports).

7.20 In the absence of any specific information provided by RSP in connection with the Application other than an estimate of £100 million to bring the Airport back into operation and a further £200 million of investment over the remaining period, we have based the phasing of the capital expenditure on that set out in George Yerrall's 2017 Proof of Evidence and taking into account the phasing information set out in RSP's Design and Access Statement. This has been adjusted to remove the development costs of the Northern Grass, as these should not be considered within an assessment of the core Airport operation's viability, albeit that they may provide a source of cross subsidy to support any losses that the Airport makes.

7.21 As noted above, RSP's Funding Statement[142] that states that the cost of Phase 1 is £100m, which we estimate comprises of:

- £25m is the minimum to reinstate the airfield to usable condition, including refurbishment works to the runway and re-equipping existing facilities such as the Control Tower and Fire Station;
- each stand, of which 8 are specified for Stage 1[143], is expected to cost £2.84m[144];
- the passenger terminal to be available for the commencement of operations in Year 2.

It is also assumed that this will need to include other costs, such as S106 payments and the cost of the other facilities, including the fuel farm, that RSP claim are necessary for the Airport to be operational[145].

7.22 The remaining costs are stated as a further £200m over 15 years, of which Stone Hill Park estimate £80m would be required to fund the B1/B8 development and associated infrastructure development on the Northern Grass. We have excluded this cost for the purpose of assessing the viability of the Airport in its own right absent any facilities providing a cross subsidy to core airport operations. On this basis, we estimate the indicative phasing of capex required to be:

- Years 0/1 £100m
- Years 3/4 £45m
- Years 9/10 £29m
- Year 13 £16m
- Year 16 £15m
- Year 19 £15m

[142] RSP Funding Statement, para. 15.
[143] RSP Design and Access Statement, Section 5.
[144] RSP Funding Statement, Appendix 3.
[145] This list of requirements is not necessarily accepted by Stone Hill Park as being strictly necessary for the Airport to re-open based on its previous operations.

7.23 To the extent that we have omitted the costs associated with any facilities essential for the operation of the Airport, we may have understated the capex costs required to secure the level of operations claimed. We have used the capital cost phasing as set out above within our assessment of the potential cash flow implications of the development to inform an assessment of the likelihood of the development attracting private sector investment. We have assumed that any costs already incurred by RSP are sunk costs and not included within our analysis.

7.24 Central to this assessment has been the development of a 'bottom up' P&L model for the Airport, based on the previous financial performance of the Airport taken from previous report and accounts, financial information about the previous operations provided to us, as well as assumptions around potential revenue metrics based on our broader market experience.

7.25 In developing this model, we have made a number of core assumptions:

- in relation to cargo revenues, we have taken the average revenues per tonne from the previous financial reports, including projections for 2014/15 as the basis for performance in the first seven years from the re-opening of the Airport, which is the point at which it is handling over 100,000 tonnes per annum. At this point, we have assumed that the airport has gained enough market power to introduce a freight handling fee of £5 per tonne in addition to the basic landing fee related revenue. This is assumed to step up by £5 every five years until Year 20 so increasing revenues. Given that the historic revenues included handling and given that we expect a substantial part of any tonnage to be trucked directly offsite, this is likely to be a highly optimistic assumption;
- passenger revenues are assumed to be £3.50 per passenger for the Hub Service, £1 per passenger for low fares airlines, net of incentive payments, and £5 per passenger for charter airlines. These are in line with our experience of what airlines are paying at UK airports currently. All are subject to discounts in the early years of operation to reflect the fact that Manston will need to offer significant incentives to airlines to offset risks in the early years;
- we have assumed fuel revenues will grow with total aircraft movements. However, we are aware that previous fuel prices at the Airport were higher than elsewhere given the relatively low volumes sold and that most customers bought fuel elsewhere. Hence, using historic fuel prices may overstate the revenue potential or the total revenues if price deters airlines from purchasing fuel;
- in relation to the 'Northern Grass', we have excluded this revenue from our analysis as it is not a core airport operation. As described above, we have also removed the capital expenditure relating to the development;
- in relation to other activities that might develop on site as proposed by RSP (such as MRO, aircraft dismantling etc.), we have not examined these propositions in detail. We have instead assumed that the Airport will receive ground rent from existing floorspace and that GA activity will reach similar levels to previously by around Year 5. We do not believe that any income from other activities is likely to be significant in the overall scheme of RSP's proposals and that, in most cases, the ability to secure these activities is little more than speculation.

7.26 The results of our analysis of the potential profitability that Manston could attain in the highly unlikely event that the RSP/Azimuth 'forecasts' of usage could be attained are set out for a number of representative years below in **Table 7.2**[146]. Our assessment suggests that Manston Airport could, on this basis, achieve total annual revenues of around £29.9 million by Year 20. Over the period, whilst the Airport is able to achieve significant economies of scale, with operating expenditure going from around £7.6 million in Year 2 to £22.9 million in Year 20, the core airport operation is only just EBITDA positive in Year 15. This performance immediately raises considerable doubts about the viability of RSP's proposals given the high levels of capital expenditure required to bring the Airport into full operation.

Table 7.2: Manston Airport Profit & Loss Assessment (£ million)

	Year 2	Year 5	Year 10	Year 15	Year 20
Aviation Revenue	**£4.5**	**£9.9**	**£13.5**	**£18.0**	**£25.6**
of which Freight Landing Fees	*£4.0*	*£7.3*	*£8.9*	*£11.3*	*£14.3*
of which Freight Handling	*£0.0*	*£0.0*	*£1.1*	*£2.7*	*£6.8*
of which Passenger Related	*£0.0*	*£0.9*	*£1.4*	*£1.7*	*£2.0*
of which Fuel	*£0.2*	*£0.6*	*£0.7*	*£0.8*	*£0.9*
of which Other	*£0.3*	*£1.1*	*£1.3*	*£1.4*	*£1.6*
Property Revenue Existing Portfolio	£0.2	£0.2	£0.2	£0.2	£0.2
Concession & Retail Revenue	£0.0	£1.5	£2.3	£3.1	£4.1
Total Revenues	**£4.8**	**£11.6**	**£16.0**	**£21.3**	**£29.9**
Operating Expenditure	**£7.6**	**£14.9**	**£16.6**	**£20.6**	**£22.9**
EBITDA (Airport Operations)	**-£2.8**	**-£3.3**	**-£0.6**	**£0.8**	**£7.0**
EBITDA Margin	**-58%**	**-28%**	**-0%**	**4%**	**23%**

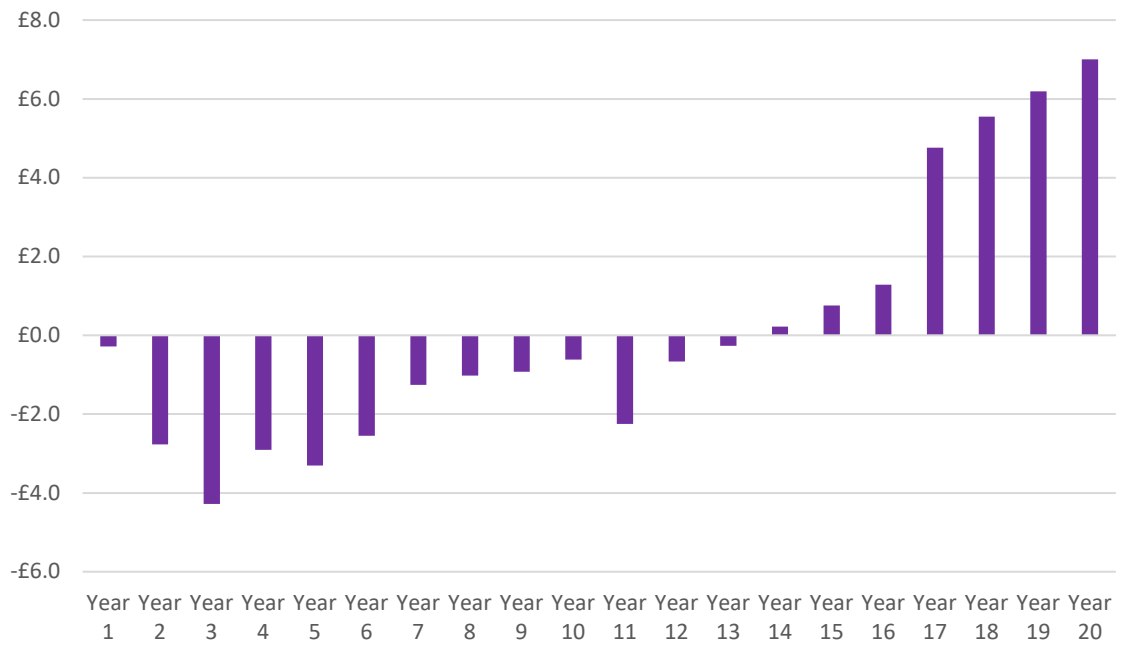
Source: York Aviation

7.27 It is important to note that, if we have been over optimistic in terms of our assumptions particularly in relation to the ability of Manston to earn cargo handling income in addition to landing fee related income, or in relation to the ability to achieve positive airport charges income from passenger flights, then the EBITDA will have been overstated. In particular, we have taken no specific account of the factors identified by Azimuth in relation to the costs of attracting traffic to Manston (as set out at para. 3.27 above) nor, it would appear did George Yerrall in his 2017 assessment. These would need to be reflected as additional costs or as revenue foregone. By way of illustration, stripping out cargo handling revenues would result in a net EBITDA of £0.2m even by Year 20, with greater losses in the early years. This highlights the extreme fragility of the expected financial performance of Manston even if RSP's highly optimistic throughput forecasts could be attained. There are a significant number of downside risks to the achievement of even this level of income and returns.

[146] We have assessed profitability at EBITDA (Earnings before Interest, Tax and Depreciation) level as this is a key metric used by investors and funders to consider the attractiveness of an airport investment. This, by definition, excludes interest charges on any debt, depreciation charges and tax payments.

7.28 The EBITDA performance over time is illustrated in **Figure 7.1**. The core airport operation is EBITDA negative for the great majority of the forecast period even assuming RSP/Azimuth's forecasts are delivered in full. It is important to note, as emphasised above, that the ability for the operation to deliver any profits, even in Year 14 and beyond, depends on a series of highly optimistic assumptions that may not be realisable in the market so we would emphasise that what is presented here is an upper bound estimate to illustrate the commercial risks that the investment would face even on a highly optimistic set of assumptions, i.e. this is very much a 'high case' position and not representative of the downside risks that an investor would certainly need to factor in before deciding if and how much it was willing to invest. These downside risks would become very apparent in any due diligence process ahead of investment and an investment case would, in all probability, have to be based on little or no prospect of operating profits even by Year 20.

Figure 7.1: EBITDA of Manston Airport by Year Scenario (£ million)



Source: York Aviation

7.29 This performance is in stark contrast to the position put forward by George Yerrall[147] on behalf of RSP in 2017, which remains the only information on the potential viability of the scheme put forward by RSP. That assessment sees the Airport EBITDA positive from Year 2 and achieving an EBITDA of £35.5 million by Year 20. Ultimately, we believe that this is driven by the unrealistic assumptions around revenues adopted, particularly in relation to revenues from cargo handling. If, as we believe strongly, the demand projections for the Airport are unrealistic, any assessment of profitability will be substantially overstated, i.e. the potential for viable operations to be attained will be significantly worse.

[147] George Yerrall Appeal Proof of Evidence Appendix 3. (2017), Page 9.

7.30 It should be noted that the financial performance that we project is not out of line with what is seen across the UK Regional Airport sector, as set out in Altitude's Addendum Report[148]. Indeed, based on 3.1m Workload Units identified in the Altitude Report, the EBITDA per Workload Unit of £2.25 would place Manston at the upper end of the range of performance, exceeded only by Humberside, Norwich and Southampton – all airports with high dependence on more lucrative business related travel and with strong markets serving the north sea oil and gas industry. This only serves to emphasise the optimism within the assumptions that we have used.

Covering the Costs of Investment

7.31 Below, we have used our analysis of Manston Airport's ability to generate cash in terms of EBITDA to consider whether it could support the costs of RSP's investment at the Airport and provide a commercially viable return. It is important here to note that George Yerrall himself, even though asserting that Manston would have pricing power, recognised that EBITDA may not be the most relevant measure when it comes to considering an investment with a high dependence on capital expenditure up front.

"Similarly profit margins mean nothing in isolation. The quid pro quo for profit margin in the Airport business is Capital Expenditure ("CapEx"). Whilst the market "Wisdom" around an airport EBITDA margin refer to an excess of 40%, this must be qualified by understanding the CapEx requirements, costs and most importantly the CapEx cycle. Passenger Airports require less CapEx at the outset, but thereafter require similar amounts deployed at more frequent intervals than their Cargo relatives"[149]

7.32 George Yerrall goes on[150] to make the point that:

"Net Income is a better guide than EBITDA to the profitability and inherent value of the Cargo business as it includes the normalisation of CapEx through our true depreciation curves."

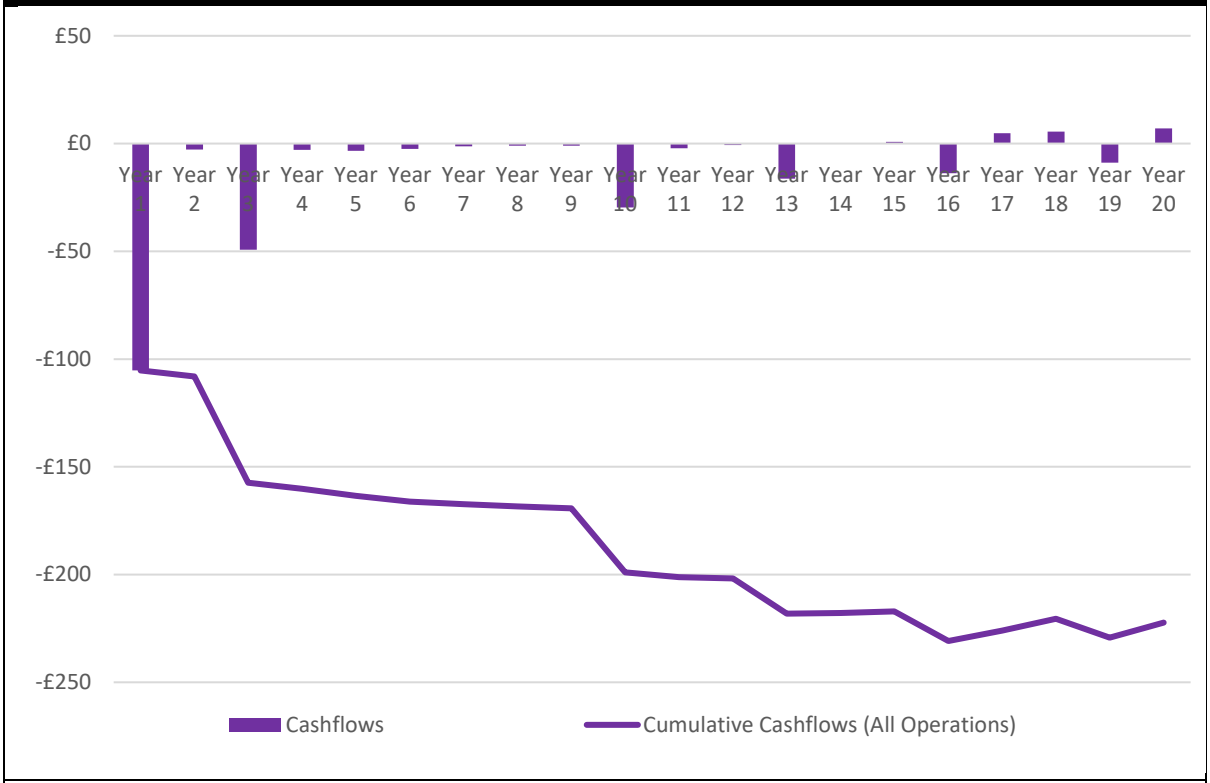
We do not have sufficient information regarding the specific assets and their costs to prepare depreciation curves for RSP's proposed investment in Manston so, for illustrative purposes, we have set out a cash flow analysis. The results are in stark contrast to the picture painted by George Yerrall as set out in his Figure 10.

7.33 In undertaking our analysis of the cash flow implications, we have used the RSP capital expenditure programme set out in George Yerrall's analysis[151] as a basis, as set out in para. 7.22 above, adjusted for capital expenditure relating to the Northern Grass. It should be noted that we have not made any explicit allowance for the substantial land acquisition or blight costs in relation to the re-opening of the Airport which are likely to become payable, in the main, before development could commence.

[148] Altitude Aviation Advisory, Analysis of the Freight Market Potential of a Reopened Manston Airport – Addendum: UK Regional Airport Financial Performance and Debt Funding Characteristics, February 2019, Section 4.
[149] George Yerrall Appeal Proof of Evidence Appendix 3. (2017), para. 5.
[150] Ibid, para 27.
[151] Ibid, Page 5.

7.34 **Figure 7.2** shows the yearly cashflows and cumulative cashflows for Manston Airport over the 20 year forecast period. The results of this analysis suggest very strongly that RSP's proposals, even on their own highly optimistic traffic forecasts and with revenue assumptions that may not be capable of realisation in the market, are nowhere close to being commercially viable. The cumulative cash position is still substantially negative in Year 20 (-£222 million). An investor would have to bear a negative and deteriorating cash position for well over 20 years even on our most optimistic set of assumptions. This would simply not be rational behaviour for a commercial investor.

Figure 7.2: Scenario 1: RSP Proposals Cumulative Cashflows for Manston Airport (£ million)



Source: York Aviation

7.35 The financial performance is in fact so poor that it is not actually possible to calculate an Internal Rate of Return (IRR). This is further evidence that no rational commercial investor would fund RSP's plans. By way of reference, it is worth noting that the allowable return at Heathrow set by the CAA is currently 5.35%. This is the rate of return allowed for one of the most stable, established and low risk airport assets in the world. We would typically expect an IRR of between 7% and 9% for an established UK regional airport. For a high risk investment such as re-opening a previously failed small regional airport, we would expect rates of return substantially in excess of that.

7.36 For Manston to offer a rate of return that would be commercially attractive to an investor or funder, perhaps around 15%, average aeronautical charges at the airport would need to be 275% higher throughout the forecast period than we have assumed. This would mean average aeronautical charges per workload unit of around £18. For comparison, aeronautical charges per workload unit at East Midlands were around £2.80 and around £5.10 at Stansted in the last available year. In other words, charges would have to be so high that it would render completely uncompetitive and it would become even more certain that RSP's traffic 'forecasts'. could not be achieved.

7.37 Further considerations relating to the fundability of the proposed development are set out in full in Altitude's Addendum Report.

Conclusions

7.38 In the absence of any assessment of the Business Case for the development within the RSP Application Documents, we have undertaken an assessment of the potential viability to assist the Examining Authority to assess the likelihood of the development plan being implemented if consented.

7.39 Our analysis shows that the RSP proposals for Manston Airport are not commercially viable even based on their unreasonably optimistic traffic 'forecasts' and taking a number of optimistic revenue assumptions. Fundamentally, the analysis of potential viability strongly suggests that no rational private sector investor would fund the re-opening of Manston Airport on the basis proposed by RSP. The Airport was never previously a financially viable operation and we see no reason for this to be any different in future. When properly analysed, there is little prospect of the operation generating sufficient revenues to cover the costs for the investors nor deliver any returns on the investment for the foreseeable future. In the absence of evidence to the contrary, it is our judgement that investment would not be forthcoming to the extent necessary to even secure the re-opening of the Airport.

7.40 Even if the Airport re-opened on the basis of a minimum initial capital spend (£145m for Phases 1 and 2), this would inevitably limit the operation to a scale where ongoing EBITDA losses were inevitable, i.e. replicating the position that existed historically and which, ultimately led to the Airport's closure.

7.41 Clearly, to the extent that traffic growth does not materialise as RSP envisage following the initial investment, it is clear that the financial position of the Airport would be materially worse.

8 CONCLUSIONS

8.1 This report updates and adds to the analysis of the flaws in RSP's Need Case, as set out principally in the Azimuth Reports, as presented in our November 2017 Report. In practice, the Azimuth Reports are little changed and, to the extent that new material has been added, do not address or rectify the substantial errors that we identified in the analysis contained therein.

8.2 Our November 2017 Report made clear that:

- RSP's analysis of our earlier work for the Freight Transport Association (FTA) and Transport for London (TfL) was flawed and this work did not support RSP's conclusion that there would be a substantive or sustainable role for Manston in the UK air freight industry.
- The remaining evidence relied on by RPS to justify its Need Case is almost entirely based on circumstantial evidence related to the shortage of airport capacity principally for passenger flights, that can also carry bellyhold cargo, in the circumstances where no additional capacity is provided at any of the London Airport. This is simply irrelevant, particularly given that it is Government policy to promote the development of a third runway at Heathrow.
- The analysis presented by Azimuth to support RSP's case shows a lack of understanding of the economics of the air freight market, especially in failing to recognise the economic drivers that prioritise the use of bellyhold capacity over dedicated freighters.
- Manston's past operation was economically inefficient due to the inherent lack of viability. Reopening the Airport has no realistic prospect of success as there are more economically efficient alternatives available for any freight displaced from Heathrow in the short term, pending the development of a third runway.
- Azimuth's 'forecasts' rely strongly on the attraction of an integrator but Manston is too peripheral for integrator operations serving the UK.
- Azimuth's interview survey, used as further justification for RSP's freight movement forecasts, relies on a small list of mainly local companies with something of a vested interest in seeing Manston re-opened and does not provide a basis for the specific aircraft movement forecasts upon which the case relies, not least as it is not possible to relate the proposed services to be operated with the responses by the interviewees. There is simply no explanation for, or justification for, the services postulated by Azimuth. There is a total lack of credibility in the approach adopted.
- To illustrate this lack of credibility of the forecasts, in Year 2 (the first operational year), a cargo throughput of nearly 100,000 tonnes is forecast by Azimuth. This would make Manston the 5th largest freight airport in the UK in its first year after re-opening. It would make Manston the 3rd busiest airport in the UK in terms of tonnage carried on dedicated freighter aircraft. This is simply not a credible proposition.
- Proper analysis of the UK air freight market showed that there is plenty of freighter capacity at Stansted and East Midlands Airport to accommodate any growth required in dedicated freighter operations such that there will be no shortage of capacity across the UK and no role for Manston in accommodating traffic spilled from other airports. These airports are better located relative to the market and the key locations for distribution within the UK.
- Our estimate was that Manston would, at best, be able to attain 2,000 annual air cargo aircraft movements by 2040 and it is equally plausible that it might not achieve more than 750 such movements annually as operated when it was previously open.

- Our initial assessment of the passenger market was that the throughput might, at best, be around half of that projected by RSP and, hence, given the dependence on passenger related income for the financial viability of airport operations, this would impact substantially on the viability of the proposal.
- Our assessment was that the existing infrastructure at Manston Airport, if made good, would be capable of handling 21,000 annual air cargo aircraft movements. The actual usage of that capability would depend on the pattern of operation and how the infrastructure was used on a day by day basis.
- We also gave provisional consideration to the land required to accommodate future forecast demand. Without prejudice to our view that demand to use Manston is not likely to be anything like 17,171 cargo aircraft movements a year, we considered that the land required would be substantially less than shown on the RSP Master Plan and that the proposed land take is excessive and without justification in terms of the compulsory acquisition of the land, particularly given the inherent implausibility of the demand forecasts upon which the assessment was made.
- We could see no justification for the inclusion of the 'Northern Grass' area within the DCO on the basis of it being for associated development. There will be little requirement for or likelihood of the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow or elsewhere to Manston.
- Azimuth made errors in the assessment of the socio-economic implications of the proposed development, particularly in terms of the use of inappropriate multipliers, the assessment of impacts a national scale, rather than the local scale in East Kent as implied by Azimuth, and should have taken displacement of activity from other UK airports fully into account, reducing the impacts well below those stated.

8.3 Our overall assessment in November 2017 was that RSP's case lacked any real credibility. Nothing has fundamentally changed and to the extent that there have been changes, for example in the formal designation of the Airports NPS and the progress towards the development of a third runway at Heathrow, the need for Manston is even less than we previously assessed.

8.4 In updating of our previous work, we have taken particular cognisance of the requirement for RSP to present a compelling case in the public interest to justify the compulsory acquisition of land. This goes beyond the theoretical test of the capability of the infrastructure proposed but must, necessarily, consider the likelihood and extent of the level of usage of that infrastructure and the extent to which there would be wider public benefit from the land being used in that way.

Aviation Policy

8.5 The whole of the RSP need case for the development of an air freight hub at Manston is based on the Azimuth Reports. A flawed interpretation of Aviation Policy is still set out in Azimuth's Volume I, which seeks to infer support for the development of a mainly freight airport at Manston based on the evidence before the Airports Commission of the potential damage to the UK economy if no additional hub airport capacity for passengers was provided at Heathrow (or a reasonable alternative to Heathrow). This was never a relevant basis for considering whether there was a case for re-opening Manston as a primarily air freight airport, as the vast majority of the economic benefit cited relates specifically to the benefits to passengers in the main using global passenger services from an expanded hub Heathrow – a need that Manston patently cannot and does not claim that it will be able to meet.

8.6 The clear decision by Government in favour of the building of an additional runway at Heathrow will transform capacity available to the air freight sector. There can be no doubt that the use by RSP of pre-NPS evidence on the need to address the shortage of airport capacity overall to serve London is misleading and incorrect. Properly interpreted, Government Aviation Policy makes clear that expansion of capacity at Heathrow, allowing more global air connections providing additional bellyhold capacity and scope, if required, for more dedicated freighter movements at Heathrow, is the identified means of meeting future air freight demand, along with the continued role for East Midlands and Stansted as air freight gateways with ample spare capacity.

Errors and Inconsistencies of Analysis

8.7 In this report, we have identified further inconsistencies and mathematical errors in the 'forecasts' presented by Azimuth and others in the RSP team to justify the proposed development at Manston. Whilst individually some of these errors and discrepancies might seem small in scale and impact, others are highly significant and serve to undermine the credibility of the whole approach outlined in the Azimuth Reports and throughout RSP's Application Documents. The combined implications are significant in terms of whether a) the application should actually have qualified as an NSIP; b) in terms of the level of demand that Manston might attract if it re-opened as an Airport and the viability of the proposed operation; and c) whether the environmental assessments undertaken are robust.

8.8 The most significant of these errors relate to:

- the lack of any soundly based forecasts – instead of forecasts based on an understanding of markets, costs and real potential, RSP's case is founded on a flawed list of airlines that it claims will definitely operate at Manston and then grow their business at Manston. Several of these airlines do not operate air freight services at all and others would be unlikely to operate to Manston for the reasons we set out. Hence, the list presented no more than a 'guesstimate', without any supporting evidence. These are not 'forecasts' in the sense that is normally recognised in the industry;

- ✈ the lack of realism in the fleet mix overall and the assumed pattern of day/night time operations, particularly in relation to the implications for the prospect of integrator and mail operations being attracted to use Manston at all. This further undermines the credibility of the short term 'forecasts' as, contrary to what RSP claim, airlines would not be able to operate to Manston on an unconstrained basis to meet their own commercial requirements but would be so constrained during the night period as to make the majority of the operations claimed by Azimuth unviable for the airlines;
- ✈ the overstatement of longer term demand projections through the use of unjustified growth rates due to mathematical errors made by Azimuth.

8.9 These errors and inconsistencies render the so-called 'forecasts' completely unreliable as a basis for assessing the extent and nature of any usage of Manston in the event that the Airport re-opens.

Understanding the Air Freight Market

8.10 Examination of market trends and the structure of the air freight market make clear that there is no role for Manston, other than possibly as a niche cargo operation, as with its historic operation. The trend in favour of bellyhold for the carriage of general air freight is clear. This freight forwarding sector is heavily concentrated around Heathrow for this very reason and the associated consolidation activity essential drives the choice of airport based on the most economical freight rates available for any consignment. This is highly unlikely to be a dedicated freighter option from an airport remotely located in East Kent.

8.11 R3 will provide for a doubling of air freight capacity at Heathrow, mainly in bellyholds of passenger aircraft but also scope for dedicated freighters to the extent that these are required to feed the hub at Heathrow. Indeed, the ability to provide a step change in capacity for air freight was one of the principal reasons why the Government chose the specific proposal for the development of a new runway. Freight facilities at Heathrow are actively being modernised and extended in anticipation of that growth of cargo activity there.

8.12 The integrators are already well established at East Midlands Airport in particular as well as using Heathrow and Stansted to serve the main markets in England. Manston is too far from the distribution centres along the M1/M6 axis to function as an integrator base, leaving aside that the proposed night movement restrictions would render any such operation unviable for the airline/integrator.

8.13 This leaves niche/specialist cargo operations as the only possible market for Manston. This would be consistent with the types of cargo that Manston used to handle. Ultimately, this is a very small market and unlikely to result in Manston handling more freighter movements than it did historically. This has profound implications for the Need Case as a whole, not least as it seems likely that any freighter activity would in fact need to be displaced from elsewhere through price incentives as there are few, if any, natural market drivers which would make Manston the first choice location and given the switching costs identified by Azimuth.

Air Passenger Forecasts

8.14 As with the asserted air freight 'forecasts', Azimuth provide no quantified analysis of the market to justify the passenger forecasts. The passenger element of the forecasts will be a vital element in considering the potential viability of the Airport as, generally, passenger operations offer better margins for an airport than cargo operations given the ability to earn revenue from shops and car parking. Furthermore, much of the asserted economic benefit from the Manston operation stems from passenger flights rather than cargo operations.

8.15 To assist the Examining Authority, we have set out in full our market assessment for passenger services at Manston. We have undertaken this analysis on the same basis as we would for any UK regional airport and presented it in a form that would be normal practice at an airport planning inquiry. Such analysis is completely missing from the Azimuth Reports.

8.16 Proper analysis of the market confirms that Manston is, at best, only likely to attract around half of the number of passengers claimed, without analysis, by Azimuth Associates of the 20 year period of the projections. This has inevitable implications for both the scale of facilities required and the viability of the airport operation as a whole. It is highly likely that attracting such services will require support from the public sector as well as highly discounted airport charges. Past experience would suggest that there would remain a high risk of the airlines failing to sustain the routes on a viable basis.

Infrastructure Requirements

8.17 Without prejudice to our view that demand to use Manston is not likely to be anything like 17,170 cargo aircraft movements a year, our analysis shows that the land required to accommodate such a number of movements would be substantially less than shown on the RSP Master Plan. The RSP Application Documents fail to set out any material that justifies the extent of facilities proposed by reference to their own 'forecasts' both for the core airport infrastructure and any claimed associated development on the Northern Grass.

8.18 To assist the Examining Authority, we have set out the basis for estimating the required number of stands and cargo terminal infrastructure to enable RSP's 'forecasts' to be accommodated based on the times that airlines would wish to fly. This does, of course, confirm the extent to which there would be dependence on night flying. Based on proper analysis of airline operating patterns, the maximum number of Code E equivalent stands that would be required, even allowing a buffer for resilience, would be 10. This is an assessment of the required capacity to handle flights at the times airlines would wish to operate which is not the same as the assessment of the theoretical capability of the existing or planned infrastructure at Manston.

8.19 Based on global benchmarks, the scale of cargo sheds could also be substantially reduced to may be no more than 1/3 of the size proposed by RSP. Overall, even in the highly unlikely event that RSP/Azimuth's 'forecasts' were realised, the overall scale of development required would be no more than of the order of 40% of that proposed in RSP's Master Plan.

8.20 As far as the Northern Grass is concerned, the list of airport related uses provided recently by RSP is no more than a list of uses that may be required at an airport without any specific reference to whether they are actually needed at Manston or, indeed, the extent to which these uses would need to be accommodated in an airside location in any event. We can see no justification for the inclusion of the 'Northern Grass' within the DCO as associated development as there will be little requirement for the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow or elsewhere to Manston and any requirement could be accommodated south of the B2050.

8.21 The development on the Northern Grass site appears to be speculative commercial development. The total extent of landside airport related uses at East Midlands Airport, other than hotels which do not feature as part of Manston's plans, is 13,000m^2, or 13% of the scale of development proposed for the Northern Grass by RSP. Hence, based on the precedent at East Midlands Airport – the UK's principal airport for pure freighter operations – the extent of the proposed development on the Northern Grass means that it would be expected to be largely for non-aviation related uses unconnected to the operation of the Airport.

Viability

8.22 In the absence of any assessment of the Business Case for the development within the RSP Application Documents, we have undertaken an assessment of the potential viability to assist the Examining Authority to assess the likelihood of the development plan being implemented if consented. Our assessment is inherently optimistic and represents a 'high case' not the most likely outcome.

8.23 Our analysis shows that the RSP proposals for Manston Airport are not commercially viable even based on their unreasonably optimistic traffic 'forecasts'. Fundamentally, the analysis of potential viability strongly suggests that no rational private sector investor would fund the re-opening of Manston Airport on the basis proposed by RSP as the development is likely to deliver negative returns to investment for the foreseeable future.

8.24 The Airport was never previously a financially viable operation and we see no reason for this to be any different in future. When properly analysed, there is little prospect of the operation generating sufficient revenues to cover the costs for the investors nor deliver any returns on the investment for the foreseeable future. In the absence of evidence to the contrary, it is our judgement that investment would not be forthcoming to the extent necessary to even secure the re-opening of the Airport.

8.25 Clearly, to the extent that traffic growth does not materialise as RSP envisage following the initial investment, it is clear that the financial position of the Airport would be materially worse. It is our assessment that, even if initial investment was forthcoming, which we doubt, it is inevitable that the Airport would close again in the medium term due to lack of inherent viability.

Overall Conclusion

8.26 Fundamentally, the whole Need Case for the development of Manston as an air freight hub is infected with flaws and errors of understanding such that the so-called 'forecasts' of air freight and passenger demand have no credibility at all. Even if they were credible, the scale of development proposed is unjustified and excessive. The development and operation of the Airport would simply be unviable and incapable of attracting competent investors.

APPENDIX A: CV FOR LOUISE CONGDON

Louise Congdon
Managing Partner

Curriculum Vitae

- Louise is an experienced airport planner and strategist with 42 years' experience in the aviation industry for the UK Civil Aviation Authority, Birmingham and Manchester Airports; at a senior management level for 17 years. She set up York Aviation as Managing Partner in September 2002.
- At Manchester Airport, Louise played a key role in influencing UK and European aviation policy debates and was responsible for corporate strategy, business planning, forecasting, and overall aviation policy development, including the strategy and concepts behind the Airport's Development Strategy, the second passenger terminal, and the second runway. Louise gave the principal evidence on Need at the Public Inquiry into the Second Runway and also presented evidence on the need cases at Public Inquiries into Liverpool Airport and Doncaster Sheffield Airport.
- During this time, Louise chaired committees and represented both the UK Airport Operators Association and ACI EUROPE (the relevant trade bodies for airports) in discussions with the UK Government and European Commission in relation to slot allocation, ground handling, airport capacity and airspace. Louise was a member of the Government working party (RUCATSE) which previously recommended the development of a third runway at Heathrow in 1993. Louise was actively involved in the preparations for the Future of Air Transport White Paper of 2003, including acting as chair for a number of consultation events both before and after leaving Manchester Airport to set up York Aviation.
- Louise has also given evidence on need and economics at Public Inquiries into Stansted Airport Generation 1, Farnborough Airport Weekend Movements, London Ashford Airport, Redhill Airport, Belfast City Airport Seat for Sale Limit and London City Airport Development Programme.
- Louise has a BA (SOC SCI) Hons in Geography, Class 2.1, from the University of Sheffield 1974, and a Master of Transport Design, from the University of Liverpool 1976 (including thesis on National Airport Planning). Louise was appointed specialist adviser to the House of Commons Transport Select Committee from 2011 to 2014.

Selected Personal Relevant Experience with York Aviation

- Department for Transport: Advice in connection with technical issues relating to the Airports National Policy Statement (2017-9);
- London Luton Airport Ltd – Ongoing (since 2006) assignment to provide advice to the local authority owned company on air traffic forecasting and strategic airport development options for Luton and the potential financial and commercial implications;
- London City Airport – ongoing support in relation to air traffic forecasting and capital expenditure proposals, technical due diligence in respect of refinancing, development of the need and economic case for the City Airport Development Programme, due diligence connected with the acquisition of the Airport in2006 and in 2016, development of an updated Master Plan (ongoing since 2005);
- Transport for the North - support for an international connectivity study to identify the future strategic role of international air services and passenger sea travel in supporting economic growth across the Northern Powerhouse (2016);
- Transport for London – support in relation to the development of air transport policy and submissions to the Airport (2011 and 2013/14);
- Civil Aviation Authority (with Europe Economics) – advice in relation to Heathrow Airport's surface access strategy and the relationship to airport charges;
- Scottish Enterprise/Scottish Government – socio-economic assessment of Prestwick Airport and strategic options (2012/13), support for route development activity (2018);
- Leeds Bradford Airport – vendor due diligence in relation to the sale of the Airport (2006/7) and vendor diligence on refinancing (2016/2017)
- Belfast City Airport – economic and forecast advice in relation to the Seat for Sale Limit (2013-2015), support to 3i on the acquisition of the Airport (2016);

- Technical Airport Capacity Advice to the London Assembly Transport Committee (2013);
- Northern Ireland Government – contribution to air connectivity research (2014);
- Durham Tees Valley Airport – Business Plan advice to local authority shareholders (2013/4 and 2018);
- City of Gloucester/Cheltenham Borough Council – Review of Gloucestershire Airport Asset (2014); subsequent commissions to review airport governance and assist in the preparation of a Strategic Business Plan (2014/15) and Viability Assessment (2017);
- Advice to the Welsh Government in connection with the acquisition of Cardiff Airport (2013) and subsequent route development advice (2014/5);
- Support to an investor in Belgrade Airport (2017);
- Development of an Aviation Strategy for England's Regional Development Agencies (2002/5);
- Other clients include:

  States of Jersey

  States of Guernsey

  Isle of Man Government

  Blackpool Council

  Ryanair

  Birmingham Airport

  City of London Corporation

  Aberdeen Airport

  Edinburgh Airport

  Liverpool Airport

  Antin Infrastructure Partners

APPENDIX B: YORK AVIATION NOVEMBER 2017 REPORT

York Aviation

STONE HILL PARK LIMITED

SUMMARY REPORT ANALYSING USE OF YORK AVIATION MATERIAL BY RIVEROAK STRATEGIC PARTNERS LIMITED AND ASSESSMENT OF CAPABILITY OF MANSTON AIRPORT

NOVEMBER 2017

York Aviation

Originated by: Louise Congdon/James Brass/Niall Gunn/Richard Connelly

Dated: 10th November 2017

Reviewed by: Richard Kaberry

Dated: 13th November 2017

STONE HILL PARK LIMITED

SUMMARY REPORT ANALYSING USE OF YORK AVIATION MATERIAL BY RIVEROAK STRATEGIC PARTNERS LIMITED AND ASSESSMENT OF CAPABILITY OF MANSTON AIRPORT

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EXECUTIVE SUMMARY

1. York Aviation was appointed by Stone Hill Park Limited (SHP) in September 2017 to review the evidence presented by RiverOak Strategic Partners Limited (RSP) in connection with RSP's prospective application for a Development Consent Order (DCO) for the redevelopment and re-opening of Manston Airport as a hub for international air freight services, which also offers passenger, executive travel and aircraft engineering services.

2. We were the authors of two specific reports upon which RSP seek to rely in making their case, namely a report for the Freight Transport Association (FTA) and Transport for London (TfL) in 2015 and a note on Freight Connectivity for TfL in 2013. The first of these documents was used by RSP in its public consultation and this may have led respondents to believe that we were supporting the re-opening of Manston, which is not true and, as we go onto explain in this report, our analysis in these documents for the FTA and TfL does not support RSP's conclusion that there would be a substantive or sustainable role for Manston in the UK air freight industry.

3. The RSP case is principally based on circumstantial evidence presented in the Volumes I to IV of *Manston – A Regional and National Asset* prepared by Dr Sally Dixon of Azimuth Associates (June 2017 consultation version). Much of the material upon which Azimuth seek to rely as the basis of RSP's case relates to the economic costs to the UK if additional passenger hub capacity is not provided in the South East of England by 2050. This is not relevant to the specific question as to whether there would be sufficient demand for pure freighter movements to be operated to/from Manston in the foreseeable future or by their assessment year 2040.

4. The analysis presented by Azimuth shows a lack of understanding of the economics of the air freight market. This leads to a misinterpretation of our work, upon which Azimuth seek to rely to support RSP's case. Just because there could be excess air freight demand in 2050, compared to the bellyhold capacity available in the absence of further runway capacity at the UK's main hub, it does not follow that displaced bellyhold freight will seek a more expensive pure freighter service from a relatively nearby airport over the use of available bellyhold capacity from a more distant airport which can be provided at a lower cost to the shipper with only a marginal penalty in terms of the overall shipment time.

5. Fundamentally, Manston's past operation was economically inefficient due to the inherent lack of viability. Hence, reopening the Airport, in the face of a very limited niche market, has the potential to damage the productivity of the UK aviation sector overall, particularly, as we have demonstrated in our own assessment of cargo demand for Manston in Section 3 of this report, that there are more economically efficient alternatives available for any freight displaced due to specific capacity constraints at Heathrow both now and in the future.

6. Manston is too peripheral for integrator operations serving the UK. Integrators have a strong preference for locations more centrally located in the UK with good road access to all of the major markets. The availability of land for warehouses, for example as suggested in terms of the use of the 'Northern Grasslands' part of the overall Airport site, is far less important than a location central to the market and the availability of good road access, neither of which are characteristics of Manston. It is simply in the wrong place to serve the market being located at the far south east at the end of a peninsular, away from the main centres of population and distribution in the UK.

7. In the absence of hard market evidence of the need for Manston Airport, Azimuth undertook an interview survey to supplement RSP's case and to inform the forecasts. However, the list of interviewees was small, dominated by mainly local companies with something of a vested interest in seeing Manston re-opened. Even so, if anything, the views of those interviewed by Azimuth suggest that there would, at best, be a limited role for Manston. The one airline interviewed made clear that *"success at Manston depended upon identifying a niche market and becoming known for excellence. In particular, suggestions included a perishables centre, handling of live animals, easy access for charter flights, and handling cargo that is not necessarily straightforward"*. The scale of this opportunity was never quantified by Azimuth. It is clear, however, that the realistic expectation for Manston is for a small niche operation rather than as a general 'overspill' cargo airport for London.

8. The outputs from these interviews are then used by Azimuth as a basis for postulating a number of cargo aircraft movements that might operate at Manston. However, it is not possible to relate the proposed services to be operated with the responses by the interviewees. There is simply no explanation for, or justification for, the services postulated by Azimuth. At the very least, there is a lack of transparency in the approach adopted.

9. In our view, the Azimuth cargo movement forecasts simply lack credibility. To illustrate this lack of credibility of the forecasts, in Year 2 (the first operational year), a cargo throughput of nearly 100,000 tonnes is forecast by Azimuth. This would make Manston the 5th largest freight airport in the UK in its first year after re-opening (compared to 2016 actual throughput at the other airports). This would place it close to the scale of freight operations at Manchester Airport, which includes a substantial amount of bellyhold freight. It would make Manston the 3rd busiest airport in the UK in terms of tonnage carried on dedicated freighter aircraft. This is simply not a credible proposition. This lack of credibility is important in reaching any decision under section 23 of the Planning Act 2008 (as amended).

10. We have updated and further developed our analysis of the UK air freight market from that previously undertaken in 2013 and 2015 for TfL and for the FTA and TfL (RSP seek to rely on our 2013 and 2015 work as corroboration of their own cargo movement forecasts). When properly interpreted, our forecasts of air freight demand and capacity across the UK as a whole, taking the role of bellyhold fully into account, show that, to the extent that there is any need for additional pure freighter movements, there is plenty of freighter capacity at Stansted and East Midlands to accommodate any growth. These airports are better located relative to the market and the key locations for distribution within the UK. Overall, we conclude from this analysis that there will be no shortage of freighter capacity in the UK in the period up 2040 (RSP's assessment end date) and that overspill from other airports would not provide a rationale for re-opening Manston.

11. Taking the most optimistic basis for assessing its potential role, we have estimated that Manston might be able to achieve at most 4,470 annual air transport movements by cargo aircraft by 2040, but this is highly unlikely given its location and the clear market trend away from the use of dedicated freighter aircraft. Our more likely projection is that it might attain 2,000 annual air cargo aircraft movements by 2040 and it is equally plausible that it might not achieve more than 750 such movements annually. These are all far below Azimuth's projection, upon which RSP rely, of 17,171 annual cargo aircraft movements.

12. Our initial assessment of the passenger market is that the throughput might, at best, be around half of that projected by RSP and, hence, given the dependence on passenger related income for the financial viability of airport operations, this will impact substantially on the viability of the proposal. The other activities suggested by RSP, such as business aviation, maintenance, repair and overhaul, and aircraft dismantling are highly competitive markets and, to the extent that Manston might attract any such operations, these are unlikely to contribute substantially to the overall viability of the Airport.

13. The existing infrastructure at Manston Airport, if made good, is capable of handling 21,000 annual air cargo aircraft movements[1]. The actual usage of that capability would depend on the pattern of operation and how the infrastructure was used on a day by day basis. Our assessment, therefore, provides essential missing information from RSP's materials to date which is necessary for the purposes of section 23 of the Planning Act 2008 (as amended), for assessment purposes under the Environmental Impact Assessment Regulations and for consultation purposes.

14. Without prejudice to our view that demand to use Manston is not likely to be anything like 17,171 cargo aircraft movements a year, we have considered the land required to accommodate such a number of movements. Our assessment is that the land required would be substantially less than shown on the RSP Master Plan and that the proposed land take is excessive and without justification in terms of the compulsory acquisition of the land. Any development required to handle 17,171 annual movements by air cargo aircraft can all be accommodated to the south of the B2050 and, even allowing for passenger operations and other activities, would not require all of the airfield land to the south of the road. Obviously, on the basis of more realistic forecasts of future demand, the area required to support the ongoing operation of the Airport would be materially smaller.

15. We can see no justification for the inclusion of the 'Northern Grasslands' area within the DCO on the basis of it being for associated development. There will be little requirement for or likelihood of the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow to Manston, as suggested by RSP, and any requirement for such activity specifically to support the proposed level of freight activity at Manston could easily be accommodated on land to the south of the B2050. The development on the 'Northern Grasslands' site appears to be speculative commercial development which, based on the precedent at East Midlands Airport – the UK's principal airport for pure freighter operations – would be expected to be largely for non-aviation related uses.

[1] Based on an 18-hour operational day. Should a night time noise policy be agreed with Thanet District Council pursuant to the existing planning agreement that enabled a longer operational day and/or a number of scheduled night movements, then the capability could, in theory, be higher than 21,000 annual cargo aircraft movements.

16. In terms of the socio-economic implications of the proposed development, Azimuth have shown a lack of understanding of how such impacts should properly be calculated. Leaving aside the use of inappropriate multipliers, the impacts have been assessed at a national scale and should have taken displacement of activity from other airports fully into account, reducing the impacts well below those stated. Furthermore, the assessment should have considered the impact on alternative uses of the site, including SHP's proposed mixed use development and the socio-economic benefits deriving therefrom. We have set out a more realistic and robust assessment, which shows that the local impacts within Kent, even on Azimuth's forecasts, would be substantially less than claimed and it is these lower order effects which would need to be balanced with the environmental and other impacts in assessing the acceptability of the proposed development against the alternatives.

17. Unsurprisingly, the socio-economic impacts associated with the Airport are lower still on the basis of more realistic forecasts of likely usage if it re-opened. The operation is simply of a much smaller scale such that, in Year 2, it would generate only 452 jobs, 17% of Azimuth's estimate of 2,654. By Year 20, the differential is even larger, with the Azimuth estimates reaching over 30,000 jobs compared to our estimate of just over 1,000 jobs. Once again, the evidence presented by Azimuth on behalf of RSP cannot be relied upon. It is infected with the flaws in the traffic forecasting methodology identified previously but also the approach to identifying socio-economic impacts is, in itself, badly flawed. The socio-economic impacts are, as a result, massively overstated. In any event, these benefits would not be realised if the Airport ceases operation again due to it not being commercially viable.

18. As well as the Azimuth reports which form the basis of RSP's case, we have also reviewed a number of other reports on the potential for Manston. In overall terms, we agree with Aviasolutions for Thanet District Council that there is little realistic prospect of the re-opening of Manston Airport being a commercially viable proposition. We have reviewed their original report and the more recent reports and concur with their views on the overall structure of the UK air cargo market, noting that they, unlike Azimuth, have correctly understood the implications of our 2015 work for the FTA. We do not accept Northpoint's rebuttal of the Aviasolutions work. Like Azimuth, Northpoint's work is largely aspirational without any robust evidence or analysis of the market. Northpoint, too, misinterpret our previous work for the FTA and TfL.

19. In overall terms, we do not consider that the case that the re-opening of Manston Airport would constitute a Nationally Significant Infrastructure Project has been robustly made or substantiated. In any event, given that the baseline capability of Manston Airport is at least 21,000 annual cargo air transport movements (see section 4), this means that RSP must, effectively, be seeking to increase the capability of Manston Airport from 21,000 annual air transport movements by cargo aircraft to at least 31,000 such movements each year, a level of activity which has not been consulted on or assessed in RSP's Preliminary Environmental Information Report (PEIR). Indeed, RSP's consultation material does not provide any detail as to what the increase in capability would be as a result of its proposals (i.e. the increase in capability as a result of its proposed alteration to Manston Airport). As a minimum, the increase in capability would be to 31,000 annual air transport movements by cargo aircraft, but in our view their proposals would result in a significantly higher 'new' capability which is not revealed or assessed by RSP.

20. Our overall assessment is that RSP have failed to provide their own evidence of the capability of Manston Airport and the amount by which their proposals would increase that capability by. Rather, the only information that they present is a forecast of future freight demand, which has no credibility as explained in this report. There are, hence, major omissions in RSP's consultation material. This failure means that, in our opinion, the requirements in section 23 of the Planning Act 2008 (as amended) have not been satisfied. In essence, we would have expected RSP to be able to show:

- the capability of Manston Airport of providing air cargo transport services;
- the amount by which RSP is proposing to increase that capability by and thus the "new" capability; and
- a credible forecast for why that 'new' capability is required.

None of this information is provided by RSP.

1 INTRODUCTION

1.1 York Aviation was appointed by Stone Hill Park Limited (SHP) in September 2017 to review the evidence presented by RiverOak Strategic Partners Limited (RSP) in connection with RSP's prospective application for a Development Consent Order (DCO) for the redevelopment and re-opening of Manston Airport as a hub for international air freight services, which also offers passenger, executive travel and aircraft engineering services.

1.2 York Aviation is a specialist air transport consultancy that focusses on airport planning, demand forecasting, strategy, operation and management. The company was established in 2002. We offer a broad range of services to airports, airlines, governments, economic development organisations and other parties with an interest in air transport. Our team is a mixture of experienced air transport professionals and economists. Key members of the team have substantial experience of airport operations and development gained through working for Manchester Airports Group. Our core services include:

- business planning and strategy;
- capacity and facilities planning;
- master planning and planning application support;
- demand forecasting;
- economic impact assessment and economic appraisal;
- policy and regulatory advice;
- route development;
- transaction support.

1.3 Our clients include:

- Transport for London;
- Transport for the North;
- Department for Transport;
- Scottish Enterprise;
- Northern Ireland Government;
- Manchester Airports Group;
- Birmingham Airport;
- London City Airport;
- London Luton Airport;
- Ryanair;
- Freight Transport Association.

As well as numerous investors in airports and other parties with an interest in the development, operation and management of airports in the UK and abroad.

1.4 Louise Congdon, Managing Partner of York Aviation has provided evidence in relation to the need for and economic impact of airport development at several airport public inquiries, including Manchester Runway 2, Liverpool Airport, Doncaster Sheffield Airport, Stansted Generation 1, London Ashford Airport (Lydd) and London City Airport.

1.5 We were the authors of two specific reports upon which RSP seek to rely in making their case, namely a report for the Freight Transport Association (FTA) and Transport for London (TfL) in 2015 and a note on Freight Connectivity for TfL in 2013. The first of these documents was used by RSP in its public consultation and this may have led respondents to believe that we were supporting the re-opening of Manston, which is not true and, as we go onto explain in this report, our analysis in these documents for the FTA and TfL does not support RSP's conclusion that there would be a substantive and sustainable role for Manston in the UK air freight industry.

Historical Position

1.6 Manston Airport closed to commercial operations in May 2014, following several unsuccessful attempts to attain commercially viable operations. In the decade prior to closure, the Airport did manage to attract some cargo and passenger activity but not to levels that could ensure financial and commercial viability for its owners. The historic traffic performance is set out in **Table 1.1**. The Airport's cargo traffic peak was in 2003.

Table 1.1: Historic Commercial Traffic at Manston Airport

	Passengers	Cargo (tonnes)	Air Transport Movements[2] (excl. Air Taxis)	of which, Cargo Aircraft Movements[3]	Total Aircraft Movements
2003	3,256	43,026	1,106	1,081	24,934
2004	101,328	26,626	3,333	730	23,324
2005	204,016	7,612	4,631	177	21,358
2006	9,845	20,841	461	322	16,687
2007	15,556	28,371	608	444	21,521
2008	11,625	25,673	540	412	19,269
2009	5,335	30,038	583	485	18,902
2010	25,692	28,103	1,151	491	16,260
2011	37,169	27,495	1,472	419	18,695
2012	8,262	31,078	687	432	14,688
2013	40,143	29,306	1,640	511	17,504
Source: CAA Airport Statistics					

[2] Air Transport Movements (ATMs) are those services sold to the public as distinct from private flights or those operated on behalf of individual companies using their own aircraft. All substantive cargo operations in the UK would be treated as air transport movements. Aircraft movements are all aircraft movements at an airport, including 'touch and go' landings by flying school aircraft.

[3] Based on more detailed records maintained by the former airport operator, it would appear that CAA data may not record all empty cargo positioning flights. However, we do not have complete data. The total number of cargo flights could, hence, be somewhat greater than shown.

1.7 Table 1.1 shows that the number of air cargo movements and the tonnage carried was fairly consistent over the last 10 years of the Airport's operation, but these operations were not sufficient to support a commercially viable operation at the Airport.

1.8 We address the realistic levels of freight demand that Manston Airport might attract if re-opened in **Section 3** of this report.

The Application

1.9 RSP's prospective DCO application is predicated on its proposed alterations to the Airport's infrastructure, the effect of which is expected to increase by at least 10,000 a year the number of cargo air transport movements (CATMs) a year that the Airport is capable of accommodating. In practice, the case set out in the consultation documents produced by RSP and used in the Preliminary Environmental Information Report (PEIR) are predicated on it being able to attract and handle a forecast of 17,171 CATMs and 1.4 million passengers per annum (mppa) by 2039 and all of the assessments are made on this basis.

1.10 In order for RSP's proposals to be considered a Nationally Significant Infrastructure Project (NSIP), which can be taken forward using the DCO procedure under the Planning Act 2008 (as amended), it must comprise of an alteration to an airport which would *"increase by at least 10 million per year the number of passengers for whom the airport is capable of providing air passenger services"* or *"increase by at least 10,000 a year the number of air transport movements of cargo aircraft for which the airport is capable of providing air cargo transport services."*[4] [5] In this case, the relevant criterion relates to air transport movements for cargo aircraft. It is clear, therefore, that validating the capability of Manston Airport of providing air cargo transport services is vital to determining the legitimacy of a DCO.

1.11 RSP's prospective DCO application does not provide any explanation or understanding of the capability of the Airport before its proposed alteration is made. The capability of the Airport is a necessary component of Section 23(5) of the Planning Act 2008 (as amended), as it is from that figure that a prospective applicant must consider the effect of its proposed alteration, which must be expected to have the effect of an increase of at least 10,000 annual air transport movements by cargo aircraft. Without identifying the capability of Manston Airport, one does not have all of the components required under section 23 of the Planning Act 2008 (as amended) for a decision to be made as to whether the proposed alteration falls within section 23. In addition, an applicant must then explain what the 'new' capability would be following its proposed alteration in order to then assess the effects of the proposed alteration. We consider this further in **Section 4**.

[4] Section 23(5) of the Planning Act 2008 (as amended).

[5] It is noted that the Planning Act 2008 (as amended) also refers to an increase in permitted use as a relevant criterion. In this case, the existing planning consent under which Manston operated contained no limit on the number of annual aircraft movements permitted although there was a prohibition on night movement of aircraft between 23.00 and 07.00 in force, pending agreement to a night movement policy with the local planning authority, Thanet District Council. In any event, the increase would still need to be at least 10,000 per year in the number of air transport movements of cargo aircraft for which the airport is permitted to provide air cargo transport services.

1.12 A further consideration is the extent of development proposed in terms of its capability of supporting the projected number of movements but, more importantly, given that RSP is seeking to compulsory acquire the entirety of the Manston Airport site from SHP, whether the land area proposed is actually necessary in order to handle the projected number of aircraft movements and whether there is a *"compelling case in the public interest"* for its acquisition[6]. This requires consideration as to whether the case for the development and re-opening of Manston Airport is *"compelling"* and whether the full extent of land required has been fully justified. We consider this in Section 4 of this report.

1.13 We consider the socio-economic case for the development in **Section 5** of this report.

This Report

1.14 RSP sets out its strategic case and need for the re-opening of Manston Airport as a hub for international air freight in 4 volumes prepared by Dr. Sally Dixon of Azimuth Associates (Azimuth), namely '*Manston Airport - a Regional and National Asset, Volumes I-IV; an analysis of air freight capacity limitations and constraints in the South East and Manston's ability to address these and provide for future growth; June 2017'.* **Section 2** of this report reviews this analysis and the extent to which the analysis presented by Azimuth justifies the forecast cargo and passenger activity projected for Manston. This is important for the purposes of section 23 of the Planning Act 2008 (as amended) and whether the analysis presented by Azimuth provides a compelling case in the public interest for the acquisition of the site through compulsory acquisition procedures.

1.15 Within this report, we address, in particular, the use made by Azimuth of analysis that we undertook for Transport for London[7] and for the Freight Transport Association[8] in connection with the work of the Airports Commission and the need for new hub airport capacity for London. For reasons which will be made clear, the York Aviation work relied upon by RSP does not, and cannot be taken to, support RSP's proposed alteration to Manston Airport and, therefore, cannot be relied upon by RSP, the Planning Inspectorate, the Secretary of State and any future appointed Examining Authority (should RSP submit the application and the Secretary of State accepts the application). Given the errors in the interpretation and use of our work by Azimuth, we are concerned that the consultation carried out to date has not properly informed the public in respect of the valid interpretation of our work regarding the prospects for the viable operation of Manston as a freight airport.

1.16 We also review independent reports produced variously by Aviasolutions (Avia) for Thanet District Council in September 2016 and August 2017 and Northpoint Aviation Services (Northpoint) for RSP. This peer review of the other reports is at **Section 6** of this report. To the extent that we agree with these other reports, we do not repeat the detailed analysis in this report but reference the corroborating evidence as appropriate.

[6] Department for Communities and Local Government, *Guidance on compulsory purchase process*, October 2015, page 6.

[7] Referenced by Azimuth as Transport for London (TfL), *Note on Freight Connectivity*, unpublished paper 2013. For the avoidance of doubt, this note as made available by TfL under a Freedom of Information Request is appended to this report at **Appendix A**.

[8] York Aviation (2015), *Implications for the Air Freight Sector of Different Airport Capacity Options*.

1.17 Our conclusions are presented in **Section 7**.

2 CRITIQUE OF RSP APPROACH TO FORECASTING

2.1 In this section, we review the work of Azimuth that forms the justification for the DCO and was part of RSP's consultation documents in June and July 2017. The work is presented in 4 volumes:

- Volume I: Demand in the south east of the UK
- Volume II: A qualitative study of potential demand
- Volume III: The forecast
- Volume IV: The economic and social impact of airport operations

This section also addresses the basis of the demand forecasts for Manston as set out in Volumes I, II and III, focussing principally on air freight in this summary report. We address the socio-economic assessment in Volume IV in Section 5 of this report. Given the repetition of much of the material across the first three volumes of Azimuth's work, we have grouped issues broadly under the appropriate volume in this section.

2.2 We do not, in the main, dispute the accuracy of the factual detail, some relevant and some not, set out in the Azimuth reports or the veracity of the secondary evidence presented. We do, however, have serious and considerable issues in relation to the interpretation and the completeness of this evidence base, in particular relating to the use of previous York Aviation reports, and the inferences and conclusions drawn from it. Ultimately, we consider that the case put forward by Azimuth is weak and unsubstantiated as the extensive evidence base presented does not, in reality, support the conclusions drawn which, in many cases, go well beyond what can reasonably and sensibly be inferred from the information presented. Much of the information is effectively circumstantial and falls far short of making a compelling case, or indeed any case, that the demand forecasts would be capable of being realised.

2.3 Although Azimuth state at paragraph 1.2.1 of Volume 1 *"RiverOak, who specialise in identifying profitable market opportunities, has identified the substantial need for additional and specialised airport capacity for dedicated freighters in the southeast of England"*, we are unaware of any other research upon which RSP rely. All other documents produced in support of the prospective DCO appear to rely on the work of Azimuth.

2.4 In essence, the work of Azimuth sets out to address three key questions, which they assert provide the answer as to whether there is a compelling case in the public interest for the development of Manston Airport sufficient to meet the test for the inclusion of compulsory acquisition powers as part of the DCO. These are largely addressed in Volumes I and II, and lead on to the preparation of demand forecasts set out in Volume III. The three tests put forward by Azimuth are:

- *Does the UK require additional airport capacity in order to meet its political, economic, and social aims?*
- *Should this additional capacity be located in the South East of England?*
- *Can Manston Airport, with investment from RiverOak, relieve pressure on the UK network and meet the requirement of a nationally significant infrastructure project?*

2.5 At the outset, we query whether these are the correct questions to be addressed in terms of the case that RSP seek to make for the use of Manston as a major freighter hub. As is clear from the draft Airports National Policy Statement (NPS)[9], the first two questions relate to the requirement for more capacity at the UK's main passenger hub airport at Heathrow. The updated draft NPS makes clear at paragraph 1.30 that, in relation to the Government's preferred solution of a new northwest runway at Heathrow:

"Consideration has been given to alternative solutions to the preferred scheme, and the conclusion has been reached that there are no alternatives that would deliver the objectives of the Airports NPS in relation to increasing airport capacity in the South East and maintaining the UK's hub status."

2.6 Hence, these first two questions are not relevant to considering whether there is a need for dedicated freighter capacity at Manston sufficient to meet the tests for a DCO. Manston would make no contribution to meeting the identified requirement of passenger hub capacity for the UK or for the South East of England. Furthermore, the draft NPS makes clear, at paragraph 1.39 in relation to any other development consent application for airport development, that:

"Nevertheless, the Secretary of State considers that the contents of the Airports NPS will be both important and relevant considerations in the determination of such an application, particularly where it relates to London or the South East of England. Among the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme is the most appropriate means of meeting that need."

2.7 This confirms that the proposed northwest runway at Heathrow addresses the identified need as set out by the Airports Commission for new airport capacity in the South East of England and that this provides a context against which any other DCO application would need to be assessed.

Demand in the South East of the UK (Volume I)

2.8 As has been noted above and in the most recent 2017 reports from Avia, much of the analysis presented by Azimuth relates to the evidence for a shortage of airport capacity overall in the South East of England and, specifically, the work of the Airports Commission relating to the need for additional hub airport capacity serving both the needs of passengers and of air freight. Much of the evidence presented by Azimuth to justify the existence of an airport capacity shortfall in the South East of England relates to the shortfall in capacity for passenger aircraft and, specifically, a shortage of capacity at the main aviation hub at Heathrow as noted above. This does not provide any underpinning justification for the specific development that RSP proposes at Manston, which comprises a specialist freight airport with a small number of low fare, regional and charter flights for passengers.

[9] Department for Transport, *Revised Draft Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England*, October 2017. Note that the provisions referred to have not changed since the original draft as of February 2017, which pre-dated RSP's consultation.

2.9 Azimuth cite a number of reports which highlight the potential shortage of airport capacity, not just in the UK but across Europe, and the economic costs of not addressing these shortfalls. Azimuth then seek to imply that Manston could provide part of the solution and contribute to delivering these benefits. This is not justified and creates a false impression of the potential economic significance of RSP's proposals. A key point is that the reports relied on by Azimuth need to be seen in the context in which they were written, namely to set out the economic consequences of the failure to address the shortage of hub airport capacity principally for passengers but also providing bellyhold capacity for freight in the UK. All of the reports pre-date the Government's decision to promote an additional runway at Heathrow and were largely directed at ensuring that a positive decision was taken regarding the development of additional runway capacity.

2.10 Furthermore, the reference at paragraph 5.1.4 to concern expressed in the Aviation Policy Framework[10] regarding the implications of capacity shortfalls on the range of destinations served does not, as Azimuth infer, indicate a need for additional aircraft movements by dedicated freighter aircraft as these would require a concentration of freight flows to a specific destinations to fill a single aircraft at a time. Rather, the Aviation Policy Framework refers to the need for a wide range of global destinations being available at the UK's national hub airport, offering passenger and bellyhold capacity so as to maximise the choice and convenience for both passengers and shippers[11] of airfreight. It is this variety of destinations and, importantly, the high frequencies of service that lead the market to favour a bellyhold hub and spoke system so that freight can reach its end destination in the most efficient and cost effective way possible.

2.11 In the light of the Government's support for the provision of a third runway at Heathrow and the potential for further development of airport capacity beyond 2030[12], the use of these economic assessments of a constrained situation to 2050 is no longer relevant, if indeed it ever was, as a context for the potential re-opening of Manston as a freight airport. The use of this data by Azimuth to support RSP's proposals is disingenuous at the very least.

Reliance on York Aviation work

2.12 Ultimately, Azimuth rely heavily on two existing pieces of research undertaken by York Aviation during the Airports Commission process. The first an unpublished note for Transport for London (TfL) prepared in the early stages of that process (see Appendix A), and a later more detailed piece of research undertaken for the Freight Transport Association (FTA), in conjunction with TfL[13]. Both documents considered the overall position of the air freight market in the London system and what might be the circumstances of that market in 2050 under different assumptions regarding runway capacity development in the South East. Whilst we continue to believe that, in the very long term, there will be excess demand for air freight and that existing infrastructure in the London area will struggle to service this demand, more recent developments lessen the capacity pressure.

[10] Department for Transport, *Aviation Policy Framework*, 2013.
[11] Shippers are the originators of the airfreight, i.e. the exporters or importers.
[12] Department for Transport, *Beyond the Horizon The future of UK Aviation*, Call for Evidence, July 2017, paragraph 7.23.
[13] The FTA report being included explicitly in RSP's consultation documents on its website.

2.13 The key point, however, is that, to the extent that there is excess air freight demand in the long term, it does not follow that there will be a market for Manston, as asserted by Azimuth, as any excess demand at the Heathrow hub does not lend itself to being displaced onto dedicated freighter operations at Manston, for reasons we explain later in this section. To the extent that there is any role for additional freighter aircraft to accommodate some part of the displaced demand, there is ample spare capacity at other airports in the short to medium term at least. Thus, the York Aviation work relied upon by RSP does not, and cannot be taken to, support the need for a re-opened Manston Airport as a freight airport and cannot be so relied upon by RSP, the Secretary of State, the Planning Inspectorate and any appointed Examining Authority (should RSP submit its application and the Secretary of State accepts the application).

2.14 Specifically, Azimuth seek to rely on estimates presented in our reports of the number of freighter movements which might be required to carry the freight tonnage that could be displaced from the London airports in 2050 if there is no additional capacity provided by that date. It is important to note that our reports for TfL and the FTA went on to explain why there were other alternatives, such as regional airports or trucking to Europe, which would be favoured to meet demand ahead of any residual use of more dedicated freighters.

2.15 Despite the reports being very clear, when read in their entirety, that the solution to any shortage of capacity would not be extensive use of pure freighter aircraft, Azimuth rely on the freighter movement equivalents from our reports as justification for their projections of freighter movements at Manston both in the short to medium term and up to 2039. There are a number of problems with this approach:

- The analysis as at 2050 is not representative of the position at 2039 or any earlier date;
- The Government is committed to there being a third runway at Heathrow, with a major justification being the increase in bellyhold freight capability at the UK's principal freight hub;
- Gatwick has increased its effective hourly movement capacity, enabling more passenger aircraft and associated bellyhold capacity, particularly related to recent expansion of the long haul network;
- Stansted has 20,500 annual movements that are reserved for freighter aircraft, of which only around half are currently used. The Airport's Sustainable Development Plan[14] sets out an aspiration to grow cargo, including on dedicated freighter aircraft, to 400,000 tonnes annually;
- Regional airports have developed additional long haul services, providing additional bellyhold capacity, and have plenty of spare capacity to accommodate additional freighter aircraft movements to the extent that there is any need for more pure freighter capacity;
- The Government has not ruled out the provision of further additional airport capacity beyond 2030.

2.16 Fundamentally, the use of theoretical levels of excess air freight demand at 2050 cannot be used to underpin short to medium term forecasts for the expected usage at Manston or an assessment as to whether it could be viably developed in the meantime, regardless of the precise timing of the delivery of the third runway at Heathrow.

[14] Stansted Airport Ltd, *Sustainable Development Plan 2015*, Summary.

Transport for London

2.17 At the outset, it is important to note that our 2013 paper for TfL (referenced by Azimuth as an unpublished TfL note[15]) points out the UK did not then appear to be disadvantaged in terms of air freight capacity and that there was still substantial capacity for freighter movements remaining at Stansted. This is an important consideration in terms of short term forecasting and should have informed Azimuth's thinking.

2.18 In this paper for TfL, we estimated the excess air freight that could not be accommodated in bellyhold capacity on passenger aircraft under different scenarios of additional capacity at the London airports and converted that excess to an equivalent number of freighter movements. The 54,000 potential additional freighter movements that Azimuth (and Northpoint) cite at paragraph 3.4.5 are the additional freight carrying capacity required in the event of there being no further runway capacity at any of the London airports[16] (a severely constrained scenario) that is simply no longer realistic as we have set out above. Azimuth's (and Northpoint's) use of this figure as a potential market for Manston is misleading.

2.19 The note then goes on to set out how this requirement for additional freight capacity might be met and the economic consequences. In the first instance, we noted that around 14,000 additional freighter movements could be accommodated in the London system if no capacity expansion takes place, and this included the use of additional available freighter slots at Stansted. Azimuth appear to have taken our inclusion of Manston, as an example of a smaller airport in the South East that could accommodate some movements, as an indication that it could play a substantial role, wrongly stating in the Executive Summary and at paragraph 3.4.5 that we said that Manston was expected to handle 14,000 freighter movements. Manston was given simply as an example of an airport with freighter activity at the time of writing (2013) with the potential to accommodate some additional movements (as we set out in Section 4 of this report, the capability of Manston Airport is 21,000 annual cargo aircraft movements before allowing for any night operations).

2.20 In essence, our assumption was that, across the London airports (including Manston albeit on the periphery of the South East of England), it was plausible that, by 2050, double the number of existing freighter movements could be accommodated compared to 2012. If anything, the correct inference to draw from this is that we expected the number of freighter movements to double from 2012 levels, i.e. to around 1,000 movements a year at Manston.

2.21 Beyond this, the question of how excess freight demand in the London system in the future will be served is largely left open in our 2013 note but we made clear, at paragraph 26, that we believed the two most likely options would be greater use of bellyhold capacity and freighter operations at UK regional airports, noting Birmingham, East Midlands and Manchester particularly, or the trucking of freight to major European hub airports with substantial route networks and bellyhold capacity. This reflects the growing role of regional airports in serving their local freight markets (avoiding the need to truck to London), while balancing particularly the attractiveness of the substantial bellyhold capacity, lower air freight rates, and flexibility offered by the major continental hubs. We discuss this further below in relation to the economics of the air freight sector.

[15] See Appendix A.
[16] Based on the Airports Commission capacity assumptions.

2.22 Our TfL note also makes clear (paragraph 25) that, to the extent that there was a capacity constraint, the first consequence might well be less capacity for transit freight through the UK airports, prioritising freight to and from the UK. Ultimately, our TfL note concludes that:

"In the constrained, max use, case, there would be severe limitations of pure freighter movements at the London airports, which could amount to around 26% of the required air freight capacity to/from London. The extent to which this would act as a limitation on overall air freight volumes would depend on the extent to which the freight is still carried from regional airports or by truck. Clearly this would impact on the cost/efficiency of shipment, which in turn could impact on freight volumes carried. Again, it is outside the scope of the current exercise to assess these effects.

Overall, in assessing the economic value for air freight between the scenarios, the main difference is likely to lie in producer costs passed through to users and the impact that would have on business costs and hence output/freight generated. It would not be safe to assume that the reduction in cargo ATMs at the London airports necessarily translates to lost shipment value in its entirety."

2.23 Azimuth, at paragraph 3.3.2, incorrectly characterises our note to TfL as expressing a concern about the amount of trucking to Europe. Significantly, the last part of paragraph 9 is omitted by Azimuth. When looked at in its entirety, it is evident that we were noting that trucking is an inevitable part of the market, for reasons which we explain later in this section:

"However, the role of the low countries and Germany in acting as the major freight centre in western Europe is noticeable. In total, the main German freight airports handled almost 4.2 million tonnes of freight in 2012 which, when combined with the Netherlands and Benelux countries, amounted to 7.2 million tonnes of air freight flown. These airports have developed major and specialist air freight roles, with freight being trucked from all over Europe to feed these freight hubs. The integration of trucking with air freight should not be overlooked, even within the UK. In practice, it is unlikely that the UK could replicate this role, even with unconstrained airport capacity, due to its island location on the western edge of Europe."[17]

2.24 In other words, our assessment was that there would not, in effect, be a shortage of capacity for freight, albeit that there would be some loss of producer efficiency by way of increased trucking and time related costs, which would be small in the context of the overall cost of air freight transport. Our summary conclusion in this note makes this clear:

"The key difference between these two scenarios would be in terms of the efficiencies and economies of scale gained by the industry arising from the concentration of freight activity at a single hub. In both cases, the overall volume of air freight to and from the UK is expected to be broadly the same, although the actual freight carried including transit freight would be higher in the hub case. However, under the new hub scenario, savings from greater efficiency may be passed onto users, so reducing shipping costs and facilitating trade leading to higher freight volumes, but it is beyond the scope of the current exercise to assess this. "[18]

[17] See Reference 6, paragraph 9.
[18] Ibid, paragraph 30.

2.25 We were cautioning against the assumption that there would be a requirement for more capacity for dedicated freighter aircraft in a constrained scenario as there would be other more cost effective routes by which the freight would be carried, albeit at a higher cost than with the availability of more bellyhold capacity under a 4-runway hub scenario as being advocated by TfL at the time. Use of more dedicated freighter aircraft would represent a further increase in cost for shippers as we explain further later in this section.

Freight Transport Association

2.26 Our work for the FTA and TfL in 2015[19] again identified the potential for excess demand for air freight in the London system by 2050 and converted this number to freighter movements to demonstrate the point that a four runway hub could house this excess demand in one place. If this demand could not be served in the London system, the report makes clear our belief that it would then be trucked to alternate airports that offer significant options in terms of bellyhold freight or freighter operations. In this context, the bellyhold capacity and destinations offered by the continental hubs are a decisive factor in determining how the market will be served due to the range of destinations served and the lower costs inherent in using bellyhold freight. These continental airports act as freight consolidation hubs for the whole of Europe given their more central locations and, hence, offer consolidation advantages and more competitive freight rates.

2.27 Azimuth's interpretation of our work for FTA appears to erroneously assume that excess demand in the London system will need to be met by additional freighter movements from an airport in the vicinity of London. For instance, at para 4.2.3, they state that *"Even so and as York Aviation figures show, there will be a shortfall of slots for dedicated freighters, likely to be in the region of 45,000 by 2050"*. Whilst our report does estimate that the excess air freight demand with a third runway at Heathrow would be around 1.2 million tonnes by 2050, equivalent to 45,000 additional freighter movements, at no point does our report say that this is how the market could or should be served. Indeed, as we state on Page 20 of our FTA report *"we have assumed that freighter aircraft primarily act as a means to supplement bellyhold capacity where insufficient bellyhold capacity is available"* and our later analysis of how the market might react to this excess tonnage focusses on this assumption by considering the attractiveness of alternative airports in terms of both passenger and freight services on offer. We continue to be of the view that bellyhold capacity elsewhere will be the primary alternate given the price advantages, the flexibility offered by the long haul networks of major airports, including those on Continental Europe, and the low cost of trucking as our report for FTA makes clear.

2.28 By the time of this report for FTA, Manston had closed but, even if it had not and had been included within our modelling work, the lack of bellyhold capacity and limited overall market presence would have meant it could only be projected to capture a very small percentage of the excess demand. For instance, East Midlands, an airport with around 10 times the freight throughput of Manston, and only 1 hour further away from London than Manston (and substantially closer than Manston to many of the major regional markets and manufacturing centres) captured only 8% of the excess demand in our 2015 modelling. In the Heathrow 3rd runway scenario, this equates to around 100,000 tonnes in 2050. This would equate to around 3,600 additional freighter movements in 2050.

[19] See paragraph 1.14 above.

The Economics of the Air Freight Industry

2.29 Throughout the analysis, Azimuth appear to assume complete interchangeability between bellyhold freight, pure freighter operations and express/integrator operations without any analysis of the economic drivers for the use of each type of freight transport and the economics of trucking of air freight between the UK and Europe. This is a fundamentally unrealistic assumption and leads to a misrepresentation of the market opportunity for pure freighters.

2.30 In our work on international connectivity for Transport for the North (TfN) in 2016 (in conjunction with MDS Transmodal[20]), we identified the key characteristics of the air freight market. We identified that air freight can, in principle, be broken down into three main sectors:

(i) bellyhold, where cargo is carried principally in wide-body long-haul passenger jets[21]. Shippers are able to take advantage of flights to a wide variety of destinations from the main hub airports such as Heathrow and from other major European hubs, e.g. Frankfurt and Paris, similarly offering a wide range of global destinations on passenger flights;

(ii) freight only services, which are viable on only a handful of routes and/or for specialist commodities on an ad hoc basis. This is an increasingly limited sector in the UK due to the variety of bellyhold routes available and the strong presence of the integrators in the market;

(iii) express 'parcel' type services that operate on a hub and spoke network basis by 'integrators' (typically DHL, Fedex and UPS). These services increasingly carry larger consignments and East Midlands and Stansted Airports dominate the UK market, feeding bigger hubs located more centrally within Europe.

2.31 In general, air freight is seeking door to door journey times of the order of 4-5 days, which is possible using bellyhold through major hub airports, whilst integrator freight will generally seek a door to door journey time of no greater than 2 days.

2.32 The majority of tonnage moves by bellyhold as, in essence, this capacity is sold at marginal cost, with the majority of the airlines' operating costs covered by the passengers carried. The market is dominated by Heathrow and the other major European passenger hub airports because the sheer range and frequency of services provides a competitive environment which typically delivers the lowest freight rates and the greatest range of destinations served. There is high locational inertia in the air freight sector, which is likely to remain focussed around Heathrow for the foreseeable future as it is expected to remain by far the largest UK airport for cargo. In our TfN work, we estimated that around 70% of freight from the North of England in 2015 was trucked to or from other hubs for uploading, with some freight trucked to Heathrow for consolidation by the freight forwarders before being trucked back to Manchester to avail of bellyhold capacity there. Assuming similar proportions from other regions of the UK, it is clear that at least a part of any excess demand at the London airports is likely to be satisfied at regional airports, not least as airports such as Manchester, Birmingham and Edinburgh increase their range of direct long haul services offering bellyhold capacity.

[20] Transport for the North, *International Connectivity Evidence Report*, York Aviation/MDS Transmodal July 2016, Appendix C.

[21] Short haul flights provide small amounts of bellyhold capacity but, generally, low fares airlines do not carry cargo within their operating model.

2.33 The integrator sector carries more urgent parcel traffic based upon hub and spoke networks offering (typically) two day intercontinental transits. Spoke services from the UK from East Midlands and Stansted serve central European hubs at airports such as Brussels and Frankfurt. The need for frequency tends to mean that, typically, only one 'spoke' can be justified per integrator per country and these spoke services tend to be centrally located to maximise accessibility from all parts of Great Britain. East Midlands Airport is ideally placed in this regard. The integrators are increasingly using bellyhold capacity as well, essentially acting as freight forwarders in this regard.

2.34 A handful of freight only services complement bellyhold and integrator services where there is sufficient cargo to justify dedicated aircraft to a particular destination. There are a small number of scheduled freighter services which circumnavigate the globe, picking up and dropping off cargo at each point. More often, dedicated freighter services, other than those linking with major cargo hubs such as Hong Kong, Seoul or Dubai, operate on an ad hoc basis dealing with special consignments, such as large loads, or specific commodities where time is of the essence, such as the perishables trade, which was previously the principal cargo usage at Manston. Whilst there is some cascade from bellyhold to pure freighter operations where capacity is not available or time is critical, ultimately, it is the economics of the operation which is key. It does not follow that displaced bellyhold freight will seek a more expensive pure freighter service from a nearby airport over the use of available bellyhold capacity from a more distant airport.

2.35 In particular, we identified that the high cost of air freight leads to a pressure to be cost effective and the role of freight forwarders[22] in consolidating loads in order to secure the lowest possible freight rates. Cargo, other than integrator operations, tends to be assembled by specialist air freight forwarders, which cluster around the major hub airports so as to avail of the competitive freight rates on offer. As the road transport costs are very low compared to the value of the cargo and the air freight costs, air cargo is often trucked long distances to find capacity (at a lower freight rate). This forms an important driver in how freight moves from its origin to the actual airport of uploading and applies both within the UK and between the UK and Europe.

2.36 The charges levied per tonne of cargo for the long haul flight leg are high relative to inland haulage costs so that a relatively small difference in air freight rates between different airports will easily cover any additional costs for road haulage. It is for this reason that the majority of air freight will always gravitate towards bellyhold where there is capacity available, even if there is a substantial road haul as part of the journey. Given the wide range of bellyhold services available from the UK, which will increase following the development of a third runway at Heathrow and long haul service growth elsewhere, it is reasonable to expect that pure freighter operations will continue to make up a declining share of the market.

[22] A freight forwarder, forwarder, or forwarding agent is a person or company that organizes shipments for individuals or corporations to get goods from the manufacturer or producer to a market, customer or final point of distribution. For example, the freight forwarder may arrange to have cargo moved from a plant to an airport by truck, flown to the destination city, then moved from the airport to a customer's building by another truck.

2.37 Trucking of air freight is not a new phenomenon. The work by Steer Davies Gleave for the Department for Transport (DfT) in 2010[23] estimated that over 50% of air freight leaving the UK for Europe was trucked rather than using the bellyhold of passenger aircraft. In other words, airlines are using trucks rather than aircraft to distribute freight arriving on and connecting to their global passenger (bellyhold) and freighter operations. At the time of this analysis, Manston was still operational. If it was more economical to use a pure freighter service from Manston rather than trucking over the Channel, this would have been happening in 2010 but it was not. Other than the potential additional border checks as a consequence of Brexit, Azimuth advance no reasons why freight would switch from the cheaper trucking/bellyhold model to expensive pure freighter operations. We believe that the economics of air freight will continue to favour the use of bellyhold freight, other than for a minority of consignments, to and from the UK even if there is a lengthy trucking leg.

Manston in the context of the drivers of air freight

2.38 At Para 4.0.2, Azimuth suggest the reasons why cargo airlines choose airports. In reality, Manston does not fulfil a number of these key criteria meaning that, even in the most favourable circumstances, it can never be more than a niche player in the market. Specifically:

- It does not provide convenient access to the main markets;
- The drive time to Central London is nearly two hours[24];
- The great majority of the Airport's natural catchment is sea and there is very limited evidence of any local demand base;
- Competition is strong from the London airports, with already established freight forwarding and a wide range of bellyhold capacity;
- Given that the Airport is closed and staff dispersed, Manston would not provide any advantages in terms of experience of cargo handling and is likely to offer only marginal advantages in terms of the speed of transit through the Airport;
- Manston could potentially offer lower airport costs, albeit this would impact on the viability of the Airport, but these lower airport costs and any reduction in flying time would not offset the additional cost of freighter transport compared to bellyhold;
- It is also unclear as to what extent night time operations will be an option at Manston given the operating constraints under which the Airport formerly operated which prohibited scheduled night flying[25].

[23] Steer Davies Gleave, *Air Freight: Economic and Environmental Drivers and Impacts*, March 2010

[24] Based on Google maps standard driving speeds.

[25] Azimuth Vol 1 paragraph 7.1.6 quotes from a 2005 MORI survey that people were not impacted by night flights but this would reflect that there were no scheduled night flights when the airport was operational. Local resident support for re-opening (paragraph 7.1.1) needs to be seen in this context. We note that RSP's Consultation Overview Report states (on page 11) that *"Air freight operations would be predominantly during the daytime, in accordance with operations at other similar air freight airports. There may be a requirement for a small number of night-time flights, the details of which will be determined as part of the on-going project design, taking account of feedback from the Statutory Consultation, and presented with the DCO and assessed within the Environmental Statement. For the purpose of the PEIR assessment, and as a worst case, the working assumption is that there might be a maximum of eight (8) aircraft movements at night between the hours of 2300 and 0600."*

2.39 A key consideration is Manston's geographic position substantially away from the economic spine of the UK and with very limited local demand. It is remote from most markets with a journey time to the M25 of nearly 1 hour and accessibility beyond would be subject to the general levels of traffic congestion in the London area. Azimuths's suggestion (paragraph 1.2.2) that Manston might effectively serve as a 4th runway for Heathrow for air cargo flights is merely fanciful given the journey time of 1¾ hours, which is little shorter than the time from Heathrow to East Midlands Airport with an already well developed infrastructure for handling air freight and more likely to fulfil such a role in relation to freight overspill from Heathrow that is time critical or of such a special nature as to warrant the use of pure freighter aircraft.

2.40 Many of the other points raised by Azimuth regarding security, e-commerce and just-in-time delivery are all factors relating to the overall efficiency of the industry. If anything, what the analysis presented by Azimuth demonstrates is the importance of developing efficient freight networks serving the whole of the UK rather than the need for a re-opened freight focussed airport in the South East of England. Manston could only recapture economic benefits from cargo being trucked to the continent, as asserted at paragraph 4.8.4, to the extent that it provides a more economically efficient solution. Manston was not viable in the past and there do not appear to be significant changed circumstances that would make it viable in the future. This lack of inherent viability is indicative of the fact that it did not provide an economically efficient solution.

2.41 One of the key reasons that the UK aviation sector is so productive, as cited by Azimuth at paragraph 5.2.1, is that it allows the market to work. Inefficient and unnecessary actors in the market are allowed to fail. There is a strong argument to suggest that the closure of Manston is simply a part of the process of the market working and delivering more efficient solutions. The argument around the importance of the sector and Manston's role only applies if it is commercially viable (and makes an adequate return to shareholders) and represents an economically efficient allocation of resources. Otherwise, it will in fact damage the productivity of the UK aviation sector.

2.42 Azimuth asserts, paragraph 6.2.2, that the perceived lack of investment in Manston by the previous owners was an impediment to freight growth. However, this is at odds with previous statements by former operators of the Airport and comments by interviewees, in Azimuth's Volume I, on the quality of service received by customers at Manston. In its 2002 results, the Wiggins Group plc claimed that, following investment, Manston was capable of handling 200,000 tonnes of cargo a year[26]. The subsequent owners, Infratil, published a Master Plan in 2009[27] which identified triggers when there might need to be some increase in cargo aprons or warehousing at 100,000 tonnes and 200,000 tonnes of cargo annually. Given that peak tonnage was 43,000 tonnes, this does not suggest that lack of capacity or shortage of investment was an impediment to increasing cargo volumes at Manston in the past, rather the limitation was the market.

[26] https://www.investegate.co.uk/wiggins-group-plc---230-/rns/final-results/2002073007004526862/
[27] Manston, *Kent International Airport Master Plan*, November 2009, page 62.

2.43 The only specific impediment to increasing throughput cited by Azimuth is a limitation to 1 aircraft being handled at a time but we understand that this was not the case, albeit supervised taxi-ing procedures had to be put in place when there were 2 aircraft using the apron at the same time. In practice, it does not appear that lack of investment was an issue which impacted on freight throughput. Rather, it must be assumed that the previous owners did not believe there was a viable economic case for investment. Lack of investment does not necessarily mean constrained demand and it may simply be that there was not sufficient demand to justify investment and that the market was functioning properly.

Qualitative assessment of demand (Volume II)

Forecasting Methodology

2.44 Volume II of Azimuth's work begins with an assessment of different forecasting approaches for cargo, noting that forecasting of cargo is not as well developed as that for passenger activity. We agree that air freight forecasting is difficult and that there is a lack of hard data. However, we do not agree with Azimuth's assertion that quantitative methods are, therefore, not suitable and that qualitative methods are more appropriate. The evidence cited by Azimuth at Table 3 does not support this conclusion and suggests that causal methods (regression analysis) remain the most appropriate for forecasting demand for cargo and freighters. Such an approach is far more akin to the type of analysis undertaken by York Aviation in its work for TfL and FTA and upon which Azimuth seek to rely as a basis for the scale of activity that Manston might attract.

2.45 Whilst we understand the reason for Azimuth's assertion that it <u>may</u> not be appropriate to extrapolate Manston's future performance from its historic performance, this does not take away from the importance of grounding any future forecast in quantitative evidence of the drivers of the market and how these might change in the future. In any event, the assertion is at odds with the reliance placed by Azimuth on our quantitative assessments of 'spill' from the London airports at 2050, in the circumstances of no additional runway at Heathrow, as corroboration of their qualitative projections for Manston to 2039. To reiterate, reliance on these estimates is not appropriate for considering the potential role for Manston, not least as they relate to 2050 and cannot be applied to 2039, or any earlier year, without working through from first principles how any constraints in the London system might bite and the likely market reaction.

2.46 As well as reviewing forecasting methodologies, Azimuth sets out some air freight growth forecasts produced by others. At paragraph 3.6.1, Azimuth cite the DfT's assumption for growth in freighter movements in its 2013 UK Aviation Forecasts at 0.4% p.a[28]. The DfT makes clear that the growth in freighter flights is seen as a residual, representing the share of freight on pure freighter flights after allowance is made for bellyhold cargo being the primary mode. It is clear that the DfT is expecting the share of the market using pure freighters to and from the UK to continue to decline. Indeed, the most recent UK Aviation Forecasts published by the DfT[29] suggest that there is expected to be no growth in the number of pure freighter movements to and from the UK above 2016 levels in the period to 2050. Hence, any increase in freight movements at Manston would have to come at the expense of other airports. We discuss the ability of other airports to handle such movements in Section 3.

2.47 Given the existence of a definitive 'official' UK forecast for freighter movements over the period to 2050, it is not clear why Azimuth rely on global forecasts for air freight produced by the manufacturers Boeing and Airbus for the purpose of selling aircraft (paragraph 2.1.10) as a basis for the longer term projections of freighter movements at Manston in their Volume III (paragraph 2.3.2). The global growth rates cited by Azimuth are inappropriate for projecting growth in freighter movements at Manston for several reasons:

- They relate to RTKs (Revenue tonne kilometres) (Boeing[30]) and FTKs (Freight tonne kilometres) (Airbus[31]) and will reflect increased tonnage per aircraft, including freight carried in the bellyholds of passenger aircraft, and longer sector lengths as well as any growth in aircraft movements;
- The projections relate to growth in air cargo at the global level and lower growth is clearly shown as expected to/from and between more advanced economies such as the UK;
- In the case of Airbus, specific lower growth rates are cited for growth in freight tonne kilometres in freighter aircraft (2.6% p.a. compared to 3.8% per annum in their latest forecasts which are lower in any event than the previous forecasts used by Azimuth). Even then, this growth rate relates to FTKs not to freighter movements.

2.48 Taken together, these reports point to a declining market share for freighter aircraft in mature markets such as the UK, where there is a good supply of bellyhold capacity. It is, hence, not reasonable to use the Boeing and Airbus growth rates as a basis for projecting future growth in movements by pure freighter aircraft to and from the UK, particularly given the existence of DfT projections for such movements. Rather than being conservative, as suggested at paragraph 2.3.2 in Volume III, the use of a 4% per annum growth rate for years 10 to 20 at Manston is highly optimistic, and is certainly not supported by the DfT's analysis of the UK market.

[28] Department for Transport, *UK Aviation Forecasts 2013,* paragraph 3.49.
[29] Department for Transport, *UK Aviation Forecasts*, October 2017, paragraph 2.56. The decline in pure freight movements since 2001 is illustrated in Figure 4.5.
[30] Boeing, *World Air Cargo Forecast 2016-2017*, page 2.
[31] Airbus, *Growing Horizons – Global Market Outlook 2017/2036*, page 101. Note that the 2016 version to which Azimuth refer is no longer available on the Airbus website.

Interviews

2.49 Having rejected the recognised methodologies for forecasting freight demand at an airport, Azimuth rely on interviews with 24 individuals and/or organisations as set out in Table 4 of their report. To a large extent, these are people with past connections with Manston and who may not have a totally unbiased view on the desirability of it re-opening. It is notable that few cargo airlines or large scale air freight operators were interviewed, rather the list is dominated by local interested parties and logistics firms, not all of which are still in business. In some cases, throughout the remainder of Volume II, individuals are referred to who are not listed in Table 4 and, in other cases, individuals or organisations are referred to in different terms to those listed in the table. This does not suggest a very robust or rigorous approach to setting out the potential for Manston. Although the framework of questions is set out at paragraph 4.3.1, we are unable to identify any questions that would enable an assessment to be made of future passenger or freight volumes that would be likely to use Manston and which could be used as the basis for any forecast of future usage.

2.50 In the light of this, the remainder of Volume II is largely a qualitative description of current problems experienced in transporting cargo in general in the UK and in terms of past operations at Manston. These do not, however, provide any insight into the potential scale of demand for freight or passenger services at Manston. Essentially, it constitutes a speculative description of where there might be opportunities if Manston re-opens. We highlight the speculative nature of some of these comments relating to freight activity below. Taking Azimuth's categories in turn:

Process and Issues associated with airfreight

2.51 This analysis is generic and of no direct relevance to the potential for Manston. In particular, no linkage is drawn between the commodities which typically use air freight set out at paragraph 5.1.2 and the economic sectors active in Kent. Significantly, at paragraph 5.1.5, Azimuth cite a respondent that made clear that *"tendered"* prices determine how air freight moves. This is a powerful reason why bellyhold will in most instances win over pure freighter operations. Issues of price for pure freighter operations are reinforced at paragraph 5.1.10, particularly in relation to the risks associated with higher fuel prices.

2.52 There are then a number of comments regarding the current difficulties of operating at Heathrow at paragraph 5.1.6ff. It is recognised that there are few realistic slots available for additional freighter operations at Heathrow so unsurprisingly Coyne Airways cite a difficulty for them if they sought to fly to Heathrow on an ad hoc basis. However, in reality, this airline is not a major player in the UK or Europe, operating a small number of weekly flights from Amsterdam to feed its network of flights within the Caspian Sea region[32]. Comments from ACC Shipping and Active Transport need to be read in the context that they are local Kent shippers and transporters of cargo that have a vested interest in seeing Manston re-opened.

[32] http://www.coyneair.com/caspian_schedule.htm

Future trends in airfreight

2.53 To some extent, the issues highlighted here regarding security relate to the specific issues around Calais at the time when the interviews were carried out but the situation has now changed since October 2016. It is recognised that security of air freight is an increasing concern globally but this would apply at Manston as well as elsewhere.

2.54 Again, paragraph 5.1.15 highlights the dominance of bellyhold freight. Whilst noting that the A380 aircraft has more limited space for bellyhold cargo than B747s at paragraph 5.1.14, Azimuth neglect to point out that other new aircraft, such as B787 and A350 aircraft, do not suffer from similar reductions in space and capacity and continue to offer substantial bellyhold opportunities and capacity.

Motivation to use Manston

2.55 The response cited at paragraph 5.1.19 makes clear that the most important factor in considering freighter operations is *"cost, speed and access to road networks"*, which is not a condition which Manston can meet for the majority of the UK. The local transport firms (paragraph 5.1.21) clearly saw an advantage for them in Manston re-opening but it is far less clear that this was reflected by the broader industry. Significantly, paragraph 5.1.20 does not address the operational reasons why major freight forwarders seek to locate close to Heathrow, Stansted or East Midlands, except possibly for their city centre sales offices.

2.56 The response quoted at paragraph 5.1.23 makes clear that for Manston to be an attractive option to freighter operations, it would need to offer night operations. In the light of the past ban on scheduled night flying, this would be a major change to operating mode, with consequential environmental impacts. Furthermore, RSP's position in relation to whether scheduled night flights will be allowed or not is ambiguous (see paragraph 2.37 above) and we understand that some supporters of the re-opening have said that such operations would not be allowed. In the event that night flights are not allowed or heavily restricted, this would further diminish the attractiveness of Manston for pure freighter operations (comparisons with the major European freight hub at Frankfurt as included by Azimuth are simply not realistic).

Demand model and data for Manston Airport

2.57 This section does not, in fact, contain any data for Manston nor set out a view on how future demand might be modelled.

Freight focussed findings

2.58 The one airline interviewed made clear (paragraph 5.2.3) that *"success at Manston depended upon identifying a niche market and becoming known for excellence. In particular, suggestions included a perishables centre, handling of live animals, easy access for charter flights, and handling cargo that is not necessarily straightforward"*. We would have expected the remainder of the report to concentrate on quantifying the size of this niche market, including any Brexit implications for exports (paragraph 5.2.1). It is clear, however, that the realistic expectation for Manston is for a small niche operation rather than as a general 'overspill' airport for London.

2.59 The spurious suggestion that freight might be *"banned"* from Heathrow (paragraph 5.2.6) and Manston might benefit is clearly nonsense in the context of the Government's support for a third runway to provide capacity for freight in the bellyholds of passenger aircraft as much as for passengers.

2.60 Whilst the suggestion from Coyne Airways about the potential for Manston to offer fuel cost savings when flying south from the UK (paragraph 5.2.11) is interesting, it appears not to take any account of the locations where freight is generated in the UK or where it is consolidated into viable loads. It does not seem likely that Coyne Airways would itself relocate its one European feeder service from Amsterdam to Manston given this would increase rather than decrease fuel burn. As noted earlier, the real reason freight is trucked across the channel is to avail of cheaper freight rates available at the main European hub airports, which act as focal points for cargo for the whole of Europe.

2.61 Azimuth also claim that the bellyhold model is broken and that there is about to be a shift back to pure freighter operations at paragraph 5.2.25 but this is pure speculation and at odds with other industry commentators (see Airbus freighter forecasts which project an increasing share of bellyhold globally[33]) and the UK Government's view as expressed by the Department for Transport.

2.62 Whilst paragraph 5.2.24 says there was underinvestment in facilities by the previous owners, the quotation from Finlays at paragraph 5.2.26 makes clear that Manston previously offered a good level of service. Hence, there is little evidence to suggest that underinvestment was any impediment to Manston attaining its natural share of the market in the past. Although Finlays have now relocated their operation back to Stansted, we would accept that they might choose to return to Manston with a similar number of movements as previously if the facilities were re-instated and provided the cost of operating was competitive compared to Stansted. There may also be scope for some humanitarian and military flights (paragraph 5.2.48) but these will be small in number and not the basis for a viable operation of the Airport.

2.63 At paragraph 5.2.45, Fedex's criteria for an airport to be attractive to an integrator are set out and these seems to describe the characteristics of their main UK base at Stansted. There is then a discussion about some of the problems DHL perceive at Heathrow but, of course, DHL's principal UK operation is focussed at East Midlands where they have an extensive operation. From our work with the integrators and with the Freight Transport Association, we know that Manston is too peripheral for integrator operations serving the UK. Integrators have a strong preference for locations more centrally located in the UK with good road access to all of the major markets. The availability of land for warehouses (paragraph 6.2.6) is far less important than a location central to the market and the availability of good road access, neither of which are characteristics of Manston. This would apply equally to the suggestion that Amazon might locate there or that the Airport could become a base for drone operations (6.3.24-27). It is simply in the wrong place to serve the market being at the far south east at the end of the country on a peninsula.

[33] See Footnote 31.

2.64 The comparisons to Frankfurt Airport, in terms of the ability to sustain a freight operation without night movements, are simply irrelevant given that Frankfurt carries the second highest freight tonnage of any European airport and acts as a major cargo hub for air and road freight given its highly central location. Much of Frankfurt's cargo is carried in the bellyholds of passenger aircraft and this underpins the freight hub role. Given that Manston does not have anything like the overall market attractiveness of Frankfurt, for many reasons, any constraint on night operations would be a major impediment to freighter operations.

2.65 We do not discuss the passenger market in this report, albeit we have reviewed Azimuth's forecasts and disagree with their conclusions, which we can report upon should any application be made by RSP. The latter parts of Azimuth's Section 5 mention opportunities around ancillary activities such as MRO, aircraft recycling, flying schools and business aviation. We would simply highlight, at this stage, that these areas are highly competitive markets and it is not immediately obvious why Manston would provide an attractive option for operators in these markets when compared to what is often global competition. Nor is it evident that such activities would contribute substantially to the viability of Manston.

Analysis and Conclusions

2.66 Sections 6 and 7 of Azimuth's Volume II, go on to discuss what this means for Manston and draw conclusions. In general terms, Azimuth seek to draw conclusions about the cargo performance of Frankfurt, Heathrow and Stansted airports which are not consistent with the actual facts.

2.67 Again, there is reliance on our work for TfL and the FTA (paragraph 6.1.8) to justify the conclusions reached. As stated above this work does not support RSP's case.

2.68 Azimuth then identify that there are sectoral and geographic markets for which Manston has potential but there is no quantification of the scale of these markets. This is a fundamental gap if the scale of any potential opportunity is to be understood.

2.69 At paragraph 6.3.1, Azimuth set out 9 potential scenario drivers for Manston. However, it is not clear how these scenario drivers have been taken forward to the forecasts set out in Volume III, which do not set different potential scenarios for growth. If we take each of these drivers in turn:

1. *The UK's position in Europe* – Azimuth appear to assume that there will be an opportunity for multi-hop freighter services from Manston but it is far from clear that the traffic rights for such services will continue to be available post-Brexit.
2. *Changes to fuel prices* – in the face of the decline in the value of sterling, these are more likely to work against the operation of more freighter aircraft.
3. *The availability of more efficient aircraft* – the introduction of B787 and A350 aircraft will increase bellyhold capacity rather than reduce the capacity.
4. *Onshoring of manufacturing in the UK* – it is not clear how this is relevant given Kent does not have a strong manufacturing base.
5. *Changes to logistics and transport systems in Kent* – this is a circular argument as it relies on the re-opening of Manston driving a step change in the logistics and transport sector in Kent.

6. *Dramatic changes to economic performance* – it is noted that these are not factored into the forecasts but to the extent that there are Brexit effects on the economy, these would reduce trade and demand for air freight.

7. *Manston becomes a major integrator/forwarder base* -

8. *Manston becomes an Amazon base* -

9. *Manston becomes a hub for drone activity* –

for the reasons noted above, all three of these seem highly unlikely and are, at best, pure speculation with no evidence base whatsoever.

2.70 Section 7 sets out the conclusions from Volume II. According to Azimuth (paragraph 7.1.1), the key issues that are seen to favour Manston are:

- Lack of available slots at other South East airports;
- Bumping of freight from passenger aircraft;
- Security issues particularly with outsized cargo;
- Speed of turnaround.

However, our analysis of the factors would suggest that, other than perhaps the last two factors, there are few factors which would favour Manston and, in any event, these could be replicated by other airports closer to the main UK distribution centres, such as Doncaster Sheffield Airport, if these were deciding factors in the market.

2.71 Based on their analysis, Azimuth then set out (at paragraph 7.1.2), the markets which it believes that Manston could attract:

- Parcels and packages through an integrator;
- Perishables including fruit, vegetables, flowers, fish, and shellfish;
- Outsized freight;
- Formula One and luxury cars;
- Live animals;
- Time sensitive items such as aircraft [parts] and the oil and gas industry;
- Humanitarian and military flights.

In addition, some passenger operations along with a number of ancillary activities such as recycling, MRO[34] etc. are postulated for Manston.

[34] Maintenance, repair and overhaul of aircraft

2.72 Whilst, except for integrator operations, they are plausible markets for some potential operations from Manston, Azimuth make no assessment of the potential quantum of local demand as a basis for assessing how big a market there is. Whilst seeking to discredit analytical methods for projecting future demand at Manston, at the same time, Azimuth rely heavily on estimates made by us and using such methods that suggest there would be excess demand in the London system at 2050 if there is no new runway at all. Fundamentally, Azimuth make no assessment of the viability of what might be on offer or address any concerns as to why such operations have not secured a viable future for the Airport previously.

2.73 The key conclusion drawn by Azimuth is that *"This report demonstrates the potential demand for Manston Airport, indicating its viability and clearly showing that Manston Airport is a valuable local, regional and national asset, providing airport infrastructure badly needed by the UK."* (Paragraph 7.0.1) There is, quite frankly, no factual basis for Azimuth to make this claim. Azimuth claim that the capacity is *"badly needed by UK"* but this is linked to erroneous use of the economic costs of there being no further runway capacity in the UK (see paragraph 2.6 of this report) and a lack of understanding of the air freight market.

2.74 In summary, Azimuth's insistence that Manston's past market performance is not a relevant consideration in understanding how it might perform in the future is both erroneous and contradictory to the evidence put forward to support the qualitative market forecasting approach. The interview findings presented are clearly focussed towards operators that have used Manston in the past and would be pleased to be able to use it again but the evidence presented does not suggest that operators would do more than reinstate past operations. This did not result in an airport that was viable and certainly did not result in annual cargo air transport movements predicted by Azimuth. In our view, and having regard to the evidence, it is unlikely that circumstances have changed so dramatically in the intervening period since the Airport was last operational that there is likely to have been a fundamental change in its ability to capture market share. Its previous cargo performance remains the best starting point from which to consider its future.

2.75 In defence of their position, Azimuth cite lack of investment by the previous owners as being a key cause of Manston's inability to fulfil its potential previously but this is not borne out by the interview responses as the quality of service was noted as good. Fundamentally, the failure to consider the drivers of the Airport's previous performance effectively is a key error which infects the subsequent forecasts presented. The limited size of the market is perhaps the best explanation as to why there was not still further investment in developing the facilities as the operation was fundamentally not viable and it would have been imprudent to invest further.

Forecasting (Volume III)

2.76 The forecasts set out in Volume III draw extensively on the analysis in Volumes I and II. Although stated to be derived on a 'bottom up' basis (Executive Summary Page 1) and claimed to be more conservative than top down, econometrically driven, projections, reliance is still placed, at paragraph 1.1.1, on our quantitative work for TfL/FTA to justify/verify the overall quantum of movements projected, stating *"Rather than merely extrapolating past activity, studies that have focused on the 'lost' or suppressed demand include York Aviation's work (2015, p. 19)."* This work was itself fundamentally top down, based on examining past activity and its implications for the future. Azimuth rely on this as, effectively, the only quantitative evidence presented of a possible level of future demand which might be available to Manston. However, for the reasons set out earlier, Azimuth has incorrectly interpreted our findings and their use of our data to support RSP's case cannot be relied on.

2.77 Paragraph 2.1.2 again suggests that the literature review undertaken showed that *"a qualitative approach was the most appropriate method through which to gather data on the potential demand for an individual airport"*. Whilst we agree that freight forecasting is difficult, as Azimuth themselves note, at paragraph 2.1.4, qualitative forecasts still need to be based on *"market data"* and, at paragraph 2.1.6, Azimuth go on to refer to the anecdotal information collected in the interviews as primary market data. Overall, this anecdotal evidence does not provide a basis for the development of a forecast of future usage nor for the presentation of a business case of the proposed development.

2.78 To further justify the approach to forecasting, Azimuth claim that the Airports Commission recommended the use of a Delphic approach. This is not strictly true as what the Airports Commission actually said was:

> *"In cases where there is limited or no data available, judgement based forecasting, using techniques such as the 'Delphi Method' is applied. This approach involves experts in the field considering historical patterns to predict future trends and is often used in conjunction with both naïve and causal models to compare forecast trends. The Delphi method is considered especially useful for long term forecasting (20-30 years) and is effective in drawing on existing knowledge to identify areas of agreement and disagreement in forming the forecast. However, for complex themes the Delphi Method is not always considered appropriate as there is no way of testing different outcomes e.g. through scenario testing."*[35]

2.79 First of all, the Delphi Method involves a number of independent experts considering historic patterns of data and forming a judgement based forecast. Results are shared and refined until a consensus is reached amongst experts. This is not the same as a single judgemental based forecast as Azimuth have presented, based not on historic data but some unquantified estimate of 'lost' demand. In any event, we would question the appropriateness of this methodology, for the reasons that the Airports Commission cite, namely the importance of scenario testing in the context of a forecast to be used for a planning application, particularly one where the applicant is purporting to promote a NSIP under Section 23 of the Planning Act 2008 (as amended) and seeking to demonstrate that there is a compelling case in the public interest for the compulsory acquisition of the Airport site.

[35] Airports Commission, Discussion Paper 01, *Aviation Demand Forecasting*, February 2013, Paragraph 2.8

Freight Forecasts

Short to Medium Term (10 years)

2.80 Azimuth place reliance on both the overspill argument (paragraph 2.2.2) and that there will be a reversal away from the existing preference for bellyhold for most types of air freight, despite the overwhelming evidence that this is likely to remain the case in future due to the lower freight rates available. Azimuth's claim is not supported by the facts, current market trends or by other industry observers including the DfT and Airbus.

2.81 Furthermore, Azimuth appear to assume that, to the extent there is overspill seeking freighter capacity as an alternative, that Manston would be the only solution. This is not the case given available capacity for freighters at airports such as East Midlands (particularly well placed for the distribution of goods across the UK), Stansted and Doncaster Sheffield. These airports are already established and operational and, therefore, well placed to deal with any such requirements in the short to medium term using their existing infrastructure and without the need for any compulsory acquisition of land.

2.82 At paragraphs 2.2.6 and 2.2.7, Azimuth set out the methodology they have used for deriving freight movements and tonnage for Manston. In essence, these movement forecasts are entirely based on claimed confidential discussions with airlines, airports and others involved in the industry, which are then converted to freight tonnage based on the capacity of each aircraft and assumed load factors. These discussions would appear to be different from the list of interviewees reported in Volume II, which included only 1 airline (unlikely itself to relocate its single European operation to Manston) and no other airports. Although it is claimed (paragraph 2.2.9) that switching costs have been taken into account, there is no explanation as to how these costs have been factored into the assessment of what operations Manston might attract. It is likely that RSP would need to incentivise such a switch of activity and this would impact on the overall viability of the Airport, particularly in the early years. A further consequential issue arising from this is the economic cost of displacement of activity, which we discuss further in Section 5, as this needs to be accounted for in economic assessment of RSP's proposal.

2.83 A vague list of potential operations is set out at paragraph 3.2.3, albeit with specific assumptions then stated about the loadings on each. However, the basic information regarding the likely annual frequency of each operation is not given, which is essential to enable an understanding of the likelihood of such operations using Manston in the context of the UK air cargo market as a whole and taking into account ongoing operations at other airports. Paragraph 3.2.3 appears to set out simply a list of generic airlines that might offer services if Manston is re-opened. It provides no insight into whether the demand to fill those services will be there or whether the services could be operated viably by the airlines concerned and at what weekly or annual frequency. This is simply not an appropriate or robust basis for a forecast.

2.84 Whilst accepting that there may be confidentiality concerns in revealing the specific plans of any individual airline, this is all the more reason why there needs to be some underpinning analysis of the potential scale and viability of each specific market identified in the forecast in order to provide some basis for asserting that any of the airlines might operate to the destinations postulated. As presented, the aircraft movements and the consequential tonnage forecasts are entirely hypothetical with no obvious linkage back to any of the evidence presented in the earlier volumes. This is not acceptable given the implications and importance of any proposed application for a DCO and the requirement that a compelling case be demonstrated for the purpose of compulsory acquisition. At the very least, there is a lack of transparency in the approach that needs to be explained so that consultees can understand the forecast and in order to determine whether or not the proposed DCO application falls within Section 23 of the Planning Act 2008 (as amended).

2.85 To illustrate the lack of credibility of the forecasts, Table 1 shows for Year 2 (the first operational year), a throughput of nearly 100,000 tonnes. This would make Manston the 5th largest freight airport in the UK in its first year after re-opening (compared to 2016 actual throughput at the other airports). This would place it close to the scale of freight operations at Manchester Airport, including bellyhold freight. It would make Manston the 3rd busiest airport in the UK in terms of tonnage carried on dedicated freighter aircraft. This is simply not a credible proposition. It is simply at odds with the verifiable evidence and contrary to all experience there is of operations at Manston. If there is a short term market of that scale available for Manston, why did it historically not exceed 43,000 tonnes (2003)? Without full explanation of the scale of each of the markets and a reasoned justification for the number of movements assumed for each of the operations identified at paragraph 3.2.3, the forecasts as presented cannot be considered robust and substantial further evidence is required to validate the basis of the RSP DCO proposal.

Long Term (10-20 years)

2.86 As noted earlier in this section, the long term forecasts wrongly apply a 4% per annum growth rate as a basis for deriving the longer term freighter aircraft movement forecasts for Manston. To reiterate, this is inappropriate and unrealistic given that it is based on forecasts by Airbus for freight tonne kilometres at the global level[36]. Even if the short term forecasts were credible, which they are not, their extrapolation is on an unrealistic basis. At most, any extrapolation should more realistically have been based on the 2013 DfT freighter movement growth rate of 0.4% per annum and the latest DfT estimates[37] suggest that even this may be too high.

2.87 Table 6 then sets out the infrastructure requirements for cargo, which are based entirely on the forecasts put forward. However, even then, we are not told how these infrastructure requirements have been derived in terms of the operating pattern over the day, turnaround times, the number of night movements and other key assumptions for each aircraft type stated or indeed how they relate to the capability of Manston Airport with its existing infrastructure. Such information is critical to validate the infrastructure required (if indeed any is required given our assessment of the capability of Manston Airport), as well as to carry out the assessment of the environmental impacts.

[36] Now reduced to 3.8% in the latest Airbus forecasts.
[37] Department for Transport, UK Aviation Forecasts, October 2017, paragraph 2.56.

Passenger Forecasts

2.88 Although not the main focus of this summary report, we note that the passenger forecasts, set out by Azimuth in Section 2.4, suffer from many of the same problems as the freight forecasts. They appear to be based almost entirely on supposition and inferences that cannot be relied upon. There appears to be no consideration of what is known about market sizes, nature or previous performance, nor a recognition of the extent to which growth will need to be incentivised through discounting of airport charges and marketing support payments. Similarly to the freight forecasts, and for reasons that are not given, Boeing global growth rates appear to be used by Azimuth for passenger operations beyond year 10 rather than the UK specific forecasts produced by the DfT[38], which are substantially lower. This, once again, is a substantial overstatement of the potential for growth.

Overall Conclusions on Forecasts

2.89 Azimuth's entire analysis of the air freight market is focussed on the existence of a theoretical opportunity based on estimates of spill from London in the event of the third runway at Heathrow not being built or being delayed, an unsupported hypothesis that there is a trend away from bellyhold freight, and based on a small sample of interviews with largely marginal players in the UK air freight sector and/or local interests.

2.90 Azimuth's reports do not at any point provide any substantive evidence or analysis as to whether Manston Airport can effectively, viably and sustainably compete in that market. Azimuth's reports do not explain how Manston Airport will be able to price effectively against the bellyhold rates offered by growing established and operational UK regional airports or the continental hubs. Azimuth's reports do not explain how Manston Airport will compete against the range of destinations offered by the long haul passenger networks of the continental hubs or the much greater freighter network offers of East Midlands or Stansted airports. We agree that there may be a niche market for Manston, just as there was previously, and that this market will probably grow in the future in line with the pure freighter market overall (noting that the DfT does not see growth in this market to 2050), but we cannot see how Manston will provide a sufficiently attractive alternative in a broader freight market to attract a market share sufficiently large as to reach the volume and movement numbers envisaged by Azimuth and required to justify RSP's proposals to be considered under the Planning Act 2008 (as amended). Indeed, if we look at past history, it seems highly unlikely that commercially viable operations for the Airport would be attainable for the foreseeable future.

2.91 In overall terms, the forecasts presented by Azimuth at Table 1 of Volume III are simply not credible and do not provide a robust basis for promoting a DCO. We present analytically derived cargo movement forecasts in Section 3 of this report to evidence and support this conclusion that any future projected use of Manston Airport would be significantly lower than that asserted by RSP.

[38] Department for Transport, UK Aviation Forecasts 2013 and 2017.

2.92 In terms of Azimuth's key questions, as set out at paragraph 2.3 at the start of this section, the first two tests may well be met in terms of the need for more airport capacity in the South East of England. That is why the draft Airports National Policy Statement is promoting the development of a third runway at Heathrow as a solution in the period up to 2030. The first two questions are, therefore, irrelevant to RSP's proposals. However, in relation to the third test, the key point is that for Manston to be a long term solution to the UK's capacity problems, it must be a sustainable, commercial proposition, capable of attracting airlines, passengers and shippers to use it. Azimuth's analysis ignores the history at Manston and does not provide any evidence to conclude that any future projected use of Manston Airport would require an increase in the capability of the Airport.

2.93 Indeed, whilst we have provided in this report our assessment of the capability of Manston Airport (Section 4), we note that nowhere has RSP done the same exercise. The failure of RSP to provide their own evidence of the capability of Manston Airport and the amount by which the proposals would increase that capability by is a major omission in RSP's consultation material. Rather, the only information that they present is a forecast of future freight movement demand, which has no credibility as explained in this report. This failure means that, in our opinion, the requirements in Section 23 of the Planning Act 2008 (as amended) have not been satisfied. In essence, we would have expected RSP to be able to show:

- the capability of Manston Airport of providing air cargo transport services;
- the amount by which RSP is proposing to increase that capability by and thus the "new" capability; and
- a credible forecast for why that 'new' capability is required.

None of this information is provided by RSP.

3 FREIGHT FORECASTS

Introduction

3.1 In this section, we present our view of demand in the UK air cargo market at present and consider how this market will develop in the future, setting out a number of potential cargo forecast scenarios for Manston Airport specifically over the period to 2039/40 (RSP's assessment year). This is a more robust approach than the qualitative approach adopted by Azimuth and builds on the approach adopted in our work for TfL and the FTA, by updating this work and assessing Manston's potential share of the market. This is the correct way to use our earlier work to inform an assessment of the potential at Manston.

3.2 The analysis presented here builds on our previous work but supersedes it and extends it in terms of:

- considering changes in the market and circumstances since the time of the previous research, notably the decision to move forward with a third runway at Heathrow, the increasing long haul passenger operations at regional airports and the continued commitment from Stansted Airport to the freight market through its future plans;
- examining the demand and capacity position not only in London but across the UK as a whole;
- analysing potential cargo capacity growth in more detail using Airports Commission traffic forecast data, not available at the time of our previous work;
- more explicitly considering the nature of air cargo that might be affected by any form of constraint within the London airport system or in the UK;
- providing some indication of how cargo demand is spread geographically in the UK to aid consideration of how it might be served in the future.

3.3 Our previous work did not consider in detail the role that might be played by Manston Airport or indeed other UK regional airports. It considered, in broad terms, the effect of a constrained London system capacity on freight demand and how this demand might be met within the confines of the capacity position at the time, noting particularly the role that might be played by the major continental hub airports, given the price advantages that they might offer through the availability of bellyhold capacity.

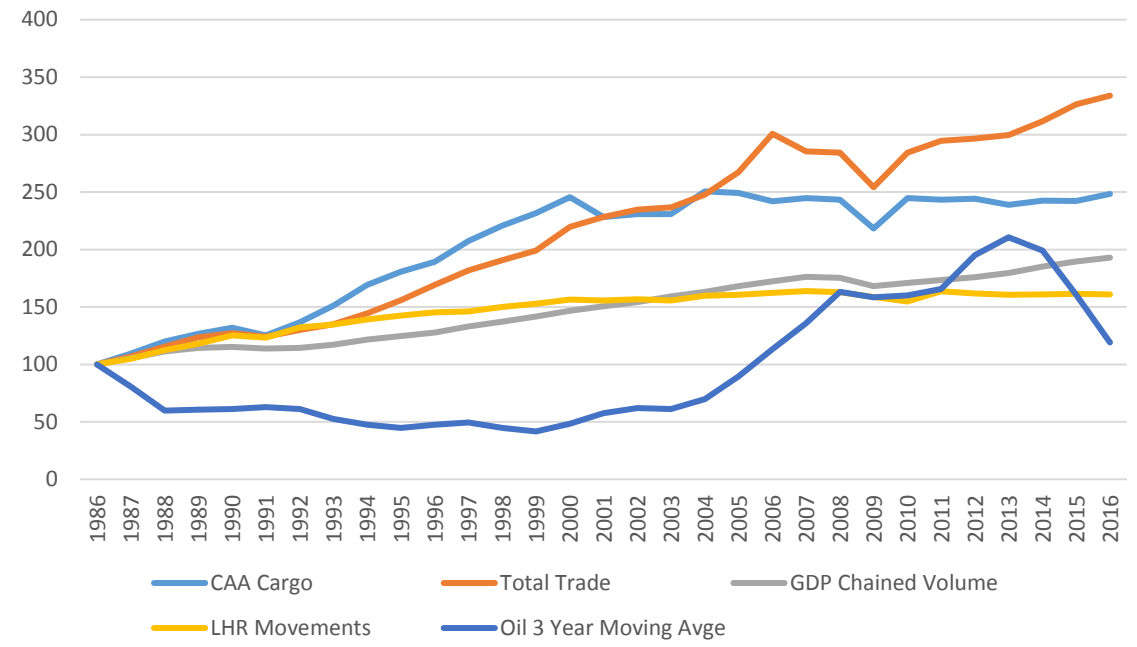
3.4 In this report, we now consider specifically the potential role for Manston by way of a scenario analysis that draws on the analysis of the overall market and the past performance of the Airport. The use of scenarios rather than a single forecast is intended to show a range of possible outcomes for Manston, allied to an assessment of the likelihood that the scenarios might be achieved in a manner which properly reflects the uncertainties identified in air freight forecasts.

Historic Performance of the UK Air Cargo Market

3.5 Our assessment of the quantum of air freight demand in the UK is fundamentally driven by analysis of the past performance of UK air cargo against a range of key economic and market indicators, notably UK trade in goods, GDP, oil price and ATM numbers at Heathrow. **Figure 3.1** shows the indices for these various metrics over time (with each indicator set to 100 in 1986).

3.6 This analysis reveals a number of interesting patterns. Until around 2000, UK air cargo was strongly related to UK trade in goods, with what would appear to be some stimulus provided by falling oil prices that would have made the cost of air cargo relatively more competitive with other cheaper modes. However, in around 2000, the market changed and this relationship appears to break. UK trade in goods continues to grow but growth in air cargo essentially stalls.

Figure 3.1: UK Air Cargo and Economic Metrics (Index: 1986 = 100)



Source: CAA Statistics, ONS

3.7 It is, therefore, helpful to look at why this might have happened. There are two main factors that need to be considered. The first is the oil price, which, through much of the late 80s and 90s, had been on a relatively benign downward trend. However, in around 2000, it started to rise again, accelerating through the mid-2000s and peaking in around 2013. The price of fuel is a key factor in the attractiveness of air cargo compared to other modes, particularly for pure freighter services, where the full direct operating costs of the flight must be borne by the cargo being shipped (as opposed to bellyhold freight where direct operating costs are largely covered by passenger operations, with cargo revenue essentially treated as a marginal benefit). This change in oil prices slowed demand for air freight globally and, in particular, drove users towards bellyhold rather than freighter options[39]. We set out the effect in the UK further below.

[39] Department for Transport, *UK Aviation Forecasts 2013*, paragraph 3.48, Steer Davies Gleave for Department for Transport, *Air Freight: Economic Drivers and Environmental Impacts*, 2010, Executive Summary.

3.8 The second point to note is the relationship to Heathrow ATMs. Up until around 2000, Heathrow was still growing its annual ATMs, which ultimately was driving the availability of bellyhold capacity in the UK air freight market. However, with runway capacity constraints biting, from around 2000, the rates of growth in ATMs at Heathrow initially slowed dramatically then stalled as it reached its consented limit.

3.9 When these two factors are combined, it is possible to understand what has happened in the UK air cargo market. It also has two key implications for considering the growth of the air cargo market moving forward and specifically in relation to Manston:

- ✈ it is reasonable to assume that the fundamental link between economic or trade growth and air cargo still exists and that, ultimately, with economic growth and increasing trade, demand for air cargo will grow. However, with oil prices remaining higher than seen in the past, it is likely that the growth path will be lower. We have assumed that it is likely to be more in line with the growth in real GDP over time;
- ✈ the capacity position at Heathrow is clearly a constraining issue for UK air freight demand but it is noticeable that this constraint has not resulted in significant gains being made by other airports in the London system. This suggests that, while there is probably a degree of constrained demand in the London system at present, this is affecting bellyhold air cargo and that is not translating through into substantially greater freighter growth at, for instance, Stansted or East Midlands. We examine this issue further below.

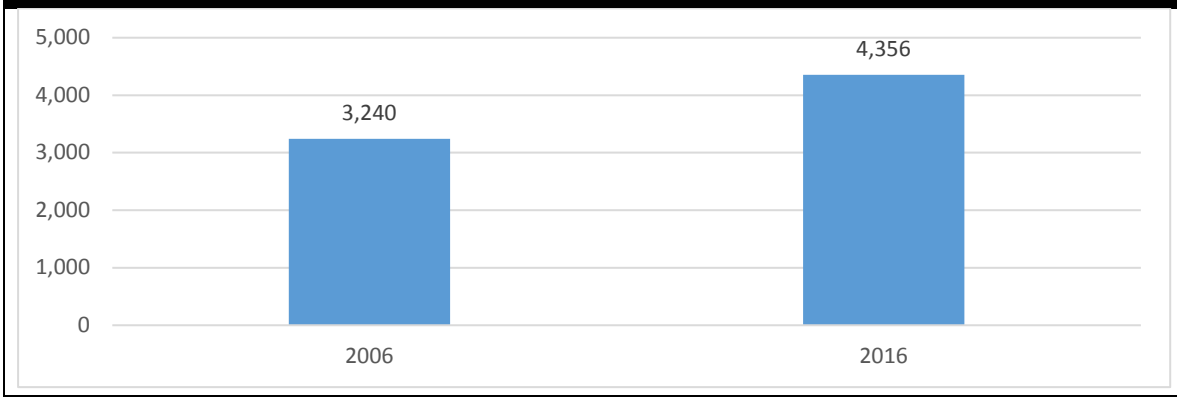
3.10 This is particularly important as it suggests that the market for bellyhold freight is different from that for pure freighter traffic. This is a function of price and urgency in relation to general air freight, as opposed to either express freight or niche products. For express freight or niche products, shippers are prepared to pay a premium which allows the use of freighters because either speed is of the essence or the destination is hard to reach or the cargo is difficult to handle in some way. For general air freight, these drivers are not the same. Accepting that all air cargo is to some degree sensitive to speed of delivery, it seems that what is likely to be being pushed from bellyhold capacity, in a capacity constrained environment, is less time sensitive and shippers' willingness to pay is lower. Hence, in the current market with relatively high fuel prices, freighter options are not an adequate substitute.

3.11 This is very important from the perspective of considering the potential role of Manston. It suggests that it will be very difficult for the Airport to compete effectively for any traffic displaced as a result of constraints in the London market as it cannot and will not be able to provide the price, frequency and breadth of destination advantages that bellyhold freight can offer. The airports competing for cargo traffic being pushed away from Heathrow, now and in the future, are the large UK regional airports with growing long haul passenger networks and the near European global hub airports, which offer the closest substitutes to Heathrow and are within easy trucking time of, certainly, the London and South East market. In any event, bellyhold capacity at Heathrow is expected to increase substantially once the third runway becomes operational so driving down the competitive prices in the market, making it even more difficult for freighters to compete. Even if there are delays to the provision of additional runway capacity at Heathrow, we would not expect a change to the pattern of behaviours observed since 2000, namely that cargo displaced from Heathrow will be trucked to other airports with available competitively prices bellyhold capacity.

3.12 Whilst the volume of air cargo flown to/from the UK's airports over the past 15 years has remained relatively static, there have been considerable changes in the way that demand has been serviced, which again reflect the drivers and constraints on demand described above. Essentially, the market has been consolidating to a small number of airports and bellyhold cargo has become more dominant.

3.13 The Herfindahl-Hirschman index (HHI) is a commonly accepted measure of market concentration[40]. **Figure 3.2** shows the HHI for the UK air cargo market in 2006 and in 2016. The change in the concentration level in the market over the last 10 years has been marked. The HHI for the UK air cargo market has increased by around 34%. The consolidation in the UK air cargo market in the last 10 years has resulted in an increase in the HHI of nearly 1,100. This continued concentration in the market can also be seen by examining the drivers of change in UK air cargo over the last decade. **Figure 3.3** sets out a bridge diagram between 2006 and 2016 showing the change in freight handled via bellyhold and pure freighter at major UK freight airports.

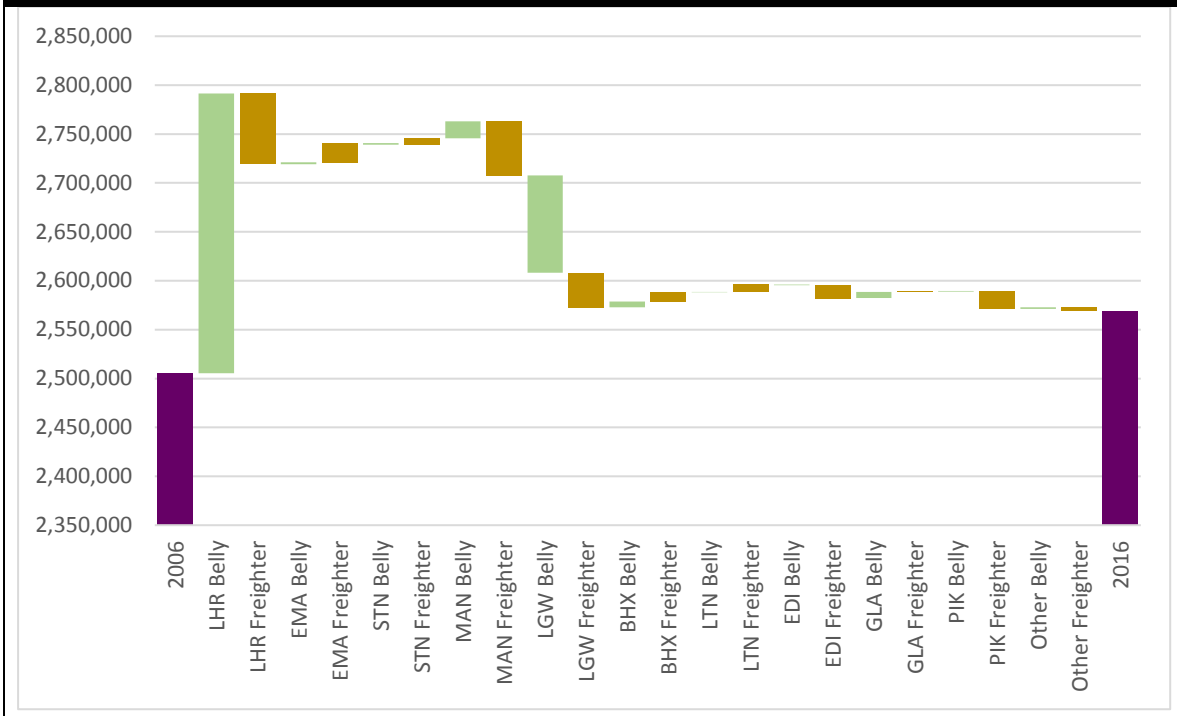
Figure 3.2: UK Air Cargo Market Herfindahl-Hirschman Index of Market Concentration



Source: York Aviation analysis of CAA Statistics

[40] It is calculated by squaring the market share of each firm competing in a market, and then summing the resulting numbers, and can range from close to zero to 10,000. The closer a market is to being a monopoly, the higher the market's concentration (and the lower its competition). If, for example, there were only one firm in an industry, that firm would have 100% market share, and the HHI would equal 10,000, indicating a monopoly. If there were thousands of firms competing, each would have nearly 0% market share, and the HHI would be close to zero, indicating nearly perfect competition.

Figure 3.3: Drivers of Change in the UK Air Cargo Market – 2006 to 2016



Source: York Aviation analysis of CAA Statistics

3.14 There are a number of key points to note:

- the market has continued to consolidate into Heathrow through increased bellyhold capacity due to the increasing focus on long haul destinations. These gains have been offset by significant erosion of freighter capacity;
- elsewhere in London, Gatwick has seen both bellyhold and freighter capacity significantly eroded as that airport has become more capacity constrained and it has focussed increasingly on short haul low fare passenger services, albeit this trend is starting to reverse as more long haul operations come on stream. Stansted and Luton have seen some growth in freighter tonnage but this does not come close to offsetting what has been lost from elsewhere with Stansted heavily focussed on the integrator and express services market;
- East Midlands, with major DHL and UPS bases, has been the only airport that has seen significant growth in pure freighter traffic, but again this has not offset losses in freighter traffic from elsewhere, suggesting that, for more general air cargo, bellyhold capacity is fundamentally more attractive, even potentially if this involves trucking to distant airports;
- this is reinforced by what has happened at Manchester, which has seen growth in its bellyhold market, relating to its growing long haul network, but with its freighter traffic falling away. The growth in bellyhold traffic at Birmingham is also probably reflective of its growing long haul passenger network;
- in general, there has been a noticeable switch towards the use of bellyhold capacity. Since 2006, pure freighter cargo's share of the UK market has dropped from 37% to 30%, while actual freighter tonnage has dropped by 17%;

- the performance of Prestwick (PIK) provides perhaps the most obvious direct comparator to Manston, with a similar sized freighter operation in 2006 to Manston at its peak. Freighter traffic at that airport has dropped by 64% since 2006. In the meantime, Prestwick was nationalised to maintain operations as it had been heavily loss making for a considerable period of time.

3.15 The implications for Manston are clear. Bellyhold is the preferred option for a significant proportion of the air cargo market and this preference has intensified in recent years. The only airports experiencing freighter growth are those with significant integrator activity. This suggests that Manston's likely niche freighter offer will struggle to penetrate the market. There has been consolidation into larger airports, which again suggests that Manston will struggle to establish market presence. Finally, the experience of Prestwick, its nearest comparator in many ways, is not encouraging for Manston. Prestwick's well established pure freighter operation has been heavily eroded and the airport has had to be nationalised to maintain its operation due to inherent lack of commercial viability.

The Geographic Distribution of UK Air Cargo Demand

3.16 At the outset, it should be made clear that there is very limited data on where air cargo originates from or is destined for within the UK. However, some indications are available from other research, notably recent work by MDS Transmodal, in conjunction with York Aviation, for TfN in relation to its International Connectivity Strategy[41]. MDS analysed a series of datasets on air freight and road haulage and estimated that around 14% of UK air freight demand originates in or is destined for the North of England. We also know that air cargo is often trucked a considerable distance before being loaded on to aircraft.

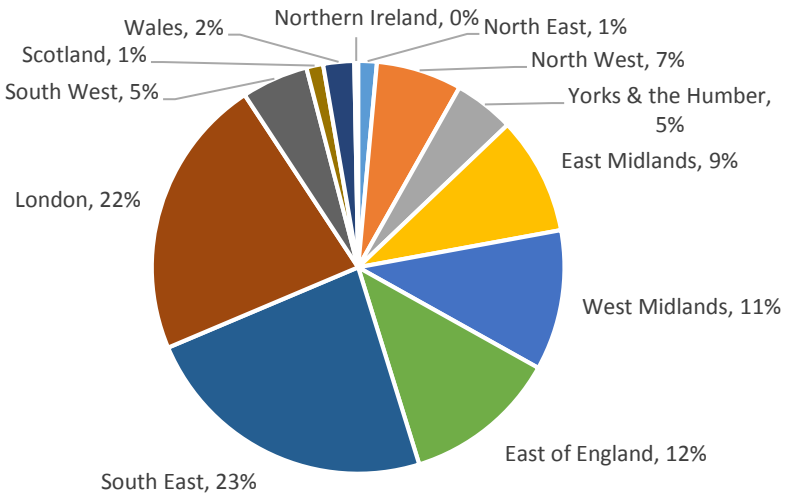
3.17 We have, therefore, developed a simple gravity model that distributes air cargo regionally across the UK based on:

- for exports, the distribution of manufacturing employment in the UK. This is intended to reflect that air cargo exports are likely to be primarily manufactured goods;
- for imports, the distribution of UK population. This is intended to reflect that imports are, in many cases, destined either for consumers directly or retailers. This is clearly a simplification but we believe a sensible one given the data available;
- a relatively low distance decay factor of 1.5, reflecting the relative insensitivity of air freight to trucking times. This has, in part, been calibrated based on observed distance decay factors using data available in the TfN work. This is generic and we have no reason to believe that the balance between trucking costs and the use of air freight would vary across the UK.

3.18 The resulting distribution of air cargo demand is shown in **Figure 3.4**. While there is a heavy concentration of demand in the Greater South East, there is significant demand located across the country. The issue for Manston is that it is poorly placed geographically to serve this demand, even for London and the South East, particularly once the location of distribution centres for import freight, which cluster around the M1 and M6, is taken into account.

[41] Transport for the North, *International Connectivity Evidence Report*, York Aviation/MDS Transmodal July 2016, Appendix C.

Figure 3.4: Modelled Regional Distribution of UK Air Cargo Demand



Source: York Aviation analysis of CAA Statistics, ONS and Google Maps Data

3.19 In the event of air cargo capacity constraints in London, this demand is likely to look initially for cargo capacity closer to home at the major regional airports, particularly those that are developing broader long haul passenger networks. Even if freighter aircraft are required for this demand, there are likely to be substantially better options than Manston. Not least the national freight hub at East Midlands, with its central location in the UK and excellent multimodal connectivity to a wide geographic area.

Future Demand for Air Cargo in the UK

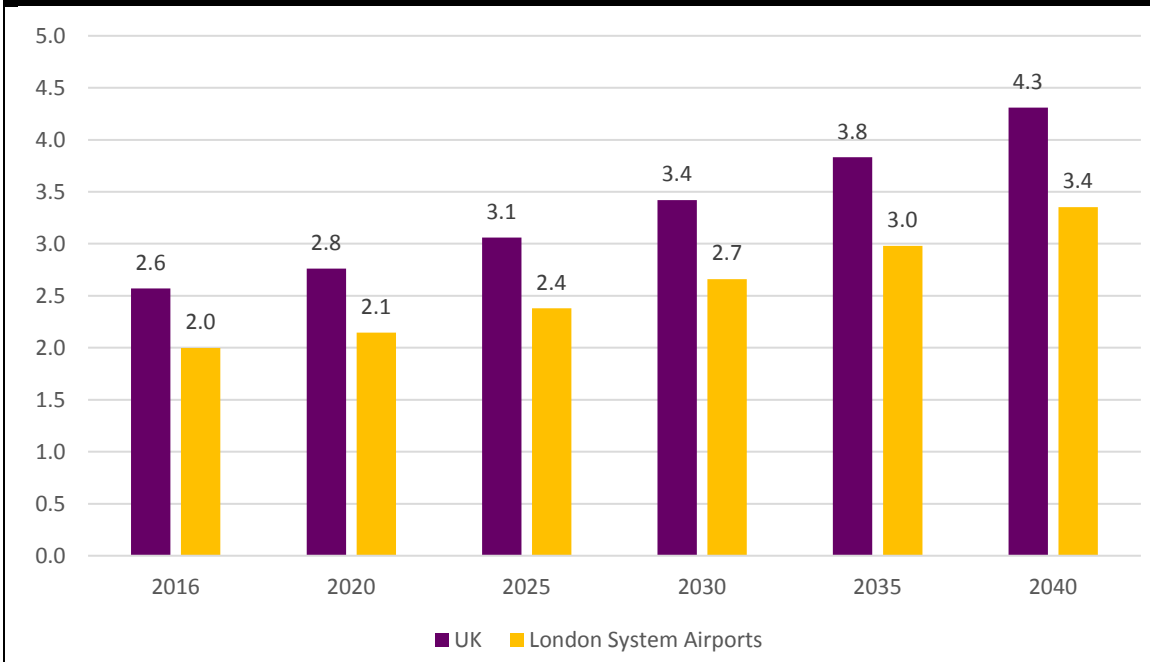
3.20 The initial step in producing our cargo forecasts for Manston is to consider the likely size of the London system and UK air cargo markets in the period to 2040. This is an unconstrained forecast and does not, at this stage, consider whether capacity will be available to deliver this demand.

3.21 In line with our analysis above and consistent with our 2015 report for the FTA, we adopted a relatively simple approach, growing existing air cargo demand forward in line with GDP projections for the UK economy. The GDP forecasts used are the latest forecasts produced by the Office for Budgetary Responsibility at the time of writing. These are taken from:

- Economic & Fiscal Outlook (March 2017), which provides short to medium term forecasts;
- Fiscal Sustainability Report (January 2017), which provides long term forecasts for the UK economy.

3.22 These forecasts suggest average real growth in UK GDP of around 2.2% over the period to 2040. The resulting projections of air cargo demand at the London system airports and across the UK are set out in **Figure 3.5**. This analysis sees total UK air cargo demand reach around 4.3 million tonnes by 2040 and demand in the London system[42] of around 3.4 million tonnes by 2040. At this stage, we have assumed that the split of tonnage between the London airports and the rest of the UK remains as currently, driven by the large concentration of freight forwarders in the vicinity of Heathrow in the light of its major air freight hub role. This may well overstate the scale of demand in London given increasing long haul networks at regional airports.

Figure 3.5: Air Cargo Tonnage Forecasts (million tonnes)



Source: York Aviation

Air Cargo Capacity at UK Airports

3.23 The second stage in our assessment is to consider the extent to which the demand identified above could be met by UK airports and the London system airports. This is, again, in line with our approach taken in our work for the FTA in 2015. However, the analysis undertaken for this research is more detailed, uses more up to date and detailed information on future passenger ATM forecasts and, specifically, considers Stansted's more recent statements in relation to continuing growth in the cargo market to around 400,000 tonnes[43] and removal of the existing 35 mppa passenger planning cap and extension to 43 mppa[44]. Had we been specifically asked, we would have advised Azimuth of the need to carry out such an assessment so as to understand the implications of our earlier work for TfL and the FTA.

[42] Based on the London airports current share of the national market.
[43] Sustainable Development Plan – Stansted Airport (March 2015).
[44] Press Release – Stansted Airport (17 October 2017).

3.24 In order to estimate the likely bellyhold capacity that will be available through the period to 2040, we have produced projections of passenger ATM demand for each of the top 10 freight airports in the UK in 2016, along with a residual forecast for Other UK airports. For Heathrow, Gatwick and Manchester, these forecasts have been split into domestic, EU and non-EU ATMs. The future years for each airport have been based on the ATM forecasts produced by the Airports Commission for which detailed data files have been released[45]. Years prior to the opening of Runway 3 at Heathrow, uses the Base ATMs scenario, while post opening uses the HAL ATMs scenario, which reflects the third runway.

3.25 The existing freight loads per passenger ATM for each airport have been estimated using CAA Statistics. These average loads have then increased by 1.0% per annum tapering to 0.5% per annum for Heathrow and 1.6% per annum tapering to 1.0% per annum for other airports. This reflects trends in average loads identified from CAA Statistics over the last five years.

3.26 In relation to pure freighter capacity, we have, in the first instance, considered what might be termed a business as usual view of capacity moving forward. This considers the likely number of freighter ATMs that might be flown rather than considering the actual movement capacity of individual airports, which may be greater. This is, ultimately, a more stringent view of capacity moving forward and is more likely to lead to a conclusion that there is a lack of freighter capacity to meet any demand than simply considering what any given airport could actually handle, especially given that Stansted is some distance from its freighter ATM cap and East Midlands is not close to any form of ATM limit. To enable this analysis, we have grown freighter ATMs at each airport by 0.4% per annum, in line with the expected growth rate from the DfT's Aviation Forecasts 2013[46]. However, we note that the most recent DfT forecasts[47] suggest that no growth in freighter movements to or from the UK is now expected. Hence, our use of the previous DfT growth rate may overstate the market for pure freighter operations but we have retained this approach so as not to understate the extent of any potential overspill market for Manston.

3.27 Once again, average loads per freighter ATM have been estimated for each airport from CAA Statistics. As with bellyhold cargo per ATM, there has been an upward trend in average loads on freighters in recent years of around 1.1% per annum (York Aviation analysis of CAA Statistics). This is assumed to continue over the period.

3.28 In addition to this business as usual view, we have also taken a view as to the likely total tonnage capacity over time of the two largest freighter airports in the UK, East Midlands and Stansted, based on those airports' development plans:

- the Stansted Sustainable Development Plan talks about developing cargo capacity to handle around 400,000 tonnes of cargo. We have assumed that current capacity is around 300,000 tonnes and that this grows steadily over time to 400,000 tonnes by 2040;

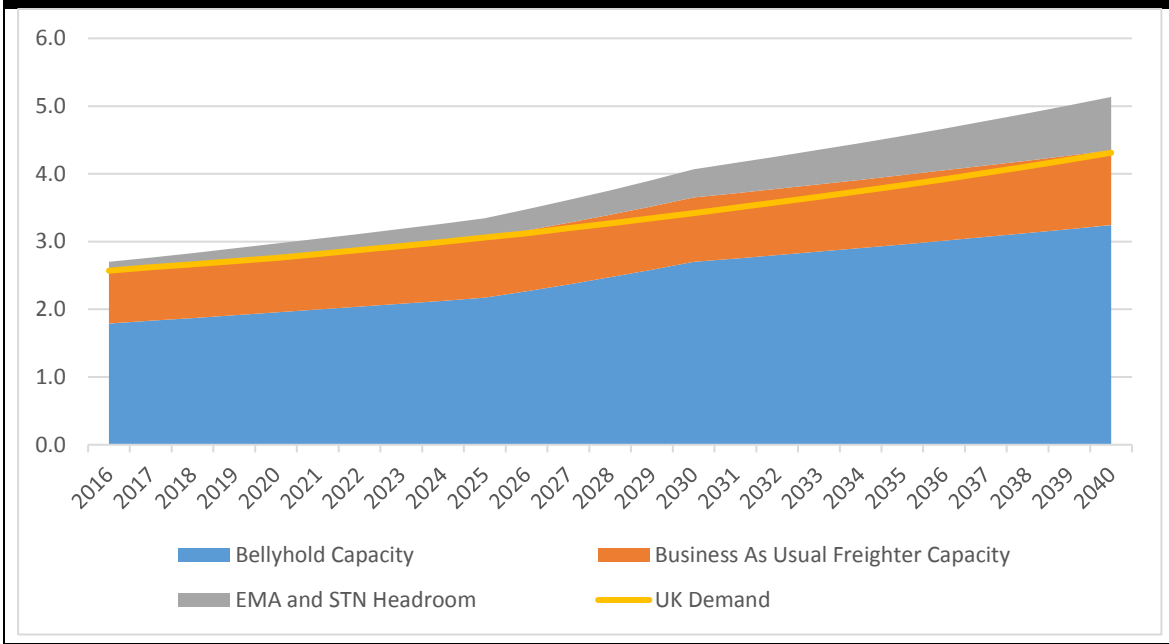
[45] https://www.gov.uk/government/publications/airports-commission-documents-and-data.
[46] The exception to this is the small number of freighter movements at Heathrow, which are not allowed to grow until the Third Runway is opened.
[47] Department for Transport, *UK Aviation Forecasts*, October 2017, paragraph 2.56.

- the East Midlands Sustainable Development Plan describes its runway capacity as able to support a 10 million passenger and 1.2 million tonne cargo airport[48]. We have assumed that this capacity could be developed over time to 2040 from a base capacity of 400,000 tonnes.

3.29 This assessment of the cargo capacity headroom at Stansted and East Midlands helps provide a view of how any excess demand identified could be handled by freighters in the UK if this were the response of the market to any shortage of bellyhold capacity, although it is important to note that we do not believe this would be the primary market response given the lower cost of bellyhold alternatives. It should, however, be recognised that the speed of build-up of this headroom is to a significant degree a matter of conjecture. There will be infrastructure developments required to enable capacity but, if demand were there, it is likely that these could be brought forward as they would be incremental expansion of existing facilities which could be phased in to meet demand more easily and cheaply than the substantial cost involved in re-opening Manston.

3.30 The resulting estimates for air cargo capacity for the UK as a whole and the London system over time are shown in **Figures 3.6** and **3.7**.

Figure 3.6: UK Air Cargo Capacity

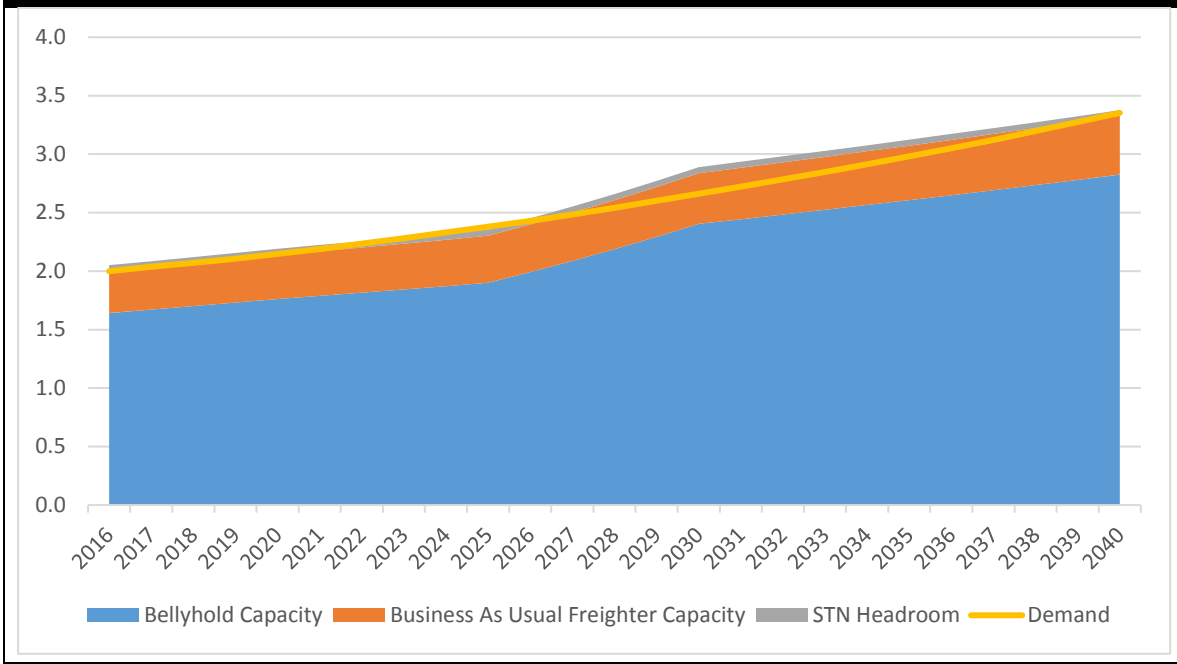


Source: York Aviation

[48] East Midlands Airport Sustainable Development Plan, 2015. Page 75.

3.31 At a UK level, our analysis suggests that there are unlikely to be capacity issues in the cargo market prior to 2040 even on a Business As Usual Freighter Capacity basis. Once the third runway is opened at Heathrow, there is in fact likely to be excess capacity in the market, which is likely to soften demand for supporting freighter capacity dedicated to general air freight (accepting that integrator/express freight is a separate market to a significant degree). It should, however, be noted that capacity on a Business As Usual Freighter Capacity basis is likely to become constrained shortly after 2040 but this can easily be addressed by exploiting the inherent airport capacity headroom still available at Stansted and East Midlands if it is appropriate to serve the market in that way. Overall, we can conclude from this analysis that there will be no shortage of freighter capacity in the UK before 2040 and overspill from other airports would not provide a rationale for re-opening Manston.

Figure 3.7: London System Air Cargo Capacity



Source: York Aviation

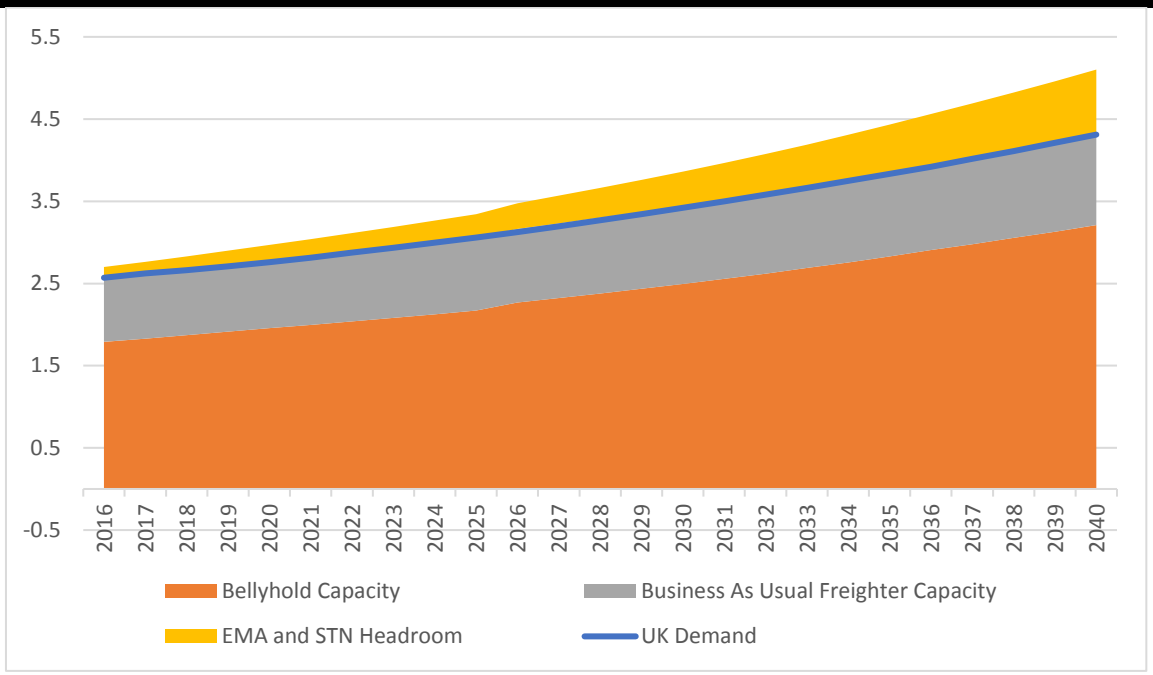
3.32 The situation at the London airports is slightly different if we assume that London maintains its market share of the overall market and there is no natural 'clawback' to the regions. With Heathrow's bellyhold growth relatively constrained, there are potentially some limited capacity constraints in the medium term before the third runway opens but, if there was demand, we would expect Stansted to develop additional freighter capacity sooner. Any constraint would be fleeting. Once the third runway is opened, excess capacity develops rapidly. Potential capacity issues do not then start to re-emerge until around 2040, when it appears that Heathrow is likely to become runway capacity constrained once more.

3.33 The implications for Manston Airport are that, even in pure volume terms, push factors from other airports in London are unlikely to provide opportunities for growth before 2040, and this is before any consideration is given to Manston's suitability to serve the markets in question. In the short to medium term, there is likely to be some limited constraint in the London system before the third runway at Heathrow is opened. However, this is largely a function of bellyhold constraints at Heathrow and it is highly questionable as to whether the type of cargo that is likely to be forced out will be suitable for Manston or indeed would switch from bellyhold to pure freighter operations at all.

3.34 Logic would suggest that what will be pushed out is relatively low yielding, general air cargo that is more sensitive to price and less sensitive to time. Essentially, this is akin to business passengers forcing leisure passengers out of Heathrow. This type of air cargo is not likely to see pure freighters as an effective alternate, given the higher prices involved. It is more likely to seek out alternative bellyhold capacity at UK regional airports (which might actually be closer to its point of origin given our analysis above) or travel via truck to the continental European airports.

3.35 Our analysis here has been predicated on the construction of a third runway at Heathrow, as this is clear stated Government policy. In the event that the third runway is delayed or does not happen at all, it is expected that there would be other adjustments in the UK air transport market, including the provision of more long haul services from other airports offering bellyhold capacity. In this case, whilst there could theoretically be a level of capacity shortfall at the London airports assuming that they maintain a constant market share, we would expect demand and capacity to keep pace at the UK level as growth at regional airports is accelerated. This is illustrated in **Figure 3.8**. We consider that analysis at the UK level remains the most relevant and this does not suggest that there will be a capacity shortfall before 2040.

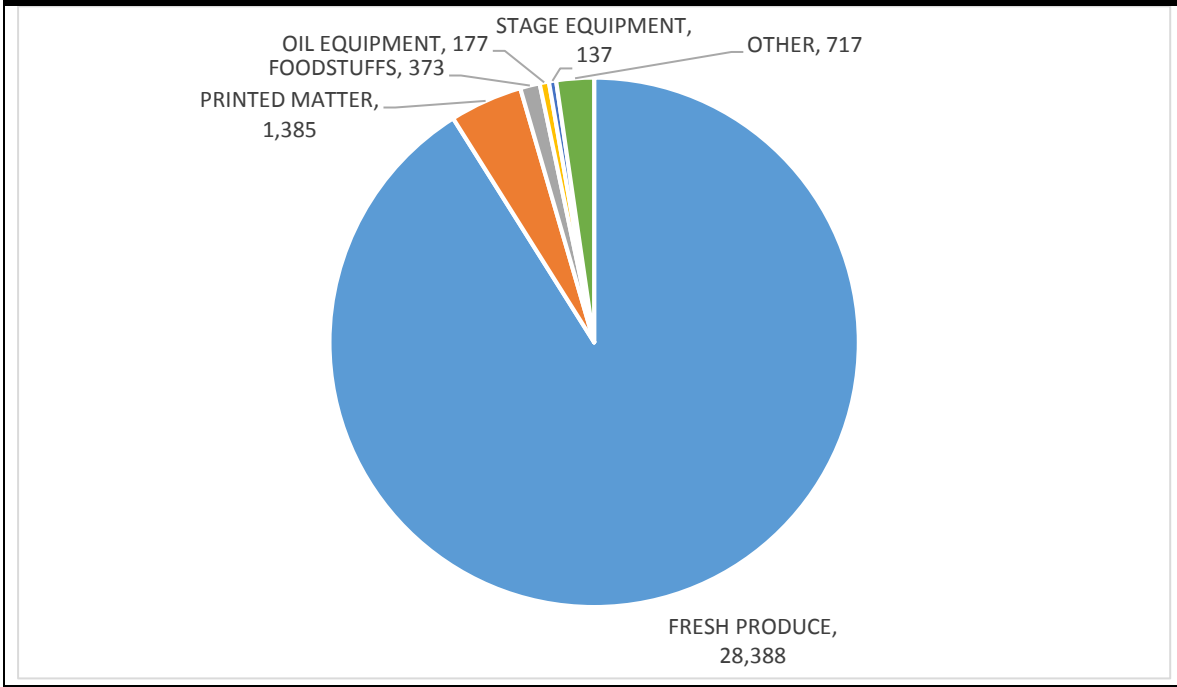
Figure 3.8: UK Air Cargo Capacity with No Third Runway at Heathrow



Source: York Aviation

3.36 An examination of the nature of cargo traffic that used Manston in the past also supports this assessment. Data provided to York Aviation by the current owner and set out in **Figure 3.9** shows that the Airport was essentially an import point for fresh produce (91% of total tonnage in 2012). This is a time critical market with associated high yields (hence allowing freighter operations) but also one that is dominated by Heathrow through its perishables hub and its bellyhold capacity to Africa. It is unlikely that Heathrow would shed significant amounts of this traffic with cargo constraints and certainly it would likely gain market share once the third runway is opened. Heathrow remains better located for the distribution of this produce to the core London market given its location inside the M25.

Figure 3.9: Air Cargo at Manston by Commodity Type in 2012 (tonnes)



Source: York Aviation analysis of Stone Hill Park data

3.37 It should also be remembered that this assessment assumes that Stansted does not accelerate its cargo development plans to meet any excess demand that is suitable for freighter activity. Indeed, we understand that the perishables activity that used to use Manston has shifted back to Stansted and that the operation at Manston was supported by low charges to the airline to compensate for the less attractive location.

Specific Air Cargo Market Forecasts for Manston Airport

3.38 Building on the analysis above, we have considered three scenarios for future cargo growth at Manston Airport. In each case, we have considered the likelihood of the scenario coming forward. It should be noted that, in the air transport market, demand is the driver of airport usage not capacity. Provision of capacity at Manston is no guarantee that airlines, shippers and passengers will use it unless there is demand and Manston represents the most efficient way for that demand to be met.

Scenario 1: Relief for Capacity Constraints in London (Highly Optimistic and very unlikely)

3.39 In this scenario, we have assumed that Manston is able to capture the excess demand that is seen in the London system in the medium term when only Freighter Business As Usual capacity is considered. It is then able to maintain its market share into the long term, even once the excess demand has disappeared with the appearance of the third runway.

3.40 We ultimately regard this scenario as highly optimistic and very unlikely to occur. We do not believe that the nature of excess demand is likely to suit freighter operations. This fits with the current market, where Heathrow is almost certainly constrained in terms of its ability to offer bellyhold capacity and yet there remains significant freighter capacity elsewhere and there has been no upturn in the demand for air freighter operations. We also feel it is highly unlikely that Manston could maintain market share in the context of the opening of a third runway at Heathrow. Even in the absence of a third runway, pure freighter capacity at Manston is not likely to be attractive for most of the freight displaced which would still choose cheaper bellyhold capacity available elsewhere in the UK and Europe.

3.41 We consider this scenario to be an upper bound to the envelope for Manston Airport. Even in this scenario, forecast tonnage only reaches around 105,000 tonnes by 2040 or around 4,470 cargo aircraft movements. The estimate of aircraft movements assumes loads similar to that of Manchester Airport's current freighter operations, growing by around 1.1% per annum. This appears to be a relatively low loading compared to Manston's previous operations[49] (hence providing a higher ATM number for any given tonnage and thus likely to overstate the number of movements).

3.42 We note that Azimuth have assumed an even lower tonnage per cargo air transport movement of under 20 tonnes, so leading to an overstatement of the number of aircraft movement at any predicted tonnage, but this does not appear realistic based on Manston's past operations nor tonnages seen elsewhere.

[49] We estimate that the number of tonnes per cargo ATM previously at Manston was 35-40 tonnes, taking into account empty aircraft backhauls.

Scenario 2: Manston Achieves Its Previous Market Share (More Likely but still with optimistic elements)

3.43 This scenario assumes that Manston essentially re-enters the market as a niche player in the key markets that it served previously, mainly fresh produce. This reflects the view that, in reality, very little has changed in the market compared to when Manston was last operational, not least that Heathrow was already suffering from runway capacity issues prior to 2014. There are no major changes that we would consider sufficient to alter Manston's attractiveness fundamentally compared to 2014. We note Azimuth's contention that Brexit will make trucking to Europe more difficult but would point out that the freight involved is most likely to be general air cargo heading for bellyhold capacity that is relatively less sensitive to time and that additional regulatory burdens are likely to be found at airports as well post Brexit. Hence, the impact on relative transit times may actually be comparatively limited. Furthermore, it is far from clear to us, from the evidence presented by Azimuth, that there were concerns regarding the quality of service offered at Manston historically sufficient to have constrained its share of the market in the past. Hence, it is not unreasonable to start from a position that its past market share was representative of what it might attain in future and that the provision of more infrastructure would not give rise to a change in the market or a higher level of underlying demand.

3.44 We regard this as the most likely of our three scenarios but it also has optimistic elements. Notably, it is highly optimistic to assume that Manston will be able to maintain market share in the face of expanded capacity at Heathrow. We would also note that the Airport was not viable at similar demand levels previously and would appear to have only been able to reach its recorded market share by 'buying' traffic through very low airport charges based on our discussions with SHP and its staff that worked at the Airport when operational. In this scenario, the Airport reaches around 47,000 tonnes by 2040 and around 2,000 cargo aircraft movements.

Scenario 3: Relief for Capacity Constraints in London (More Realistic but still with some optimism)

3.45 Scenario 3 is a variant of Scenario 1 that takes a more realistic view on how the limited excess demand in London in the medium term (allowing for pure freighter Business as Usual activities only) might be served. We would view this scenario as substantially more realistic than Scenario 1 but still with highly optimistic elements.

3.46 In this scenario, the excess demand is split as follows:

- 50% is assumed to be to diverted via truck to make use of bellyhold capacity at UK regional airports or at the continental hubs in Europe. This reflects the view that, in the majority of cases, this freight is likely to be relatively price sensitive, less time critical general air cargo for which pure freighters are not likely to be an appropriate substitute;
- the remainder is assumed to be split evenly between East Midlands, Stansted and Manston airports. This is, again, probably an optimistic assumption given the economies of scale and better proximity to markets overall offered by the other two airports compared with Manston.

3.47 Once the excess demand in London has peaked (just before the opening of a third runway), Manston is assumed to be able to maintain its market share into the future. This is again an optimistic assumption given what will be an excess of capacity in the market for much of the following period through to 2040. This scenario involves the lowest cargo throughput of the three options. By 2040, the Airport is handling only 17,500 tonnes of freight and handling around 750 aircraft movements each year.

Summary of Cargo Forecast Scenarios

3.48 The cargo tonnage and freighter ATMs associated with each of the three scenarios are set out below in **Table 3.1**.

Table 3.1: Summary of Manston Cargo Forecast Scenarios						
	Scenario 1: Relief for London (Highly Optimistic)		Scenario 2: Previous Market Share		Scenario 3: Relief for London (More Realistic)	
	Tonnes	ATMs	Tonnes	ATMs	Tonnes	ATMs
2020	7,608	402	30,359	1,605	1,268	67
2021	18,407	963	30,966	1,619	3,068	160
2022	31,758	1,643	31,616	1,635	5,293	274
2023	45,571	2,332	32,280	1,652	7,595	389
2024	59,860	3,029	32,958	1,668	9,977	505
2025	74,638	3,736	33,650	1,684	12,440	623
2026	76,205	3,773	34,357	1,701	12,701	629
2027	77,958	3,818	35,147	1,721	12,993	636
2028	79,751	3,863	35,956	1,742	13,292	644
2029	81,585	3,909	36,782	1,762	13,598	651
2030	83,462	3,955	37,628	1,783	13,910	659
2031	85,381	4,002	38,494	1,804	14,230	667
2032	87,345	4,050	39,379	1,826	14,557	675
2033	89,354	4,098	40,285	1,848	14,892	683
2034	91,409	4,147	41,212	1,869	15,235	691
2035	93,511	4,196	42,159	1,892	15,585	699
2036	95,662	4,246	43,129	1,914	15,944	708
2037	97,958	4,300	44,164	1,939	16,326	717
2038	100,309	4,355	45,224	1,964	16,718	726
2039	102,716	4,411	46,310	1,989	17,119	735
2040	105,182	4,468	47,421	2,014	17,530	745
Source: York Aviation						

3.49 Our updated analysis of the market and specific consideration of three potential scenarios for freighter growth at Manston Airport demonstrate that, even on the most optimistic assumptions, it is not likely to generate above 4,470 annual movements by air cargo aircraft. On a more realistic basis, it might attain similar levels of tonnage as seen in 2003 by 2040 but with a higher number of aircraft movements due to the assumption we have made that freighter loads would be similar to those seen elsewhere in the UK rather than the higher loads actually observed at Manston in the past. On past performance, the number of movements at Manston might well be lower. **None** of our scenarios suggest that there is a need to increase the capability of Manston Airport given our assessment in Section 4.

4 CAPABILITY OF THE SITE

4.1 Our start point for this assessment is the capability of the Airport site based on its historic and consented planning status and on the basis that the existing infrastructure could all be 'made good'. This assessment is based on the existing Lawful Use in planning terms. The existing Airport's permitted use is for civil aerodrome use, and there are no conditions limiting either passenger numbers or ATMs.

Capacity of Existing Facilities

4.2 In the first instance, it is important to highlight that Manston Airport did not operate under any form of restriction on the number of aircraft movements. The planning agreement between TDC and Manston Airport, which governed the permitted activity of the Airport, was entered into in 2000. In respect of night-time flying it sets out the limitations on such operations until a "Night-time Flying Noise Policy" is in place. Clause 1.1 of the Second Schedule states:

"The Owner agrees not to cause suffer or permit any Regular Night Flying Operations at any time (subject to Paragraph 1.4 below) before a Night-time Flying Noise Policy shall have been prepared and a copy lodged with the Council."

Further, it defines:

"Regular Night Flying Operation means Flight movements which are scheduled or programmed and which occur frequently or regularly to the same or similar patterns for the same operator during Night-time"

4.3 It is understood that the Night-time was defined as 23.00-07.00, though Manston Airport was also seeking a Night Quota Period which would have run from 23.30-06.00. In practice, there were a number of night movements which were deemed to be ad-hoc and often driven by technical delays but that were permitted to operate in any event.

4.4 We have assessed the capability of the existing infrastructure at Manston Airport assuming that the range of existing facilities, as at the time of its closure, are made good. There are three principal elements – runway, passenger and freight:

- **Runway:** for the handling of commercial passenger and freight aircraft, the runway would operate without a parallel taxiway. The current marked parallel taxiway is too close to the runway centreline to allow such aircraft to taxi independently of a runway movement. Landing and departing flights would then need to back track along the runway to and from the entry/exit taxiways. The achievable maximum runway rate with this operation might be around 20 to 24 flights per hour depending on the mix of aircraft types. This runway movement rate, even at 50% utilisation of available slots, would be capable of accommodating around 64,000 aircraft movements a year. However, we recognise that this is in excess of the capability of the passenger and freight handling facilities as existing.

- **Passenger:** the passenger apron has been designed to accommodate 4 E-Jet FK100 passenger aircraft. These aircraft types are now rare and have a wingspan that is much less, at 28 metres, than the typical low fares airline Code C type aircraft that Ryanair, easyJet and Wizzair, for example, use. These airlines typically use aircraft such as the B737-800 and A320, with wingspans of 36 metres. On this basis, the passenger apron would be able to accommodate up to 3 of these larger Code C aircraft simultaneously and could, in the alternative, be used for handling cargo flights. The terminal itself is quite compact and would have a maximum of 6 check-in desks and very small baggage make up area, and a departure lounge that could depart a maximum of 2 flights within the same 30 to 40-minute period, with an hourly capacity in total of around 250 passengers. There are more than 1,000 car parking spaces. We estimate that the passenger terminal at its current size could support around 0.7 to 0.9 mppa based on there being up to two based Code C aircraft with a reasonable number of other visiting flights across a typical day.
- **Freight:** the aircraft parking area close to the freight sheds can park up to 2 or 3 small to medium sized cargo aircraft or one large aircraft. There are two freight sheds that were originally organised to be used one for imported freight and one for export. Adjacent to these is an 'equine' handling facility for processing livestock. In practice Manston, when operational, normally handled one large freight aircraft at a time due to size and juxtaposition of the freight sheds and apron to each other and the single taxiway connecting to the runway. Whilst Manston handled up to 30,000 tonnes of freight at its peak, our understanding is that the freight facilities could have handled substantially more tonnage.

4.5 Our assessment into the capability of Manston Airport is based on the reinstatement of the runway, air traffic control, fire station, navigational aids, apron (stands) and taxiways. We have taken into account the use of both apron areas, one to the west adjacent to the cargo sheds and one to the east, adjacent to the passenger terminal. These could accommodate collectively up to 4 freight aircraft simultaneously. The assessment is also based on an 18-hour operational day (allowing for a small number of ad hoc night movements consistent with previous operations) and with a turnaround window of up to 2½ hours from the arrival to departure of each freight aircraft resulting in the capability of each stand to handle over 7 aircraft rotations a day, or over 14 cargo aircraft movements.

4.6 On this basis, across a year, this would equate to a capability for at least 21,000[50] annual air cargo aircraft movements with the existing consented infrastructure, subject only to reinstatement. This assessment is consistent with the assertion made in presentations on behalf of RSP[51], which stated that the 10,000 cargo aircraft movement threshold, necessary to pass the Section 23 test in the Planning Act 2008 (as amended), could be met by providing for 14 aircraft arrivals and 14 aircraft departures each day. As the existing infrastructure could provide for 4 cargo aircraft being handled simultaneously, this would equate to 20,440 annual air transport movements by cargo aircraft. This would be more than sufficient to accommodate any reasonable forecast of the cargo related movement demand that Manston might attract as we have set out in Section 3.

[50] Should a night time noise policy be agreed with Thanet District Council pursuant to the existing planning agreement that enabled a longer operational day and/or a number of scheduled night movements, then the capability could, in theory, be higher than 21,000 annual cargo aircraft movements.
[51] RSP, Presentations for Thanet District, Dover District, and Canterbury City Councils

4.7 We recognise that the actual usage of that capability will depend on how an airport is used in terms of the daily and seasonal pattern of movements but this does not, of itself, reduce the capability offered by the existing consented infrastructure for air transport movements. Our assessment, therefore, provides essential missing information from RSP's materials to date which is necessary for the purposes of section 23 of the Planning Act 2008 (as amended), for assessment purposes under the Environmental Impact Assessment Regulations and for consultation purposes.

Land Required to accommodate RSP's Forecasts

The RSP Master Plan

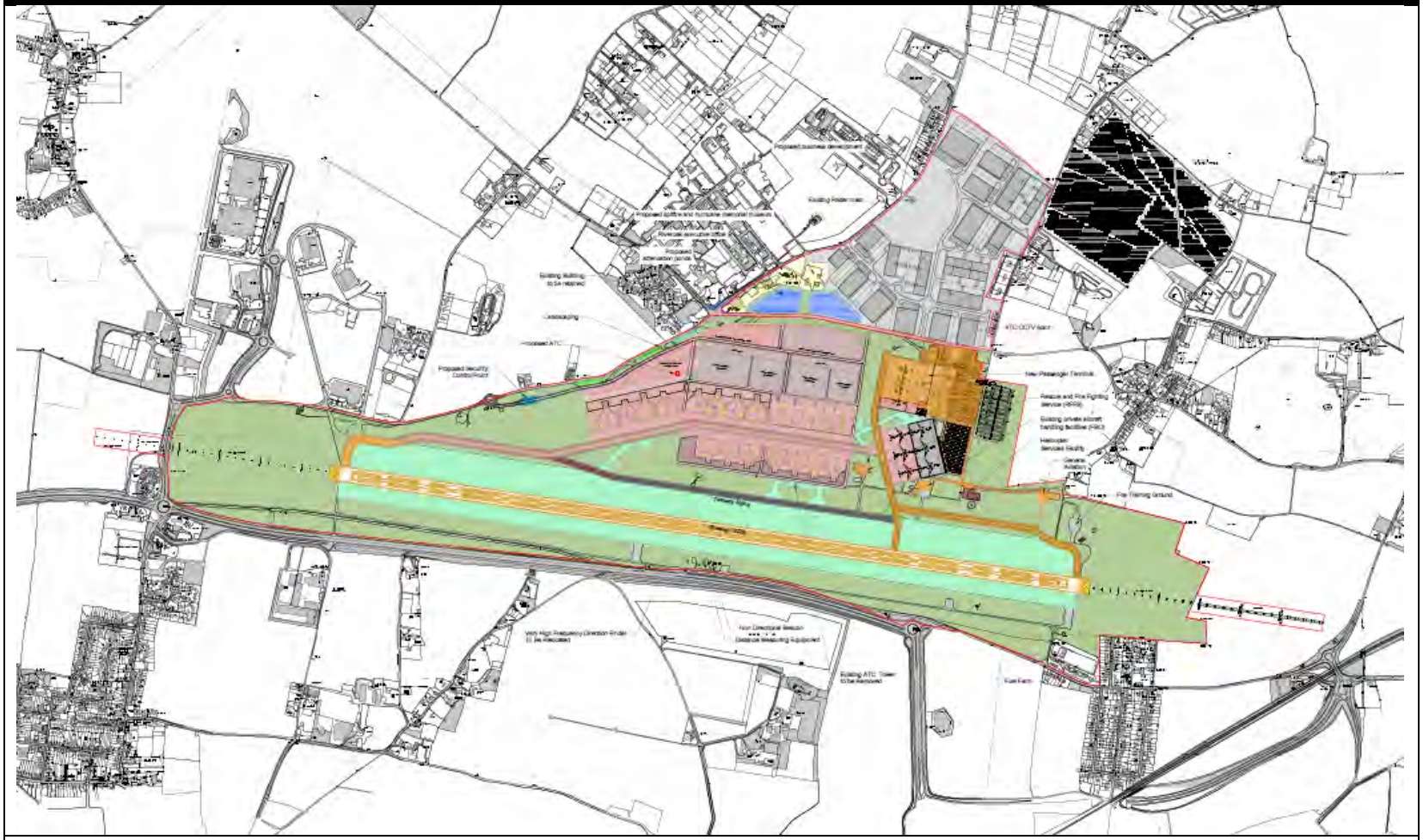
4.8 The Master Plan presented by RSP for the Manston Airport site is shown at **Figure 4.1**. It makes use of the full length of the runway and provides a full length parallel taxiway. The western side of the site is dedicated to freight handling activity and has 19 Code E aircraft stands for cargo flights and 4 large cargo sheds for the processing of freight supported by truck loading and parking areas. The eastern side of the site shows as a new passenger terminal and apron along with a MRO hangar and apron. The existing private aircraft handling facility (FBO) and fire station site is retained. We are not entirely clear how such works would be phased, although we understand that 4 phases of development are planned. RSP projects that Manston will need to be able to handle 17,171 cargo related ATMs and that 1.4 mppa of passengers will be handled by 2039. These represent the basis for the proposed DCO application and we assume, therefore, that these will be the limits on the number of movements and passengers which the site would be capable of accommodating as these form the basis for the assessment of environmental and other impacts. However, this is unclear from the consultation documentation.

4.9 We are unclear why 19 Code E stands are proposed given that the fleet mix at 2039[52] shows 85% of aircraft (at 17,171 annual cargo aircraft movements) being by aircraft smaller than Code E dimensions. Even allowing for some larger Code F types (<2% of movements), it would be possible to reduce the area of apron required for the fleet mix proposed, leaving aside whether 19 stands are required for the simultaneous parking of cargo aircraft at any one time, which we discuss further below.

4.10 To the north of the site, on the 'Northern Grasslands', a new development is shown, which appears to consist of commercial sheds and factory buildings with no obvious connection to the operation of the Airport being located entirely on the landside of the B2050. We assume that RSP's intention is to lease out these landside commercial buildings on this northern site so as to provide a rental income to cross subsidise the operation of the Airport. We discuss the need for this land further below.

[52] Azimuth Volume III, Table 2.

Figure 4.1: RSP Masterplan – Proposed Site Layout



Source: RSP

Land Required

4.11 Without prejudice to our position that we do not consider that RSP's proposals are credible in terms of the level of demand that might be attracted to Manston, we do not consider that the scale of development proposed by RSP for 17,171 cargo related movements is necessary, justifiable or reasonable, based on the principles set out at paragraph 4.5 above.

4.12 At **Figure 4.2**, we illustrate the justifiable and reasonable extent of land required at Manston Airport to support a cargo operation of 17,171 ATMs and passenger operation of 1.4 mppa (even though we do not accept that these ATMs and passenger numbers can be reached). This is based on our experience of airport operations around the world.

4.13 We recognise that there could be an opportunity for maintenance hangars for heavier aircraft maintenance activities but the need for these will not necessarily be triggered by the establishment of passenger operations. Depending on the nature of the freight and passenger carriers that set up services at Manston, the need for maintenance hangars cannot be ruled out and we have allowed for one twin bay hangar with a footprint of approximately 6,000m2 or two single bay hangars at 3,000m2 each.

4.14 It is also reasonable to expect that there will be some business and some general aviation activity. However, unless a bespoke FBO is set up, which we believe is unlikely given the distance from the main business aviation market in London and with Biggin Hill much closer to the core market, there would be very limited use by business aviation. Any small general aviation or flying school activity can be accommodated within the land area shown. These facilities, and any aircraft dismantling activity as also suggested in Azimuth's forecasts, would need to have direct airside access and so would need to be located to the south of the B2050. In other words, all of the operational facilities to support the operation of the Airport would require to be located to the south of the road and not on the 'Northern Grasslands' site.

4.15 We have clearly marked the area of land to the south of the B2050 that is not required for the defined airport operations in green on Figure 4.2. To the north of the Airport site, the 'Northern Grasslands' are marked in yellow and is not required for the scale of airport activity proposed by RSP. We discuss the potential use of this area further below. Figure 5.2 clearly shows that the extent of airport land needed to support the scale of freight and passenger activity proposed by RSP is significantly less than that proposed by the RSP. There are surplus areas of land within the core airport site as well as the 'Northern Grasslands' that are not required to support the throughput proposed.

Figure 4.2: Airport Land for 17,121 Freight ATMs and 1.4 mppa Operation – Surplus Land: Airport Land (Green), Northern Grasslands (Yellow)

Source: York Aviation

4.16 We summarise at **Table 4.2**, those facilities proposed by RSP in its Master Plan but are not, in fact, required to support essential airport operations.

Table 4.2: Classification of RSP Proposed Airport Facilities at Manston Airport

	RSP proposed airport-related development	Facilities not Essential for an Operational Cargo Airport
4	Retention & Extension of Passenger Apron	✓
11	New replacement Passenger Terminal building	✓
12	New and extended passenger car parking areas	✓
23	Relocation of the two existing museums	✓
24	Demolish old Control Tower in northern area	✓
25	Airport related businesses on Northern Grasslands	✓
26	New MRO aircraft maintenance hangars	✓
27	New FBO in refurbished business aviation terminal	✓

4.17 Although a replacement radar is shown by RSP re-using the old radar tower within the 'Northern Grasslands' area, it is not clear that a replacement radar would actually be required, although a radar service would be required. It is likely that a radar service could be procured more cheaply by buying in radar coverage from an alternative radar position rather than re-providing a radar on site. This is increasingly common practice at smaller airports. In the event that a replacement radar was required, this would not need to be located on the 'Northern Grasslands' but could be located within the airfield site to the south of the B2050.

4.18 In terms of the use of the 'Northern Grasslands', there is no particular requirement for extensive freight forwarding facilities on site as consolidation of loads is likely to continue to take place in and around Heathrow as currently. Any freight forwarding activity directly to support 17,171 cargo aircraft movements is likely to be containable within the area shown for freight warehousing within the airfield site.

4.19 No other justification is given for the extent of the commercial development shown on the 'Northern Grassland' part of the site. In our view, it is certainly not 'associated development' required to support the operational airport, other than in terms of providing a financial cross subsidy from rental income for general commercial buildings.

4.20 The need, then, for such an extensive development across the 'Northern Grasslands' cannot, in our opinion, be justified and is substantially in excess of what is seen elsewhere. The scale of supporting infrastructure proposed appears substantially greater than exists at the UK's main pure freight hub at East Midlands. We have seen no reasoned justification for the scale of facilities proposed. It appears to cover an area (c.48 hectares), which is more than double the size of the associated Pegasus Business Park area at East Midlands Airport (c.21 hectares), which currently handles virtually the same cargo tonnage as projected by Azimuth for Manston at 2039. Furthermore, it is significant that a substantial part of the East Midlands area is occupied by hotel development (3 hotels) in support of the much greater passenger throughput at that airport, a Regus office complex, and many of the other occupiers of sites within the Pegasus Business Park are not related to the activity at the Airport and include companies such as PwC, Laser Optical Engineering, Nikon Metrology UK, Medstrom Healthcare, Rail Vision and PKF Cooper Parry making use of an accessible location close to the M1. None of these activities would be essential in relation to freight activity at the airport and so would not meet the test for associated development required for inclusion with a DCO.

Realistic Requirements

4.21 Clearly, as is evident from earlier sections of this report, our opinion is that RSP's projections for the use of Manston Airport cannot be realised. Hence, the area of land required to accommodate lower levels of activity would be proportionately smaller, occupying a substantially smaller area of land to the south of the B2050 than shown on Figure 4.2.

Conclusions on Capability

4.22 The existing infrastructure at Manston Airport, if made good, would be capable of handling 21,000 annual air cargo transport movements[53]. However, the actual usage of that capability would depend on the pattern of operation and how the infrastructure was used on a day by day basis.

4.23 Without prejudice to our view that demand to use Manston is not likely to be anything like 17,171 cargo aircraft movements a year, we consider that the land required to accommodate such a number of movements would be substantially less than shown on the RSP Master Plan.

4.24 We can see no justification for the inclusion of the 'Northern Grasslands' within the DCO as associated development as there will be little requirement for the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow to Manston and any requirement could be accommodated south of the B2050. The development on the Northern Grasslands site appears to be speculative commercial development which, based on the precedent at East Midlands Airport – the UK's principal airport for pure freighter operations – would be expected to be largely for non-aviation related uses.

[53] Based on an 18-hour operational day. Should a night time noise policy be agreed with Thanet District Council pursuant to the existing planning agreement that enabled a longer operational day and/or a number of scheduled night movements, then the capability could, in theory, be higher than 21,000 annual cargo aircraft movements.

5 SOCIO-ECONOMIC IMPACT

Introduction

5.1 In this section, we examine the socio-economic benefits that are put forward by Azimuth and the flaws that are apparent in their approach. These render the socio-economic case put forward unreliable. We then move on to provide our own estimates of the socio-economic impacts of Azimuth's traffic forecasts based on more appropriate assumptions and also set out the socio-economic impacts associated with our own traffic forecasts to provide a more reasonable basis for considering the extent of the benefits that might realistically accrue from the re-opening of the Airport.

Comments on Azimuth Socio-Economic Assessment

5.2 Volume IV of the Azimuth's Report sets out the socio-economic case for the DCO for Manston. This assessment naturally relies on the traffic forecasts presented in Volume III. This means, of course, that the socio-economic assessment is rendered unreliable by the failings of the traffic forecasting approach and the incorrect inferences drawn from the assessment of the market. However, there are also substantial failings in relation to the methodology used for the socio-economic impact assessment itself, which result in significant over estimates of the impacts. We would also re-emphasise that the Airport must be commercially viable to be able to deliver these benefits, otherwise it will simply fail and no level of benefit will be delivered. RSP has not clearly demonstrated that the operation of the Airport would be viable at any level of throughput and, in the light of the conclusions of Aviasolutions in their advice to Thanet (see Section 6 of this report), viability must be in serious doubt based on our analysis of the likely usage as set out in Section 3. This renders any analysis of the socio-economic impacts to a large extent moot. Setting aside the issue that the Airport is highly unlikely to be viable and that the traffic forecasts set out are significantly overstated, we have identified below a number of key flaws in Azimuth's approach and analysis of the economic impacts.

5.3 At the outset, it is probably helpful to highlight the key area in which we agree with Azimuth's analysis and conclusions. We agree that the East Kent area is in need of regeneration. It is simply that we do not believe that Manston Airport can deliver the benefits set out. Any attempt to re-open the Airport is not likely to succeed as it is hard to see that viability could be attained with realistic forecasts of usage. Another failure of the Airport would be more likely to damage the image of Kent as a place to invest than enhance it.

5.4 Azimuth spend some time considering the appropriate employment density on which to base an assessment of direct employment. They ultimately conclude that East Midlands Airport provides an appropriate comparator (see paragraph 4.1.4 of Volume IV). This information is then used to drive large parts of the benefit calculations for Manston. York Aviation provides economic impact advice to MAG in relation to both its major freight airports, East Midlands and Stansted. From this knowledge, we would suggest that the job numbers quoted and used here are an incorrect base as they include substantial numbers of non-airport related jobs located on the business park at East Midlands Airport, discussed in the previous section. This means that the employment density used by Azimuth is far too high for genuine airport related activity. In any event, the employment at East Midlands is higher than might be anticipated anyway given the very significant employment supported at the site by DHL's UK main base of operations, which is not likely to be replicated at Manston.

5.5 We accept that it is difficult to identify an ideal comparator for a re-opened Manston in the UK but would suggest that an airport such as Glasgow Prestwick would be a much more appropriate comparator. The Airport has a low fares operation by Ryanair and has a reasonably significant pure freighter operation (although this has been substantially larger in the past). There is also detailed information on the economic impact of that airport in the public domain from work undertaken by both York Aviation[54] and SQW[55]. We have used information from this research later in this section to provide a more realistic base for assessing the economic impact of Manston.

5.6 The multipliers used by Azimuth for indirect and induced employment and economic activity in their assessment are simply inappropriate. Firstly, the multipliers adopted are for the impact at a national level. The study area for this economic assessment and the focus of Azimuth's comments is the sub-region around Manston Airport. Multipliers appropriate to this much smaller area should have been used and would have been substantially smaller. Secondly, the multiplier used (2.1) is a European average taken from research by InterVISTAS for ACI EUROPE[56]. The adoption of this Europe-wide multiplier is strange given that that the research does actually provide a specific multiplier for the UK[57], which is substantially smaller at 1.5. Use of the appropriate multiplier would, of course, have significantly reduced the job impacts suggested, even at a national scale.

5.7 There is a further issue in relation to the use of an inappropriate multiplier covering national level effects in that displacement of activity from other airports should have been taken into account. To the extent that any of the activity projected for Manston is displaced from other airports, as our analysis strongly suggests it will be, there will be a relative reduction in employment and economic activity in the vicinity of these other airports. So whilst, correctly calculated, the employment and economic effects local to Manston would be additional, the effect of displacement of activity would need to be netted off wider national or regional (South East) impact assessments.

[54] The Economic Impact of Glasgow Prestwick Airport – York Aviation (2012). http://www.evaluationsonline.org.uk/evaluations/Search.do?ui=basic&action=show&id=509
[55] Economic Impact of Glasgow Prestwick Airport – SQW (2008). http://www.sqw.co.uk/files/4413/8712/8925/99.pdf.
[56] The Economic Impact of European Airports – InterVISTAS for ACI Europe (2015).
[57] Ibid. Page 103.

5.8 As well as using a multiplier for indirect and induced impacts, a multiplier is used to assess the wider catalytic employment[58]. The multiplier used is taken from out of date research for ICAO[59] and it should be said that catalytic impacts remain a difficult area in terms of quantification. There is not sufficient detail in the ICAO report[60] that Azimuth rely on to understand how this catalytic multiplier has been derived. However, again, there are issues with the use of this multiplier. Firstly, it appears to be a global multiplier, which would again be completely inappropriate for use in considering sub-regional impacts around Manston and it has been wrongly applied to total job numbers rather than direct job numbers. In practice, the correct approach would have been to consider the specific additional connectivity that Manston Airport might provide for Kent and assess how this might relate to attracting additional business activity and tourism to the area.

5.9 In examining the employment projections presented (Section 5.1 of Volume IV), it appears that no allowance has been made for either productivity growth or returns to scale over time and as the Airport grows. While information on potential on-site productivity growth can be hard to come by, we would expect some allowance to have been made. A typical figure might be around 2% per annum based on our experience at other airports. The result of this omission is that future direct job numbers, in particular, are likely to be significantly overstated given the compounding effect of failing to account for productivity growth.

5.10 Section 7 of Volume IV discusses other socio-economic impacts. In particular, it talks about contributions to GDP. Para 7.1.1 describes GDP as *"a monetary measure of the state of a Region's or a Country's economy"*. This is not correct. It is a measure of the size of the economy. It does not comment on the state of the economy or the prosperity or wealth within it. The calculations of GDP impacts presented are based on the job numbers estimated earlier in the report. They are, therefore, likely to be significant overestimates given the flaws in the demand forecast method and the job density and multiplier assumptions.

5.11 The comments in Paragraph 7.1.7 describing how Manston could contribute significantly to Thanet's Economic Growth Strategy aspirations in terms of GVA per job and per capita are, in reality, unsupported. Given the methodology adopted, which essentially measures Manston's impact at a national level, it is actually very difficult to know what the effect might be on the Thanet economy. Undoubtedly, the Airport could support local jobs if it is re-opened but, in reality, the number of those jobs and their value has not been effectively calculated here. The aviation supply chain in the UK is heavily concentrated around the major airports, particularly in relation to air cargo. So, in practice, much of the economic benefit claimed would be realised in and around Heathrow rather than locally if Manston were to re-open. To the extent that any activity would be displaced to Manston, there would be negative economic implications elsewhere.

[58] Catalytic employment is related to additional economic activity generated in areas adjacent to an airport as a result of the additional connectivity offered by the airport.
[59] ICAO – International Civil Aviation Organisation, which is the inter-governmental body which regulates air transport globally.
[60] ICAO – Economic contribution of civil aviation: Ripples of prosperity, 2000.

The Socio-Economic Impact of the Azimuth Traffic Forecasts

5.12 Below, we have set out an estimate of the socio-economic impacts of the Azimuth traffic forecasts using more appropriate assumptions. We have retained the same basic analytical framework, which considers direct, indirect, induced and catalytic impacts, but we have used different basic assumptions in all areas:

- we have estimated the direct employment associated with the re-opening of the Airport based on employment densities observed at Glasgow Prestwick Airport during the production of our 2012 report for Scottish Enterprise[61]. This includes considering which elements of on-site employment are likely to be driven by passenger growth and which by cargo growth. Given the slightly differing approach, it is hard to provide a perfect comparison of job density. However, in Year 3, when both cargo and passenger operations begin, the York Aviation job density is around 650 jobs per million workload units, compared to around 890 assumed by Azimuth;
- we have used an indirect and induced multiplier for Kent of 0.4[62]. This is again taken from our work on Prestwick and reflects impacts of that airport in the Ayrshire economy, which would seem a sensible comparator. This multiplier is also in line with the benchmark multipliers set out in the Homes and Communities Agency Additionality Guide (2014)[63]. At this level, displacement affects do not need to be accounted for albeit they would still arise to the extent that activity at Manston displaces activity elsewhere;
- we have used catalytic multipliers for air freight taken from Steer Davies & Gleave's report on the UK Air Freight Industry for the DfT[64]. This identified national level catalytic multipliers for air freight of 3.46 and 3.76 (inclusive of the direct impact). There is no simple way to adjust these multipliers to the Kent economy. We have, therefore, reduced these multipliers by 75%. This is broadly akin the difference between sub-regional and national level multipliers for indirect and induced effects. As with all estimates of catalytic impacts, these should be regarded with some caution in the absence of a more detailed and specific assessment of the potential effects;
- we have assumed productivity growth at Manston Airport of around 2% per annum. This is typical of our experience of productivity growth rates at UK airports;
- in order to estimate the GVA impacts of the re-opening of the Airport, we have used GVA per job estimates from ONS for Kent. On-site jobs are assumed to generate GVA in line with the Transportation & Storage sector (£57,763), while jobs in the wider economy are assumed to reflect the average GVA per job for Kent (£52,623).

5.13 In **Tables 5.1** and **5.2**, we have set out our estimates of the socio-economic impact of the Azimuth traffic forecasts compared to the original estimates produced by Azimuth.

[61] *The Economic Impact of Glasgow Prestwick Airport* – York Aviation (2012).
[62] Note that this excludes the initial direct effect.
[63] See page 36.
[64] *AIR FREIGHT Economic and Environmental Drivers and Impacts* – Steer Davies and Gleave for DfT (2010). Page 106.

Table 5.1: Employment Impact of Manston Airport – YAL Socio-Economic Assumptions Comparison					
	Y2	**Y5**	**Y10**	**Y15**	**Y20**
Azimuth Impact Assumptions with Azimuth's freight + passenger forecast					
Direct	856	2,150	2,749	3,438	4,271
Indirect & Induced	1,798	4,515	5,773	7,220	8,970
Catalytic/Wider	0	8,601	10,996	13,753	17,085
Total	**2,654**	**15,266**	**19,518**	**24,411**	**30,326**
YAL Impact Assumptions with Azimuth's freight + passenger forecast					
Direct	688	1,555	1,791	2,033	2,291
Indirect & Induced	275	622	716	813	917
Catalytic/Wider	475	1,073	1,236	1,403	1,581
Total	**1,439**	**3,250**	**3,743**	**4,249**	**4,789**
YAL Total as % of Azimuth	**54%**	**21%**	**19%**	**17%**	**16%**
Source: York Aviation and Azimuth Associates					

Table 5.2: Gross Value Added Impact (£ million) – YAL Socio-Economic Assumptions Comparison					
	Y2	**Y5**	**Y10**	**Y15**	**Y20**
Azimuth Impact Assumptions with Azimuth's freight + passenger forecast					
Direct	£43	£108	£138	£173	£215
Indirect & Induced	£78	£195	£250	£312	£388
Catalytic/Wider	£0	£391	£499	£625	£776
Total	**£121**	**£694**	**£887**	**£1,110**	**£1,379**
YAL Impact Assumptions with Azimuth's freight + passenger forecast					
Direct	£41	£99	£126	£158	£197
Indirect & Induced	£15	£36	£46	£58	£72
Catalytic/Wider	£25	£61	£78	£97	£121
Total	**£82**	**£196**	**£250**	**£313**	**£389**
YAL Total as % of Azimuth	**68%**	**28%**	**28%**	**28%**	**28%**
Source: York Aviation and Azimuth Associates					

5.14 The differences between the two sets of estimates are marked. Our assumptions result in economic impacts being around a half to two thirds of those estimated by Azimuth initially. However, the gap widens over time as the impact of Azimuth's failure to allow for productivity growth and high multiplier assumptions feed through. In our view, the Azimuth estimates simply cannot be relied upon as a measure of the potential economic impacts of re-opening of Manston Airport. Not only are they infected by the errors in traffic forecasting, but the approach itself is highly flawed. A more realistic and robust assessment suggests that the local impacts within Kent, even on Azimuth's forecasts, would be substantially less than claimed and it is these lower order effects which would need to be balanced with the environmental and impacts in assessing the acceptability of the proposed development, including the loss of SHP's proposed mixed use development and the socio-economic benefits deriving therefrom.

A More Realistic View of the Socio-Economic Impacts of Manston

5.15 As we have described above, the socio-economic assessment undertaken by Azimuth was destined to fail before it started because of the failings in the traffic forecasts that feed the approach. We do not consider there is any realistic prospect of the Airport attaining 10,000 annual movements by cargo aircraft and the build up of traffic would be materially slower than Azimuth estimate.

5.16 We have, therefore, set out below an assessment of the socio-economic benefits that might be associated with re-opening Manston on the basis of York Aviation's most likely cargo forecast (that Manston is able to regain its previous market share) and our passenger forecasts, which are around half those assumed by Azimuth. Once again, we have used our socio-economic impact assumptions as described above. The resulting employment and GVA impacts are again set out compared to Azimuth's assessment of the economic impact of reopening Manston in **Tables 5.3** and **5.4**.

Table 5.3: Employment Impact of Manston Airport – YAL Forecasts Comparison

	Y2	Y5	Y10	Y15	Y20
Azimuth Impact Assumptions with Azimuth's freight + passenger forecast					
Direct	856	2,150	2,749	3,438	4,271
Indirect & Induced	1,798	4,515	5,773	7,220	8,970
Catalytic/Wider	0	8,601	10,996	13,753	17,085
Total	**2,654**	**15,266**	**19,518**	**24,411**	**30,326**
YAL Impact Assumptions with YAL's freight + passenger forecast					
Direct	216	391	409	442	486
Indirect & Induced	87	156	164	177	194
Catalytic/Wider	149	270	283	305	335
Total	**452**	**817**	**856**	**925**	**1,015**
YAL Total as % of Azimuth	**17%**	**5%**	**4%**	**4%**	**3%**

Source: York Aviation and Azimuth Associates

Table 5.4: Gross Value Added Impact (£ million) – YAL Forecasts Comparison

	Y2	Y5	Y10	Y15	Y20
Azimuth Impact Assumptions with Azimuth's freight + passenger forecast					
Direct	£43	£108	£138	£173	£215
Indirect & Induced	£78	£195	£250	£312	£388
Catalytic/Wider	£0	£391	£499	£625	£776
Total	**£121**	**£694**	**£887**	**£1,110**	**£1,379**
YAL Impact Assumptions with YAL's freight + passenger forecast					
Direct	£13	£25	£29	£34	£42
Indirect & Induced	£5	£9	£11	£13	£15
Catalytic/Wider	£8	£15	£18	£21	£26
Total	**£26**	**£49**	**£57**	**£68**	**£83**
YAL Total as % of Azimuth	**21%**	**7%**	**6%**	**6%**	**6%**

Source: York Aviation and Azimuth Associates

5.17 Unsurprisingly, the socio-economic impacts associated with the Airport are reduced even further on the basis of more realistic forecasts. The operation is simply of a much smaller scale. In Year 2, in generates 452 jobs, only 17% of the Azimuth estimate of 2,654. By Year 20, the differential is even larger, with the Azimuth estimates reaching over 30,000 jobs, but with our estimates at only just over 1,000. More likely, the Airport would cease operating again due to the inability to attain viable operations. In these circumstances, it becomes a moot point as there would be no jobs and economic impact over the medium to long term.

Conclusion

5.18 Once again, the evidence presented by Azimuth on behalf of RSP cannot be relied upon. It is infected with the flaws in the traffic forecasting methodology identified previously but the approach to identifying socio-economic impacts is, in itself, badly flawed. The socio-economic impacts are, as a result, massively overstated and, in any event, would not be realised if the operation of the Airport is not commercially and financially viable.

6 PEER REVIEW OF OTHER REPORTS

6.1 In this section, we set out a brief review of other reports produced on the potential for a re-opened Manston Airport.

Aviasolutions for Thanet

Commercial Viability of Manston Airport – September 2016

6.2 We note that this assessment was focussed on the likely viability of a re-opened Manston Airport. Hence the main focus was on scenarios for passenger growth as passenger operations make a significantly greater financial contribution to operating an airport given the ability to earn revenue from retail, catering and car parking as well as direct revenue from airport charges (landing, aircraft parking, passenger fees and any cargo handling fees). We note that Avia took a much more optimistic view than we do of the scope for passenger overspill from the main London airports to Manston but, to an extent, these scenarios were designed to assess whether re-opening Manston would be commercially viable rather than to assess a realistic level of demand.

6.3 Having assessed the historical performance of Manston, Avia assumed that it would be possible for the Airport to regain the broad level of cargo activity that is was handling before it closed. This is not dissimilar to our 'most likely' assumption. Significantly, Avia noted that:

"Our freight interviews indicated that the demand to use the airport for freight was very limited. This, in large parts, is due to two factors; the infrastructure investments that have already been made by the industry around Heathrow and Stansted, and the geographical location of the airport. Infrastructure, and the associated knowledge, skill and supporting industry at airports such as Heathrow and Stansted, as well as the major European hubs such as Frankfurt, and Paris, would be almost impossible for Manston to replicate. The geographic location of the airport, tucked into the corner of the UK, cannot compete with airports such as East Midlands for Integrator services that are sold as fast delivery, due to the increases in surface transportation times. The interviews did however indicate that charter services and ad-hoc freighter flights would certainly return, providing some revenue income for the airport"[65].

This accords with our view of the most likely prospects for Manston.

6.4 Overall, the Avia 2016 work concluded that Manston was not likely to be a commercially viable prospect if re-opened, certainly if it is assumed that another runway would be built at either Heathrow or Gatwick. We concur with this conclusion and, on the basis of our more realistic assessment of the level of passenger demand that the Airport might attract, commercial viability is even less likely to be attained.

[65] Aviasolutions, *Commercial Viability of Manston Airport*, September 2016, Section 8.3.

Local Plan Representations - Final Report – August 2017

6.5 This report largely deals with individual specific representations one at a time. Overall, Avia conclude that their *"opinion, based on updated market information since the publication of our previous study, is consistent with our earlier view that Manston Airport does not represent a financially viable investment opportunity under normal market conditions."*[66]

6.6 In relation to these representations, Avia state clearly that:

"The Local Plan Representations do not make a credible case, nor provide the evidence for AviaSolutions' to change its views on the financial viability of Manston Airport. We remain of the view that whilst Heathrow Airport continues to offer substantial freight capacity to a truly global network, and Stansted Airport utilises only around half of the statutory provision of air freighter movements, the London air freight market has capacity to grow without the re-introduction of capacity at Manston Airport. Freight Forwarders have invested heavily in infrastructure around these core airports, carriers have developed their networks as such, and without clear value drivers that support relocating services to Manston Airport, the case remains to be made that demand exists for a freight facility at Manston Airport. This view is reinforced by the empirical evidence of multiple failed attempts to develop profitable operations at the airport."[67]

6.7 Again, Avia's analysis concurs with our own in terms of the limited role that there would be for a re-opened Manston Airport given the evolution of the air freight market. We concur with Avia's analysis of the potential for other activities at Manston such as business aviation or aircraft dismantling and note that, in our experience, income generation from such activities would be low.

6.8 We note that, in this report, Avia correctly interpret our work for the FTA in terms of the potential for the equivalent of 80,000 air freighter movements to be accommodated away from the main London airports by 2050 in the event of no new runway being constructed. As Avia note, this demand is likely to be accommodated at a variety of other airports, including Manchester and East Midlands, with the former offering a substantial amount of bellyhold capacity by that date and the latter offering a dedicated freighter service. Displacement to regional airports is also a logical response given the amount of cargo from the regions which is currently trucked to the London airports. We have had no dialogue with Avia regarding the interpretation of our work but their interpretation of it confirms that Azimuth have simply misused headline figures from our work to support RSP's case without considering or understanding the broader meaning of our analysis in 2015 as Avia demonstrate.

[66] Aviasolutions, *Local Plan Representations - Final Report*, August 2017, Executive Summary.
[67] Ibid.

Review of Azimuth and Northpoint Forecasts for Manston – August 2017

6.9 In this report, Avia conclude that the Azimuth and Northpoint forecasts are *"highly ambitious"* and that *"the likelihood of these forecasts being realised is very low"*[68]. Avia do not, themselves present any updated forecasts of their own in this report. They make clear that neither report presents *"a credible case"* sufficient for Avia to change its view on the likelihood of viable commercial operations being attained at Manston Airport.

6.10 Avia conclude that:

"We remain of the view that whilst Heathrow Airport continues to offer substantial freight capacity to an extensive global network, and Stansted Airport offers capacity for air freighter movements, the London air freight market has capacity to grow without the re-introduction of capacity at Manston Airport. Freight Forwarders have invested heavily in infrastructure around the UK's core cargo airports and carriers have developed their networks as such. Without clear value drivers that support relocating services to Manston Airport, the case remains to be made that demand exists for a freight facility at Manston Airport.

Provision of capacity alone is no guarantee of financial success, a view reinforced by the empirical evidence of multiple failed attempts to develop profitable aviation operations at Manston Airport."[69]

This accords with our view.

6.11 Like ourselves, Avia point out[70] that provision of infrastructure is not of itself sufficient to ensure a financially viable airport at Manston and that this will depend on the demand that can be attracted. Avia conclude, like ourselves, that *"Azimuth's report does not provide sufficient evidence of demand at Manston Airport from air freight operators to support the required investment in facilities and profit generation potential to re-establish Manston Airport as a going concern."*[71] Avia, like ourselves, highlight that if there had been a market for Manston to accommodate any overflow from Heathrow, this would have been evident prior to the Airport's closure in 2014. Avia also conclude[72], in relation to the extensive interviews carried out by Azimuth, that they largely address the overall issues of airport capacity in the South East of England and do not effectively explain why Manston, at the tip of Kent, would be an attractive solution for the UK air freight sector.

6.12 Avia also note that the other activities that Manston might attract, as suggested by interviewees, such as maintenance, repair and overhaul, aircraft dismantling, a fixed based operator for business aviation and the establishment of an integrator base could have been attracted previously if there was demand at Manston but that such demand was not evident. We concur that the reports of interviews set out by Azimuth do not constitute real evidence of actual demand for such facilities or the likelihood of them locating at Manston.

[68] Aviasolutions, *Review of Azimuth and Northpoint Forecasts for Manston*, August 2017, Executive Summary
[69] Ibid.
[70] Ibid, page 9.
[71] Ibid.
[72] Ibid, page 11.

6.13 Like ourselves, Avia point out that Azimuth's freight forecasts would suggest that Manston would be a major presence in the UK air freight market from Year 2[73] and that by the end of the period would be on a par with the UK's main freight hub at East Midlands by 2039. They go on to note that the methodology adopted by Azimuth to forecast cargo movements could be acceptable, which we take to mean a 'bottom up' movement driven approach. However, they caution that the primary data used (from the interviews) *"has significant potential to exaggerate or overstate the market"*[74]. As Avia note, the aspirations of the interviewees, that as we have noted earlier were largely local interests in Kent, would need to be tempered by commercial realism and the risks attaching to the operations put forward. Avia conclude, in relation to Azimuth's freight forecasts, that *"the probability of such an outcome remains very low"*[75]. We concur.

6.14 In overall terms, Avia conclude that there is nothing in the Azimuth analysis which would give rise to them changing the conclusions set out in their earlier 2016 report.[76]

6.15 Avia then go on to consider the Northpoint report, discussed further below, which was prepared as a direct rebuttal of their 2016 report. In the first instance, they note that they do not accept that the benchmark airports[77] cited by Northpoint as comparators for what Manston could be are relevant:

There are clearly structural and geographical reasons as to why each of these airports is different to the proposal for Manston Airport. As such, suggesting these are comparable benchmarks is not realistic. In order for Manston Airport to acquire the status of these airports it would need to demonstrate key elements of development, namely; commitments from key express players (DHL / UPS / FedEx / Amazon / Alibaba); an ability to operate night operations with few regulatory restrictions; and geographical advantages from nearby cities, industrial parks, and population centres.

We agree. These benchmark airports serve different roles, principally based around their selection by large integrators/distributors as main distribution hubs for large urban conurbations. These are simply not comparable to Manston and it would be misleading to believe otherwise.

[73] Ibid, Section 2.3.2.
[74] Ibid, Section 2.3.3.
[75] Ibid.
[76] Ibid, page 15.
[77] Alliance Fort Worth in Texas, USA, Hamilton Airport in Ontario, Canada, Bergamo in Italy, Liege in Belgium and Leipzig in Germany.

6.16 In relation to air freight forecasts, Avia again note RSP's reliance on our work for the Freight Transport Association. Again, Avia correctly interpret this work as being based on the assumption that *"freight growth is bellyhold focussed"* going on to note that our *"report also questions Boeing and Airbus' forecast growth rates, which are utilised in the long term growth forecast by Dr Dixon."*[78] Avia go on to note Northpoint's use of the 55,000 air cargo movements figure from our earlier work for Transport for London (2013) and cite Northpoint's claim that we asserted that Manston was the only realistic opportunity to accommodate this level of freighter movements if they were displaced. As we have discussed at length in Section 2, this is simply a misapplication of our 2013 work. Unsurprisingly, Avia could not find these figures in the 2015 report for the FTA.

6.17 Avia also highlight Northpoint's misinterpretation of the interaction between bellyhold and pure freighter demand. We agree with their conclusions in this regard, which explain why the market for more pure freighter operations to/from the UK is limited:

"AviaSolutions' experience in the freight industry is that many bellyhold operators can, when supply exceeds demand, reduce rates to such a level as to cover the marginal cost of freight plus a margin. The business is often operated as an addition to the passenger service, and therefore its real marginal costs are low. It is simply impossible for a freighter operator to reduce its rate to match this marginal cost and operate at profitably [SIC]*. Therefore, freighters tend to operate on thick routes where the economies of scale of a freighter operation can be realised. These routes are also curtailed by a non-related market, that of passenger demand. Where large scale passenger demand exists e.g. UK to USA, a residual effect of this is large scale freight capacity, which is unmatched to demand. The reverse can be seen on routes to the East, where passenger demand is less, but freight demand, particularly inbound to the UK, is high. As such, many freighters operate on these routings."*[79]

We agree that the extensive passenger based route network and the availability of bellyhold capacity limits the need for a substantial pure freighter operation to/from the UK, in contrast with other parts of the world where passenger air route networks are less developed. This is why global data on the demand for air freighters is simply not relevant in the UK context.

Northpoint

6.18 We have largely addressed key points of Northpoint's rebuttal of the original Aviasolutions work above on the basis of Avia's most recent report. We highlight here a few other key observations on Northpoint's *"The Shortcomings of the Avia Solutions Report and an Overview of RSP's Proposals for Airport Operation at Manston"* prepared for RSP.

6.19 As with Azimuth's work, the key criticism of this work is that it is based on assertion rather than evidence or systematic analysis of the potential market for Manston. As noted above, benchmark airports in the middle of Continental Europe or adjacent to major conurbations in the US and Canada do not provide robust examples of how Manston might develop given its geographic position. Northpoint set out that:

[78] Ibid, page 17.
[79] Ibid, Section 3.1.6.

"RSP's plans are centred on a developing a strategically important air cargo operation focused dedicated freighters importing and exporting a range of perishable and high-value/time-critical goods to markets in London and across the wider south-east." [80]

And that these operations would be supplemented by a *"modest"* passenger offering, a variety of business and general aviation activities as well as maintenance, repair, overhaul and aircraft dismantling activities. However, the report does not, itself set out how the scale of such activity could be assessed and whether it would, in combination, secure a viable operation.

6.20 In terms of forecasting the volume of air freight that Manston might secure, Northpoint make an unsubstantiated leap from noting the reasons why Heathrow is dominant in the market to asserting that the key determinant for pure freighter operations is the infrastructure provided at an airport and supply driven factors, noting that it is important that these latter are *"transparent"*[81]. We have already noted the lack of transparency in relation to the air cargo forecasts produced by Azimuth upon which RSP rely. Nor are the projections set out in Northpoint's Appendix A any more transparent in terms of how the estimated tonnage to be accommodated by freighter movements at Manston has been derived.

6.21 Although lacking transparency, it would appear that Northpoint, like Azimuth, have relied on Boeing's global forecasts for freight revenue tonne kilometres as a basis for projecting UK air cargo tonnage[82]. For the reasons set out in Section 2, this is inappropriate and will lead to a material overstatement of the overall market.

6.22 Like Azimuth, Northpoint see cross channel movement of air cargo as an opportunity for pure freighter operations at Manston[83] rather than simply the natural economic response to shortage of bellyhold capacity at Heathrow. Northpoint then seek to rely on our assessment of displaced tonnage equivalent to 55,000 annual movements by air cargo aircraft in 2050 from our 2013 work for TfL as corroborating evidence of Manston's potential[84]. This is to misrepresent the conclusions from this work, which indicated clearly that, in practice, there was unlikely to be a problem even if Heathrow did not get a third runway, albeit that there might be some additional trucking costs to make use of bellyhold capacity in Europe. This would still be cheaper for shippers than the alternative use of pure freighter aircraft from Manston or elsewhere. Furthermore, in assessing the scope for airports to accommodate more freighter aircraft[85], we do not agree with their assessment in respect of Stansted for the foreseeable future and Northpoint appear to ignore the main pure freight hub at East Midlands.

[80] Northpoint, *The Shortcomings of the Avia Solutions Report and an Overview of RSP's Proposals for Airport Operation at Manston*, paragraph 1.3.
[81] Ibid, paragraph 2.4.
[82] Ibid, paragraph 2.18.
[83] Ibid, paragraph 2.21.
[84] Ibid, paragraph 2.24.
[85] Ibid, paragraph 2.30.

6.23 In dismissing the potential for these other, established airports, Northpoint seek to highlight the constraining effect of night movement restrictions on air cargo operations. By inference, then, Northpoint appear to assume that Manston will not suffer from such restrictions so making it more attractive. This appears to be corroborated at Appendix A[86] where it is claimed that the presence of a logistics centre at Manston without significant night movement restrictions would be one of the attractions and a factor in the forecasts being attainable. However, it is our understanding that night movements will at best be limited to 8 per night and could be limited further if the promises of no night movements are upheld.

6.24 In relation to the potential in the aircraft maintenance and dismantling/recycling market[87], we note that these are activities being 'chased' by many airports. There is no analysis of competition nor of the likelihood of Manston capturing any of these activities in Northpoint's report. In any event, the level of activity generated by such activities is unlikely to make the difference between the Airport being viable or not.

6.25 Overall, Northpoint present no real evidence in its Conclusions[88] to substantiate why the operation at Manston could be viable. Its forecasts of cargo movement and passenger demand are no more transparent nor based on market analysis than those set out by Azimuth and do not justify why the RSP application would meet the tests set out in Section 23 of the Planning Act 2008. In general, we agree with Avia's conclusions regarding the robustness of this report.

[86] Ibid, Appendix A, A.8.
[87] Ibid, Section 4.
[88] Ibid, Section 5.

7 CONCLUSIONS

7.1 In this report, we have examined the case for RSP's proposed development at Manston Airport. Our overall assessment is that RSP have failed to provide their own evidence of the capability of Manston Airport and the amount by which their proposals would increase that capability by (all we have are forecasts which have no credibility as explained in this report). This results in glairing omissions in RSP's consultation material. This failure means that, in our opinion, the requirements in section 23 of the Planning Act 2008 (as amended) have not been satisfied. In essence, we would have expected RSP to be able to show:

- the capability of Manston Airport of providing air cargo transport services;
- the amount by which RSP is proposing to increase that capability by and thus the "new" capability; and
- a credible forecast for why that 'new' capability is required.

None of this information is provided by RSP.

7.2 RSP's case is principally based on circumstantial evidence presented in the Volumes I to IV of *Manston – A Regional and National Asset* prepared by Azimuth Associates. Much of the material upon which Azimuth seek to rely as the basis for the case for Manston relates to the economic costs to the UK if additional passenger hub capacity is not provided in the South East of England by 2050. This is not relevant to the specific question as to whether there would be sufficient demand for pure freighter aircraft movements to be operated to/from Manston in the foreseeable future.

7.3 The analysis presented by Azimuth shows a lack of understanding of the economics of the air freight market. This leads to a misinterpretation of work by ourselves, upon which Azimuth seek to rely to support their case. Just because there could be excess freight demand in 2050 in the absence of further runway capacity at the UK's main hub, it does not follow that displaced bellyhold freight will seek a more expensive pure freighter service from a relatively nearby airport over the use of available bellyhold capacity from a more distant airport which can be provided at a lower cost to the shipper with only marginal penalty in terms of time. Our previous work simply cannot be relied on to support RSP's case.

7.4 Fundamentally, Manston's past operation was economically inefficient due to the inherent lack of viability. Hence, reopening the Airport, in the face of a limited market, has the potential to damage the productivity of the UK aviation sector overall, particularly, as we have demonstrated in our own assessment of cargo demand for Manston in Section 3 that there are more economically efficient alternatives available for any freight displaced due to specific capacity constraints at Heathrow both now and in the future.

7.5 Whilst there may be a role for Manston, on the margin, providing some niche specialist air freight operations, the market for such services is small and often ad hoc, which will impact on the prospects for a viable operation of the Airport.

7.6 Manston is too peripheral for integrator operations serving the UK. Integrators have a strong preference for locations more centrally located in the UK with good road access to all of the major markets. The availability of land for warehouses, for example as suggested in terms of the use of the 'Northern Grasslands' part of the overall airport site, is far less important than a location central to the market and the availability of good road access, neither of which are characteristics of Manston. This would apply equally to the suggestion that Amazon might locate there or that the Airport could become a base for drone operations. It is simply in the wrong place to serve the market being in the far south east at the end of a peninsular, away from the main centres of population and distribution in the UK.

7.7 In the absence of hard market evidence of the need for Manston Airport, Azimuth undertook an interview survey to supplement the need case and inform the forecasts. However, the list of interviews was small, with few national players interviewed compared to a large number of local companies with something of a vested interest in seeing Manston re-opened. Even so, if anything, the views of those interviewed by Azimuth suggest that there would, at best, be a limited role for Manston. The one airline interviewed made clear that *"success at Manston depended upon identifying a niche market and becoming known for excellence. In particular, suggestions included a perishables centre, handling of live animals, easy access for charter flights, and handling cargo that is not necessarily straightforward"*. The scale of this opportunity was never quantified by Azimuth. It is clear, however, that the realistic expectation for Manston is for a small niche operation rather than as a general 'overspill' airport for London.

7.8 The outputs from these interviews are then used by Azimuth as a basis for postulating a number of cargo aircraft movements that might operate at Manston. However, it is simply not possible to relate the proposed services to be operated with the responses by the interviewees. There is a complete absence of any explanation for or justification of the services postulated. At the very least, there is a lack of transparency in the approach that needs to be explained so that consultees can understand the basis of what is proposed and to ascertain whether there is a credible forecast for why an increase in Manston's capability is required.

7.9 In our view, the Azimuth forecasts simply lack credibility. To illustrate this lack of credibility of the forecasts, in Year 2 (the first operational year), a cargo throughput of nearly 100,000 tonnes is forecast by Azimuth. This would make Manston the 5th largest freight airport in the UK in its first year after re-opening (compared to 2016 actual throughput at the other airports). This would place it close to the scale of freight operations at Manchester Airport, which includes a substantial amount of bellyhold freight. It would make Manston the 3rd busiest airport in the UK in terms of tonnage carried on dedicated freighter aircraft. This is simply not a credible proposition. This lack of credibility is important in reaching any decision under Section 23 of the Planning Act 2008 (as amended).

7.10 We have updated and further developed our analysis of the UK air freight market from than previously undertaken for TfL and the FTA, and upon which RSP seek to rely as corroboration of their own cargo movement forecasts. When properly interpreted, our forecasts of air freight demand and capacity across the UK as a whole, taking the role of bellyhold fully into account, show that there is plenty of freighter capacity at Stansted and East Midlands to the extent that there is a need for more pure freighter capacity. Overall, we conclude from this analysis that there will be no shortage of freighter capacity in the UK before 2040 (RSP's forecast assessment year) and that overspill from other airports would not provide a rationale for re-opening Manston.

7.11 Our initial assessment of the passenger market is that the throughput might, at best, be around half of that projected by RSP and, hence, given the dependence on passenger related income for the financial viability of airport operations, this will impact substantially on the viability of the proposal. The other activities suggested by RSP, such as business aviation, maintenance, repair and overhaul, and aircraft dismantling are highly competitive markets and, to the extent that Manston might attract any such operations, this are unlikely to contribute substantially to the overall viability of the Airport.

7.12 The existing infrastructure at Manston Airport, if made good, is capable of handling 21,000 annual air cargo aircraft movements[89]. The actual usage of that capability would depend on the pattern of operation and how the infrastructure was used on a day by day basis. Our assessment, therefore, provides essential missing information from RSP's materials to date which is necessary for the purposes of Section 23 of the Planning Act 2008 (as amended), for assessment purposes under the Environmental Impact Assessment Regulations and for consultation purposes.

7.13 Without prejudice to our view that demand to use Manston is not likely to be anything like 17,171 cargo aircraft movements a year, we have considered that the land required to accommodate such a number of movements. Our assessment is that the land required would be substantially less than shown on the RSP Master Plan and that the proposed land take is excessive and without justification in terms of the compulsory acquisition of the land. Any development required to handle 17,171 annual movements by air cargo aircraft can all be accommodated to the south of the B2050 and, even allowing for passenger operations and other activities, would not require all of the airfield land to the south of the road. Obviously, on the basis of more realistic forecasts of future demand, the area required to support the ongoing operation of the Airport would be materially smaller.

7.14 We can see no justification for the inclusion of the 'Northern Grasslands' within the DCO on the basis of it being for associated development as there will be little or no requirement for the relocation of freight forwarding activity from adjacent to the UK's main cargo hub at Heathrow to Manston and any requirement to support Manston operations could be accommodated south of the B2050. The development on the 'Northern Grasslands' site appears to be speculative commercial development which, based on the precedent at East Midlands Airport – the UK's principal airport for pure freighter operations – would be expected to be largely for non-aviation related uses.

[89] Based on an 18-hour operational day. Should a night time noise policy be agreed with Thanet District Council pursuant to the existing planning agreement that enabled a longer operational day and/or a number of scheduled night movements, then the capability could, in theory, be higher than 21,000 annual cargo aircraft movements.

7.15 In terms of the socio-economic implications of the proposed development, Azimuth has shown a lack of understanding of how such impacts should properly be calculated. Leaving aside the use of inappropriate multipliers, the impacts have been assessed at a national scale and should have taken displacement of activity from other airports fully into account, reducing the impacts below those stated. Furthermore, the assessment should have considered the impact on alternative uses of the site, including SHP's proposed mixed use development and the socio-economic benefits deriving therefrom. We have set out a more realistic and robust assessment, which shows that the local impacts within Kent, even on Azimuth's forecasts would be substantially less than claimed and it is these lower order effects which would need to be balanced with the environmental and impacts in assessing the acceptability of the proposed development.

7.16 Unsurprisingly, the socio-economic impacts associated with the Airport are reduced even further on the basis of more realistic forecasts of likely usage if it re-opened. The operation is simply of a much smaller scale. In Year 2, in generates 452 jobs, only 17% of the Azimuth estimate of 2,654. By Year 20, the differential is even larger, with the Azimuth estimates reaching over 30,000 jobs, but with our estimates at only just over 1,000.

7.17 Once again, the evidence presented by Azimuth on behalf of RSP cannot be relied upon. It is infected with the flaws in the traffic forecasting methodology identified previously but the approach to identifying socio-economic impacts is, in itself, badly flawed. The socio-economic impacts are, as a result, massively overstated. In any event, these benefits would not be realised if the Airport ceases operation again due to it not being commercially viable.

7.18 As well as the Azimuth reports which form the basis of RSP's case, we have also reviewed a number of other reports on the potential for Manston. In overall terms, we agree with Aviasolutions for Thanet District Council that there is little realistic prospect of the re-opening of Manston Airport being a commercially viable proposition. We have reviewed their original report and the more recent reports and concur with their views on the overall structure of the UK air cargo market, noting that they, unlike Azimuth, have correctly understood the implications of our 2015 work for the FTA. We do not accept Northpoint's rebuttal of the Aviasolutions work. Like Azimuth, Northpoint's work is largely aspirational without any robust evidence or analysis of the market. Northpoint, too, misinterpret our previous work for the FTA and TfL.

7.19 **In overall terms, then, we do not consider that the case for the development of Manston Airport has been robustly substantiated. In any event, the capability of the existing infrastructure at the Airport, once made good in line with existing planning consents, is at least 21,000 annual air transport movements by air cargo aircraft. This means that, in practice, RSP are seeking permission to increase the number of cargo air transport movements that Manston Airport is capable of handling from 21,000 to at least 31,000 a year, well beyond the level assessed in the PEIR. Indeed, RSP's consultation material does not provide any detail as to what the increase in capability would be as a result of its proposals (i.e. the increase in capability as a result of its proposed alteration to Manston Airport). As a minimum, the increase in capability would be to 31,000 annual air transport movements by cargo aircraft, but in our view their proposals would result in a significantly higher 'new' capability which is not revealed or assessed by RSP.**

APPENDIX A

York Aviation

Transport for London

Note on Freight Connectivity

1. This note explains the approach taken to estimating the number of pure freighter air transport movements at the London airports in 2050 under three different scenarios of capacity growth:

   - ✈ Maximum use of existing capacity;
   - ✈ 2+2+2 – additional runways at each of Gatwick and Stansted;
   - ✈ New 4 runway hub.

2. The number of additional freighter movements required depends on the volume of passenger flights providing bellyhold capacity under the different scenarios. Under the constrained Max Use scenario, 48,000 pure freighter movements could be required, up from 14,000 at the London airports today. As there would be no spare runway capacity at the main London airports, this capacity would need to be provided from smaller airports serving the London area or from regional airports, with loss of economies of scale and producer efficiency, or through trucking to alternative hubs in Europe with implications for speed of transit.

3. With the provision of additional runways, increased bellyhold capacity reduces the number of additional freighter movements required to 28,000 and 21,000 respectively under the 2+2+2 and 4 runway hub scenarios. In both cases, we believe there will be sufficient runway capacity available to accommodate these freighter movements, albeit the 2+2+2 scenario will still result in dispersal of air freight capacity across a range of airports with the consequent loss of economies of scale and efficiency which could be attained at a single hub.

Freight Volumes

4. In 2012, the London airports handled 1,805,761 tonnes of freight[1]. Only 17% of this freight was flown on pure freighter aircraft. 83% was flown in the bellyhold of passenger aircraft. This may be as a result of limited capacity for freighter operations at Heathrow, where the bulk of air freight consolidation activity is concentrated. However, it may equally reflect the scale of bellyhold capacity offered at Heathrow, which reduces the need for pure freighter capacity to serve the London market as a whole.

5. Using data from ACI EUROPE[2], the volume of freight flown from the London airports is compared with that flown from other key European cities in Table 1.

[1] CAA Airport Statistics.
[2] The small discrepancy to CAA Statistics is noted but it is not considered to be material. The * against Hahn indicates estimated freight taken from airport's own website.

Table 1

	Tonnes
Heathrow	1,464,596
Gatwick	97,565
Stansted	214,904
Luton	29,637
London	**1,806,702**
Paris CDG	1,935,180
Paris Orly	94,700
Paris	**2,029,880**
Frankfurt	1,986,180
Frankfurt Hahn*	223,000
Frankfurt	**2,209,180**
Amsterdam	1,483,450
Milan MXP	405,858
Milan LIN	15,513
Milan BGY	116,733
Milan	**421,371**
Brussels	394,870
Luxembourg	614,906
Madrid	359,360
Zurich	281,683
Vienna	178,128
Dublin	102,717
Lisbon	90,264
Helsinki	176,987

6. There is no clear evidence that London is currently disadvantaged in terms of air freight capacity as the majority of freight is flown from Heathrow in the bellyhold of passenger aircraft rather than in pure freighter aircraft. To the extent that there is a need for freighter capacity, it can be provided at Stansted where there is ample spare capacity for additional movements and areas are set aside to increase aircraft parking and freight handling facilities if required. Although it is possible that limitations on bellyhold capacity at Heathrow may force greater trucking of freight to Europe, this is not evident from a comparison of overall air freight carried compared to other major European countries. In any event, the fact that freight is trucked rather than flown to Europe may have only a marginal impact on total transit times and, hence, limited economic detriment.

7. As well as the main city airports, there are a number of other specialist freight airports in both the UK and western Europe. Those handling over 75,000 tonnes in 2012 are shown in Table 2.

Table 2

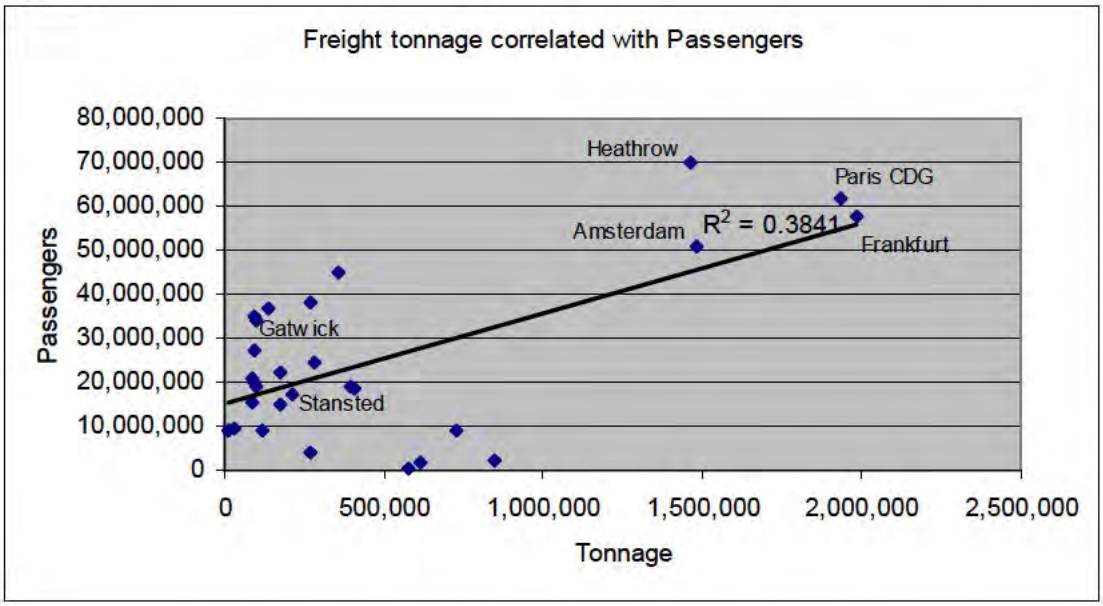
	Tonnes
Manchester	97,215
East Midlands	267,350
Cologne	730,040
Munich	272,203
Dusseldorf	86,729
Leipzig	846,086
Rome	135,777
Liege	577,226

8. Overall, on the basis of substantial air freight flows recorded by ACI EUROPE, the UK handled around 2.2 million tonnes of flown freight, France a similar amount, Italy around 600,000 tonnes and Spain around 500,000 tonnes. This does not suggest that the UK is disadvantaged in terms of freighter capacity overall currently.

9. However, the role of the low countries and Germany in acting as the major freight centre in western Europe is noticeable. In total, the main German freight airports handled almost 4.2 million tonnes of freight in 2012 which, when combined with the Netherlands and Benelux countries, amounted to 7.2 million tonnes of air freight flown. These airports have developed major and specialist air freight roles, with freight being trucked from all over Europe to feed these freight hubs. The integration of trucking with air freight should not be overlooked, even within the UK. In practice, it is unlikely that the UK could replicate this role, even with unconstrained airport capacity, due to its island location on the western edge of Europe.

10. There is some correlation between air freight flown to/from an airport and passengers carried as shown in Figure 1 below but this relates in large part to belly hold capacity. Figure 1 shows the correlation between flown freight and passengers across 29 European airports in 2012 as recorded by ACI EUROPE and which were either major airports in terms of freight handled or secondary airports serving the same cities.

Figure 1



Freighter Operations

11. The pattern of freighter operations is complex. As well as air freight carried in the bellyhold of passenger aircraft, there are freight charters for specialist and ad hoc consignments and large numbers of flights by the integrators (DHL, Fedex, UPS) etc. Obtaining detailed timetable information for freight operations is not possible as most do not publish timetables. Only scheduled freighter operations are shown in OAG and there is some uncertainty over whether this data is comprehensive.

12. Using OAG data for the week of 17th June 2013, the London airports have 49 scheduled freighter departures (98 freighter movements). According to CAA statistics for 2012, there were just over 14,000 freighter aircraft movements at the London airports or around 270 per week. This suggests that the OAG recorded movements account for only around 37% of total freighter aircraft movements to/from the London airports.

13. Similar data has been extracted for other western European airports. The table in Appendix A summarises the main pattern of freighter departures at airports with more than 30 freighter departures per week. This table also includes the principal UK freight airports and secondary airports serving major cities which in combination had more than 30 scheduled freighter departures per week in June 2013.

14. The number of scheduled freighter departures at the main freight airports is summarised in Table 3 along with the freight tonnage handled and passengers carried. It is evident that there is no clear correlation between freight tonnage handled and the weekly number of scheduled departures. This is illustrated in Figure 2. Amsterdam and Frankfurt have a high number of scheduled movements relative to the total volume of air freight whilst Paris and Heathrow handle similar volumes of air freight but with significantly fewer scheduled movements. We believe that the principal reason for these differences is in the relative importance of bellyhold freight but also the extent to which integrator activity is present; for example Fedex has its principal European hub in Paris and its movements are not recorded in OAG.

Figure 2

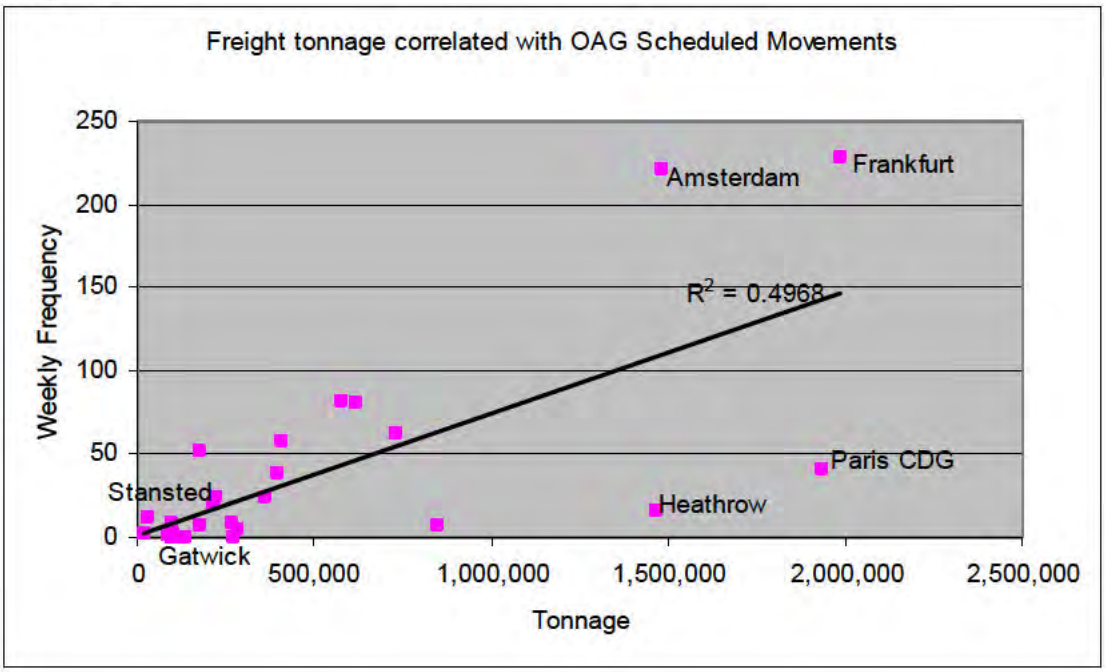


Table 3

	Freight tonnes	Pax	2013 wk freighters
Heathrow	1,464,596	70,038,804	16
Gatwick	97,565	34,222,405	0
Stansted	214,904	17,463,794	21
Luton	29,637	9,630,128	12
Manchester	97,215	19,841,747	8
East Midlands	267,350	4,086,849	9
Paris CDG	1,935,180	61,611,934	41
Paris Orly	94,700	27,232,263	0
Frankfurt	1,986,180	57,520,001	228
Frankfurt Hahn*	223,000		24
Cologne	730,040	9,280,070	62
Munich	272,203	38,360,604	0
Dusseldorf	86,729	20,833,246	1
Leipzig	846,086	2,279,221	7
Amsterdam	1,483,450	51,035,590	221
Milan MXP	405,858	18,522,760	58
Milan LIN	15,513	9,176,997	3
Milan BGY	116,733	8,888,017	0
Rome	135,777	36,980,161	0
Brussels	394,870	18,943,688	38
Liege	577,226	300,813	82
Luxembourg	614,906	1,912,806	81
Madrid	359,360	45,175,501	24
Barcelona	96,519	35,131,771	2
Zurich	281,683	24,751,649	5
Vienna	178,128	22,165,650	52
Dublin	102,717	19,096,572	1
Lisbon	90,264	15,301,236	1
Helsinki	176,987	14,859,981	7

*2011 data from airport website

15. Examination of the detailed information set out in Appendix A also shows how complex the pattern of freighter operations actually is. Few freighters, particularly those serving markets beyond Europe, operate on a strict point to point basis. Many transit more than one of the main European freight airports and a number of points overseas. Examination of arriving freighter patterns also reveals that the inbound pattern does not necessarily mirror the outbound pattern. Hence, there is already considerable flexibility to add new points if the market warrants.

16. Some freighters operate simple round trips. Others operate on a triangular basis, e.g. Lufthansa operating Frankfurt-Dallas-Detroit-Dallas-Manchester-Frankfurt. Inbound freight from the US to Manchester will be flown direct but outbound freight will transit Frankfurt. Other freighters operate effectively round the world journeys, e.g. British Airways operating Chicago-Houston-Stansted-Dammam-Dubai-Shanghai.

17. There is simply no way of knowing how much of the freight capacity on such aircraft is assigned to or used by freight originating in or destined for any airport, which may vary day by day. Freighter departures are, hence, not a reliable proxy for how much air freight capacity is available to uplift goods to and from any country or city.

18. Overall, our analysis of current freighter operations suggests that it is hard to distinguish a relationship between freighter movements and tonnage of freight carried.

19. Nor is it evident that the UK air freight capability is adversely affected today by shortage of capacity at Heathrow. There is ample spare airport capacity at Stansted for pure freight aircraft to the extent that there is demand for such aircraft operations given the amount of bellyhold capacity available at Heathrow. The volume of freight uplifted probably reasonably reflects the UK market, allowing for transit freight, and the limitations of the UK acting as a hub for freight trucked from continental Europe based on its geographic position. The principal issue is one of producer efficiency as a consequence of splitting locations, with the bulk of freight forwarding/consolidator activity being located around Heathrow and freight needing to be trucked to Stansted, Luton, or continental hubs. Whilst concentrating all freight activity at the main hub might make additional freighter flights viable by facilitating onward connections between bellyhold freight and pure freight operations, it is not clear the extent to which this would result in higher volumes of air freight being carried to/from the UK (as distinct from transit freight) as the UK does not appear to be significantly underperforming in aggregate terms compared to countries such as France, Spain or Italy.

Predicting Future Freighter Operations

20. In order to predict the volume of freighter activity in future at the London airports, we have developed a simple spreadsheet as set out in Table 4.

21. We have first projected forward total flown freight demand to and from London[3] on the assumption that it grows in line with overall passenger demand growth at 2.1% per annum in the absence of any specific forecasts of freight tonnage from DfT. We note that the DfT 2013 forecasts only give information for expected growth in pure freighter movements at 0.4% per annum but the basis of this is not clearly stated. Prima facie, this appears to understate unconstrained demand for pure freighter movements over the period to 2050.

22. In contrast, OE have identified that the expected average freight growth to and from Europe would be in the range 3.37% (Boeing) to 3.99% (Airbus). However, this would lead to substantially higher estimates of freight tonnage growth than passenger growth. Recent trends would suggest this to be unlikely so we have adopted the more cautious approach of using the same underlying growth as for passengers.

23. We have then estimated the bellyhold capacity offered at the London airports in 2050 based on the current average tonnage carried per international movement in 2012 at Heathrow, including both EU and non-EU flights, based on CAA Airport Statistics assuming average tonnes per movement increase by 0.5% per annum. This allows us to estimate the residual volume of freight under each scenario which would need to be accommodated on pure freighter aircraft.

[3] This is a simplifying assumption as it assumes the same proportion of UK regional air freight is trucked to London for uplift and the same proportion of freight is trucked to the continental freight hubs. On balance, this is likely to be a neutral assumption for the situation of unconstrained hub capacity as the proportion of regional freight flying direct from major regional airports might be expected to increase, particularly as more long haul flights develop, whilst the proportion being trucked from London to Europe might be expected to decrease with unrestricted capacity available.

Table 4

	2012	2050 Max Use	2050 2x2x2	2050 New Hub
Freighters 2012	14,123			
Freight in Freighters	310,022			
Total Freight	1,805,761	3,977,759	3,977,759	3,977,759
Tonnes per freighter	21.17	25.59	25.59	25.59
Tonnes per international bellyhold movement London	1.76	2.13	2.13	2.13
Forecast International Movements	834,725	1,051,034	1,298,981	1,375,452
Bellyhold Capacity	1,469,116	2,235,836	2,763,285	2,925,960
Freighter tonnage required		1,741,923	1,214,474	1,051,799
Freighter movement		68,077	47,463	41,106
Additional Freighters Required		53,954	33,340	26,983

24. We estimate that the number of freighters required to accommodate projected air freight demand would rise from 14,000 in 2012 to around 41,000 in the New Hub case, 47,000 in the 2+2+2 case and 68,000 in the Max Use case. In both the New Hub case and 2+2+2 case, we estimate there will be sufficient runway capacity available to accommodate these movements at 2050, at the New Hub and/or Stansted respectively. However, in the Max Use case, the London airports will, by definition, be full with passenger aircraft movements. Whilst we believe there will still be a small number of pure freighter operations accommodated in off-peak periods (as today at Heathrow), the number of freighter operations will be constrained.

25. It is reasonable to assume that around 14,000 freighters a year could still be accommodated in the vicinity of London by using capacity at airports such as Manston, which already handles some long haul freighters. However, capacity equivalent to an additional 54,000 freighter movements per year could be required to ensure demand is met, although this could be mitigated to an extent if the freighter capacity was prioritised for freight to and from the UK with less transit freight.

26. A key question is the extent to which such freighter capacity would be provided at airports such as East Midlands, Manchester and Birmingham. This could serve to reduce trucking movements from the regions to London, as take place today, with environmental benefits but it would reduce producer efficiency through split operations. In the absence of detailed data regarding freight trucking movements today, it is difficult to determine whether this would have positive or negative impacts overall..

27. In terms of the specific destinations of future freighter movements, our analysis of the existing patterns of service reveals the difficulty of defining market demand and aircraft routings. We do not believe it is sensible to attempt to determine the future geographic split by destination in either the constrained or unconstrained cases as a single freighter may serve a variety or markets as necessary. In the constrained case, it is likely that more freight would be trucked to the continental hubs as well as to UK regional points, which would potential add to shipment costs.

Conclusions

28. Overall, we have made a best estimate of the number of freighter aircraft movements likely to be using the London airports (or near London airports) under each of the capacity scenarios. These are as follows:

- ✈ Maximum use of existing capacity 14,000
- ✈ 2+2+2 – additional runways at each of Gatwick and Stansted 33,000
- ✈ New 4 runway hub 27,000

29. In the latter two cases, our assessment is that, across both bellyhold capacity and pure freighter activity, there would be sufficient capacity to meet expected demand for air freight to and from the UK. Our estimates for additional freighter capacity are substantially above those made by DfT. Hence, to the extent that our baseline is understated (although we do not believe this to be substantial) due to the current patterns of trucking freight to the continent, this will offset any overstatement as a consequence of assuming higher growth than DfT and by reductions in the amount of trucking to London from regional airports due to expected growth in their own freighter operations over the period to 2050.

30. The key difference between these two scenarios would be in terms of the efficiencies and economies of scale gained by the industry arising from the concentration of freight activity at a single hub. In both cases, the overall volume of air freight to and from the UK is expected to be broadly the same, although the actual freight carried including transit freight would be higher in the hub case. However, under the new hub scenario, savings from greater efficiency may be passed onto users, so reducing shipping costs and facilitating trade leading to higher freight volumes, but it is beyond the scope of the current exercise to assess this.

31. In the constrained, max use, case, there would be severe limitations of pure freighter movements at the London airports, which could amount to around 26% of the required air freight capacity to/from London. The extent to which this would act as a limitation on overall air freight volumes would depend on the extent to which the freight is still carried from regional airports or by truck. Clearly this would impact on the cost/efficiency of shipment, which in turn could impact on freight volumes carried. Again, it is outside the scope of the current exercise to assess these effects.

32. Overall, in assessing the economic value for air freight between the scenarios, the main difference is likely to lie in producer costs passed through to users and the impact that would have on business costs and hence output/freight generated. It would not be safe to assume that the reduction in cargo ATMs at the London airports necessarily translates to lost shipment value in its entirety.

23 May 2013

Appendix A

				Total Airport	Total City	Total Country
Heathrow	Amman	1				
	Amsterdam	1				
	Amsterdam	1	onwards to Sharjah and Singapore			
	Brussels	1				
	Copenhagen	1				
	Copenhagen	1	onwards to Sharjah and Singapore			
	Dubai	1				
	Frankfurt	1				
	Leipzig	1				
	Lisbon	1				
	Milan	1				
	Milan	2	onwards to Hong Kong			
	Paris	1	onwards to Delhi and Hong Kong			
	Seoul	2		16	49	71
Stansted	Amsterdam	1	originates in Bogota, Puerto Rico			
	Amsterdam	2	originates in Miami, Buenos Aires, Bogota and Puerto Rico			
	Cologne	1	onwards to Madrid and Johnannesburg			
	Cologne	1	onwards to Tbilisi			
	Cologne	1	onwards to Tbilisi and Delhi			
	Dammam	1	originates in Chicago and Houston, onwards to Dubai and Shanghai			
	Dubai	1	onwards to Hong Kong			
	Frankfurt	1	originates in Chicago and Atlanta, onwards to Shanghai			
	Frankfurt	2				
	Frankfurt	1	onwards to Chicago			
	Frankfurt	1	onwards to Hong Kong			
	Frankfurt	2	originates in Seoul and Moscow			
	Frankfurt	1	originates in Atlanta, onwards to Delhi and Hong Kong			

	Frankfurt	2	originates in Moscow, onwards to Seoul			
	Luxembourg	2	originates in Hanoi and Hong Kong			
	Zaragoza	1	onwards to Bahrain and Hong Kong	21	49	71
London Luton	Frankfurt	3				
	Istanbul	1				
	Istanbul	2	originates in Paris			
	Istanbul	2	originates in Cologne			
	Milan	4		12	49	71
Manchester	Amsterdam	1	onwards to Dubai and Hong Kong			
	Brussels	1	onwards to Dubai and Hong Kong			
	Dubai	1	originates in Amsterdam, onwards to Hong Kong			
	Frankfurt	2	originates in Detroit and Dallas			
	Frankfurt	1	onwards to Dubai and Hong Kong			
	Frankfurt	1	originates in Toronto and Houston			
	Milan	1	onwards to Hong Kong	8	8	71
East Midlands	Frankfurt	1				
	Keflavik	2	originates in Liege			
	Keflavik	2				
	Liege	2	originates in Keflavik			
	Paris	1		8	8	71
Prestwick	Los Angeles	1	originates in Luxembourg, onwards to Seattle			
	Luxembourg	1	originates in New York and Houston			
	Luxembourg	1	orginates in Los Angeles and Seattle			
	Paris	2	originates in Chicago			
	Seattle	1	orginates in Luxembourg, onwards to Calgary	6	6	71
Amsterdam	Abu Dhabi	4				
	Abu Dhabi	1	onwards to Taipei			
	Almaty	2	onwards to Hong Kong, Delhi, Sharjah			
	Bahrain	1	onwards to Mongolia, Hong Kong, Chennai			
	Baku	2	onwards to Kuala Lumpur			

	Bangalore	1	onwards to Singapore
	Beijing	7	
	Beirut	2	
	Budapest	2	onwards to Moscow
	Chengdu	4	
	Chennai	1	originates Nairobi, onwards to Singapore
	Chennai	1	originates in Chicago and Atlanta, onwards to Singapore
	Chicago	2	originates in Doha
	Chicago	7	
	Chongqing	2	onwards to Shanghai
	Copenhagen	1	originates in Nairobi, onwards to Sharjah and Singapore
	Copenhagen	2	onwards to Sharjah and Singapore
	Curitiba (Br)	1	onwards to Sao Paulo
	Dacca	1	originates in Nairobi, onwards to Singapore
	Doha	1	originates in Chicago
	Doha	3	
	Dubai	2	
	Dubai	1	originates in Eldoret and Nairobi
	Dubai	1	originates in Nairobi
	Dubain	1	originates in Manchester, onwards to Hong Kong
	Entebbe	1	onwards to Nairobi
	Frankfurt	1	originates in Hong Kong
	Frankfurt	1	onwards to Mumbai and Hong Kong
	Gothenburg	3	onwards to Dubai
	Guangzhou	5	
	Harare	3	onwards to Nairobi
	Heathroiw	1	
	Hong Kong	7	
	Houston	7	

	Jeddah	2	
	Johannesburg	1	onwards to Dar-Es-Salaam and Nairobi
	Khartoum	2	onwards to Nairobi
	Kigali	1	onwards to Nairobi
	Kuala Lumpur	1	
	Los Angeles	4	
	Luxembourg	1	originates in Libreville, Brazzaville, Nairobi
	Manchester	1	onwards to Dubai and Hong Kong
	Mexico City	7	
	Miami	2	onwards to Buenos Aires, Bogota, Puerto Rico and Stansted
	Miami	1	onwards to Buenos Aires, Quito and Guayaquil
	Miami	2	onwards to Santiago, Quito, Bogota and Puerto Rico
	Miami	2	onwards to Santiago, Quitoand Guayaquil
	Milan	3	originates in Tokyo
	Milan	2	onwards to Moscow
	Milan	4	onwards to Tokyo
	Mongolia	2	onwards to Hong Kong and Chennai
	Moscow	2	
	Moscow	2	onwards to Shanghai
	Nairobi	1	
	New York	3	orginates in Bahrain
	New York	1	originates in Bahrain
	New York	7	
	Paris	1	onwards to Mumbai and Hong Kong
	Puerto Rico	1	onwards to Bogota
	Puerto Rico	2	onwards to Quito
	Riyadh	1	
	Riyadh	2	onwards to Sharjah, Singapore and Kuala Lumpur

	Santiago	1				
	Sao Paulo	2	onwards to Buenos Aires and Santiago			
	Sao Paulo	1	onwards to Curitiba and Santiago			
	Seattle	1				
	Seoul	7				
	Shanghai	21				
	Sharjah	1	originates in Heathrow, onwards to Singapore			
	Sharjah	2	onwards to Guangzhou			
	Sharjah	1	onwards to Muscat and Hong Kong			
	Stockholm	2	originates in Seoul			
	Stockholm	4	onwards to Seoul			
	Taipei	1				
	Tel Aviv	1				
	Tenerife	1	onwards to Sao Paulo, Quito and Bogota			
	Tenerife	3	onwards to Sao Paulo, Quito and Guayaquil			
	Tianjin	15	onwards to Shanghai			
	Tokyo	1	originates in Frankfurt Hahn			
	Tokyo	5				
	Toronto	4				
	Tripoli	1				
	Vienna	3	onwards to Shanghai	221	221	221
Brussels	Amman	1	onwards to Jeddah			
	Chennai	1	originates in Los Angeles and Dallas, onwards to Singapore			
	Dammam	1				
	Dubai	3	originates in New York			
	Dubai	1	originates in Frankfurt, onwards to Hong Kong			
	Dubai	1	originates in Manchester, onwards to Hong Kong			
	Heathrow	1				
	Istanbul	1	originates in Jeddah			
	Kolkata	1	originates in Los Angeles, onwards to Singapore			
	Milan	2	originates in Riyadh			

			originates in			
	Milan	1	Jeddah			
	Mumbai	1	orginates in Los Angeles and Chicago, onwards to Singapore			
	New Guinea	1	onwards to Seoul			
			originates in			
	New York	1	Jeddah			
			originates in Jeddah, onwards to			
	New York	1	Houston			
	New York	6	originates in Dubai			
	Riyadh	1				
	Riyadh	1	onwards to Jeddah			
	Seoul	1	orginates in New York			
	Seoul	2	originates in New York			
			originates in Dallas, onwards to			
	Sharjah	2	Singapore			
	Sharjah	1	originates in Chicago and Dallas, onwards to Singapore			
	Taipei	1				
	Tianjin	1	onwards to Seoul			
			originates in			
	Vienna	2	Riyadh	36	36	118
Liege	Accra	2	onwards to Lagos and Addis Ababa			
	Addis Ababa	5				
	Bahrain	11	originates in New York			
			onwards to Tel			
	Bucharest	1	Aviv			
	Dubai	12	onwards to Hong Kong			
			onwards to			
	East Midlands	4	Keflavik			
	Entebbe	1				
	Istanbul	5				
	Keflavik	4				
			onwards to New			
	Keflavik	1	York			
	Lagos	2	onwards to Addis Ababa			
	Lagos	1	onwards to Ougadougou			
	Lagos	1	onwards to Port Harcourt			

	Lome	2	onwards to Congo, Addis			
	Luxembourg	1	Ababa			
	New York	1	originates in Tel Aviv			
	New York	2	originates in Tel Aviv			
	New York	5				
	Ougadougou	1	onwards to Congo			
	Shanghai	1				
	Shanghai	2				
	Siauliai Lithuania	1				
	Singapore	1				
	Tel Aviv	3	originates in New York			
	Tel Aviv	1	originates in Chicago			
	Tel Aviv	6				
	Vienna	5		82	82	118
Luxembourg	Abidjan	1	onwards to Accra			
	Abu Dhabi	1	onwards to Taipei			
	Almaty	1	onwards to Hong Kong			
	Atlanta	1	onwards to Chicago			
	Atlanta	1				
	Atlanta	2	originates in Doha, onwards to Houston			
	Baku	1	onwards to Almaty and Shanghai			
	Baku	1	onwards to Hong Kong			
	Baku	4	onwards to Shanghai			
	Baku	1	onwards to Singapore and Hong Kong			
	Baku	1	onwards to Singapore and Kuala Lumpur			
	Baku	2	onwards to Taipei and Bangkok			
	Beijing	1	onwards to Xiamen			
	Beirut	1	onwards to Amman and Hong Kong			

			onwards to Amman and
	Beirut	1	Istanbul
	Chicago	1	onwards to Atlanta
	Chicago	1	onwards to Los Angeles
	Congo	1	originates in Liege, onwards to Addis Ababa
	Dallas	1	
	Dammam	1	onwards to Saigon and Hong Kong
	Doha	1	onwards to Hanoi and Hong Kong
	Doha	1	onwards to Singapore and Kuala Lumpur
	Doha	1	originates in Houston
	Doha	1	originates in Chicago
	Dubai	1	onwards to Bangkok and Hong Kong
	Dubai	1	onwards to Hong Kong
	Frankfurt Hahn	3	originates in Shanghai
	Indianapolis	1	onwards to Chicago
	Indianapolis	1	onwards to Los Angeles, Calgary
	Johannesburg	3	
	Komatsu	2	onwards to Seoul
	Kuwait	2	onwards to Hanoi and Hong Kong
	Lagos	1	onwards to Port Harcourt and Kinshasa
	Libreville	1	onwards to Brazzaville
	Libreville	1	onwards to Kinshasa
	Los Angeles	1	onwards to Seattle
	Los Angeles	1	
	Mexico City	1	
	Mexico City	1	onwards to Guadalajara
	Miami	2	onwards to Houston
	Milan	1	onwards to New York and Chicago
	Milan	4	

	Ndjamena	1	onwards to Lagos			
	New York	1	originates in Tel Aviv			
	New York	1	orginates in Tel Aviv, onwards to Chicago			
	New York	1	onwards to Atlanta			
	New York	1	onwards to Houston			
	New York	1	onwards to Mexico City and Guadalajara			
	Prague	2	originates in Chengdu			
	Prestwick	1	onwards to Los Angeles and Seattle			
	Prestwick	1	onwards to Seattle and Calgary			
	Riyadh	1	onwards to Dammam and Hong Kong			
	Sao Paulo	1				
	Sao Paulo	2	onwards to Curitiba			
	Sao Paulo	1	onwards to Manaus			
	Seoul	1				
	Sharjah	1	onwards to Karachi			
	Singapore	1	onwards to Kuala Lumpur			
	Taipei	2				
	Tbilisi	2	onwards to Baku and Shanghai			
	Yerevan	1		80	80	80
Paris	Beirut	1				
	Cairo	1	onwards to Reunion			
	Chicago	5				
	Cologne	2	onwards to Istanbul			
	Delhi	1	originates in Heathrow, onwards to Hong Kong			
	Djibouti	1	onwards to Reunion			
	Hannover	4				

	Heathrow	1				
	Istanbul	1				
	London Luton	2	onwards to Istanbul			
	Mexico City	6				
	Milan	1	onwards to Delhi and Hong Kong			
	Mumbai	2	onwards to Hong Kong			
	Mumbai	1	originates in Amsterdam, onwards to Hong Kong			
	New York	1	onwards to Chicago			
	Niamey	1	onwards to Ouagadougou and Bamako			
	Njamena	1	onwards to Bangui, Brazzavile and Port Harcourt			
	Porto	1	onwards to Mexico City			
	Seoul	2				
	Shanghai	2	originates in Copenhagen			
	Shanghai	2				
	Tokyo	2		41	41	41
Cologne	Basle	4				
	Berlin	5				
	Bucharest	4				
	Bucharest	2				
	Istanbul	2	originates in Paris			
	Istanbul	2				
	Katowice	4				
	Keflavik	5				
	Ljubljana	4				
	Ljubljana	1	onwards to Zagreb			
	London Luton	2	originates in Istanbul			
	London Luton	2	onwards to Istanbul			
	Madrid	1	originates in Stansted			
	Prague	5				
	Sofia	1				
	Tblisi	1	originates in Stansted			

	Tblisi	1	originates in Stansted, onwards to Delhi			
	Tel Aviv	12				
	Zagreb	4		62	62	304
Frankfurt Hahn	Almaty	1	originates in New York			
	Almaty	6	originates in New York, onwards to Shanghai			
	Amsterdam	1	onwards to Tokyo			
	Amsterdam	1	originates in Tokyo			
	Atyrau	1	onwards to Almaty			
	Baku	3				
	Beijing	3				
	Chatearoux	1	onwards to Kabul			
	Doha	2				
	Johannesburg	2				
	Milan	1	onwards to Tokyo			
	Toronto	1	onwards to Mexico City			
	Yerevan	1		24	242	304
Frankfurt	Abu Dhabi	5				
	Almaty	1				
	Almaty	1	onwards to Guangzhou			
	Almaty	1	onwards to Hong Kong			
	Almaty	2	onwards to Shanghai			
	Amman	2				
	Amsterdam	1	originates in Hong Kong and Chennai			
	Atlanta	4				
	Baku	1	onwards to Bangkok and Kuala Lumpur			
	Baku	2	onwards to Kuala Lumpur			
	Bangalore	3	onwards to Chennai			
	Bangalore	1	onwards to Hyderabad and Guangzhou			
	Bangkok	2				
	Beijing	3	onwards to Shanghai			
	Brussels	1	onwards to Dubai and Hong Kong			

	Cairo		3		
	Chicago		7		
	Chicago		1	onwards to Los Angeles	
	Chicago		4	onwards to Mexico City	
	Chicago		2	onwards to Mexico City and Guadaljara	
	Chicago		1	originates in Stansted	
	Coventry		10		
	Dakar		3	originates in Dubai, onwards to Sao Paulo	
	Dammam		2	onwards to Sharjah and Hong Kong	
	Delhi		4	onwards to Singapore and Bangkok	
	Delhi		1	originates in Atlanta and Stansted, onwards to Hong Kong	
	Detroit		2		
	Doha		1		
	Dubai		1	originates in Lagos and Accra	
	Dubai		4	originates in Sao Paulo and Dakar	
	Dubai		3		
	Dubai		1	originates in Dusseldorf	
	Dubai		1	originates in Manchester, onwards to Hong Kong	
	East Midlands		1		
	Heathrow		1		
	Helsinki		1		
	Hong Kong		3		
	Hong Kong		1	originates in Stansted	
	Istanbul		6		
	Istanbul		1	onwards to Tel Aviv	
	Jeddah		1	onwards to Sharjah, Hyderabad and Guangzhou	
	Kabul		1		
	Krasnojarsk		1		
	Krasnojarsk		6	onwards to Beijing and Seoul	
	Krasnojarsk		1	onwards to Seoul and Shanghai	
	Krasnojarsk	y		onwards to Shanghai	

	Krasnojarsk	7	onwards to Tokyo and Osaka
	London Luton	3	
	Madrid	4	
	Malta	1	
	Milan	1	originates in Hong Kong and Dubai
	Milan	1	onwards to Dubai and Hong Kong
	Milan	1	onwards to Hong Kong
	Moscow	10	
	Moscow	2	onwards to Tokyo
	Moscow	1	onwards to Tokyo and Seoul
	Mumbai	1	
	Mumbai	1	onwards to Chennai
	Mumbai	3	onwards to Hong Kong
	Mumbai	1	onwards to Hyderabad
	Mumbai	1	originates in Amsterdam, onwards to Hong Kong
	Nairobi	5	onwards to Johannesburg
	New York	5	
	Riyadh	3	
	Riyadh	1	onwards to Dammam
	Riyadh	1	onwards to Sharjah and Hong Kong
	Sao Paulo	3	
	Sao Paulo	1	onwards to Curitiba
	Sao Paulo	1	onwards to Curitiba, Quito and Puerto Rico
	Sao Paulo	2	onwards to Manaus, Quito and Puerto Rico
	Sao Paulo	2	onwards to Montevideo and Buenos Aires
	Seoul	1	originates in Vienna
	Seoul	2	originates in St Petersburg
	Seoul	12	

	Seoul	2	originates in Atlanta and Stansted			
	Seoul	1	originates in Moscow and Vienna			
	Shanghai	1	originates in Chicago, Atlanta and Stansted			
	Shanghai	18				
	Sharjah	2	onwards to Kolkata and Hong Kong			
	Stockholm	1	onwards to Dubai and Hong Kong			
	Stockholm	4	onwards to Seoul			
	Taipei	3				
	Tel Aviv	3	onwards to Istanbul			
	Toronto	1	onwards to Houston	218	242	304
Milan	Abu Dhabi	2				
	Almaty	1	onwards to Osaka and Hong Kong			
	Baku	1				
	Dammam	1				
	Delhi	1	originates in Paris, onwards to Hong Kong			
	Doha	2				
	Dubai	2	onwards toHong Kong			
	Dubai	1	originates in Frankfurt, onwards to Hong Kong			
	Heathrow	5				
	Hong Kong	1	originates in Frankfurt			
	Hong Kong	2	originates in Heathrow			
	Hong Kong	1	originates in Manchester			
	Istanbul	1				
	Istanbul	2	originates in Lagos			
	Istanbul	1	orginates in Tirana			
	Jeddah	1				
	Luxembourg	1	originates in Chicago and Los Angeles			
	Luxembourg	4				
	Luxembourg	1	orginates in Chicago and New York			
	Madrid	1				
	Moscow	2	originates in Amsterdam			

	New Guinea	1	onwards to Seoul			
	Osaka	1	onwards to Hong Kong			
	Riyadh	1				
	Sao Paulo	1				
	Seoul	1	originates in Uzbekistan			
	Seoul	9				
	Shanghai	4				
	Tokyo	4	originates in Amsterdam			
	Tokyo	1	originates in Frankfurt Hahn	57	57	57
Vienna	Amman	1				
	Copenhagen	2	orginates Seoul			
	Frankfurt	1	orginates Seoul			
	Istanbul	2				
	Kiev	5				
	Liege	5				
	Milan	3	orginates Seoul			
	Moscow	2	orginates Seoul and onwards to Gothenburg or Frankfurt			
	Oslo	3	orginates Seoul			
	Oslo	6				
	Riyadh	2				
	Seoul	1	via Frankfurt			
	Seoul	3	via Gothenburg			
	Seoul	1	via Tel Aviv			
	Seoul	4	via Copenhagen			
	Seoul	1	originates Moscow			
	Shanghai	3	originates Amsterdam			
	St Petersburg	1	orginates Seoul and onwards to Gothenburg			
	Tel Aviv	1	orginates Seoul			
	Timosoara	5		52	52	52

APPENDIX C: INDEX OF AZIMUTH PARAGRAPH REFERENCES IN YORK AVIATION NOVEMBER 2017 REPORT

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
2.3 – "Although Azimuth state at paragraph 1.2.1 of Volume 1 "*RiverOak, who specialise in identifying market opportunities, has identified the substantial need for additional and specialised airport capacity for dedicated freighters in the southeast of England*", we are unaware of any other research upon which RSP rely. All other documents produced in support of the prospective DCO appear to rely on the work of Azimuth".	Paragraph 1.2.1 of Volume I in section "**RiverOak's vision for Manston Airport**"	Para 1.2.1 of Vol I in section "**RiverOak's vision for Manston Airport**"	Re-worded *"RiverOak, whose directors specialise in……."*
2.10 – "Furthermore, the reference at paragraph 5.1.4 to concern expressed in the Aviation Policy Framework regarding the implications of capacity shortfalls on the range of destinations served does not, as Azimuth infer, indicate a need for additional aircraft movements by dedicated freighter aircraft as these would require a concentration of freight flows to a specific destinations to fill a single aircraft at a time. Rather, the Aviation Policy Framework refers to the need for a wide range of global destinations being available at the UK's national hub airport, offering	Paragraph 5.1.4 of Volume I in section "**Political Setting**"	Para 2.3.8 in Vol I in section "**Political Setting**"	Original report made reference to Aviation Policy Framework citing the circumstances where no additional airport capacity was provided. The updated report now refers to a quotation from the Airports NPS, which still relates to the circumstances in the absence of any additional capacity at the London airports.

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
passenger and bellyhold capacity so as to maximise the choice and convenience for both passengers and shippers of airfreight. It is this variety of destinations and, importantly, the high frequencies of service that lead the market to favour a bellyhold hub and spoke system so that freight can reach its end destination in the most efficient and cost effective way possible."			
2.18 – "In this paper for TfL, we estimated the excess air freight that could not be accommodated in bellyhold capacity on passenger aircraft under different scenarios of additional capacity at the London airports and converted that excess to an equivalent number of freighter movements. The 54,000 potential additional freighter movements that Azimuth (and Northpoint) cite at paragraph 3.4.5 are the additional freight carrying capacity required in the event of there being no further runway capacity at any of the London airports (a severely constrained scenario) that is simply no longer realistic as we have set out above. Azimuth's (and Northpoint's) use of	Paragraph 3.4.5 of Volume I in section "**The need for air freight capacity in the South East**"	The point discussing TfL forecasts predicting that the South East will be short of capacity for around 54,000 air freight movements is made twice in the new report: Paragraph 4.2.8 in section "**Freight-focussed findings**"; Paragraph 5.1.8 in section "**Channel Crossings and Trucking**".	Point repeated in two sections.

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
this figure as a potential market for Manston is misleading."			
2.19 – "The note then goes on to set out how this requirement for additional freight capacity might be met and the economic consequences. In the first instance, we noted that around 14,000 additional freighter movements could be accommodated in the London system if no capacity expansion takes place, and this included the use of additional available freighter slots at Stansted. Azimuth appear to have taken our inclusion of Manston, as an example of a smaller airport in the South East that could accommodate some movements, as an indication that it could play a substantial role, wrongly stating in the Executive Summary and at paragraph 3.4.5 that we said that Manston was expected to handle 14,000 freighter movements. Manston was given simply as an example of an airport with freighter activity at the time of writing (2013) with the potential to accommodate some additional movements (as we set out in Section 4 of this report, the	Paragraph 3.4.5 of Volume I in section "**The need for air freight capacity in the South East**"	Azimuth continue to claim that our work for TfL stated that Manston could accommodate 14,000 displace freighter movements in the **Executive Summary** to Vol I. There are numerous other references to the 14,000 movements, including at paragraph 3.1.3 of Vol III where Azimuth claims that Manston is the only airport that could accommodate these movements.	The updated Azimuth Reports continue to misrepresent the implications of our work for TfL.

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
capability of Manston Airport is 21,000 annual cargo aircraft movements before allowing for any night operations)."			
2.23 – "Azimuth, at paragraph 3.3.2, incorrectly characterises our note to TfL as expressing a concern about the amount of trucking to Europe. Significantly, the last part of paragraph 9 is omitted by Azimuth. When looked at in its entirety, it is evident that we were noting that trucking is an inevitable part of the market, for reasons which we explain later in this section: [quote]"	Paragraph 3.3.2 of Volume I in section "**The UK's competitive position**"	Paragraph 4.3.4 in section "**The UK's competitive position**"	Reference corrected from TfL to York Aviation. Quotation still not given in its entirety and continues to be misconstrued.
2.27 – "Azimuth's interpretation of our work for FTA appears to erroneously assume that excess demand in the London system will need to be met by additional freighter movements from an airport in the vicinity of London. For instance, at para 4.2.3, they state that "Even so and as York Aviation figures show, there will be a shortfall of slots for dedicated freighters, likely to be in the region of 45,000 by 2050".	Paragraph 4.2.3 of Volume I in section "**London Heathrow Airport**"	Paragraph 5.2.3 in section "**London Heathrow Airport**"	No change
2.38 – "At Para 4.0.2, Azimuth suggest the reasons why cargo airlines choose airports. In reality,	Paragraph 4.0.2 of Volume I in section "**Airfreight Capacity at UK Airports**"	Paragraph 8.0.2 of Vol I in section "Potential opportunities for Manston Airport"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
Manston does not fulfil a number of these key criteria meaning that, even in the most favourable circumstances, it can never be more than a niche player in the market…"			
Footnote 25 (on page 20) – "Azimuth Vol 1 paragraph 7.1.6 quotes from a 2005 MORI survey that people were not impacted by night flights but this would reflect that there were no scheduled night flights when the airport was operational. Local resident support for re-opening (paragraph 7.1.1) needs to be seen in this context."	Paragraph 7.1.6 of Volume 1 in section "**Support for Manston Airport**" Paragraph 7.1.1 of Volume 1 in section "**Support for Manston Airport**"	Both points removed.	Both points removed.
2.39 – "A key consideration is Manston's geographic position substantially away from the economic spine of the UK and with very limited local demand. It is remote from most markets with a journey time to the M25 of nearly 1 hour and accessibility beyond would be subject to the general levels of traffic congestion in the London area. Azimuths's suggestion (paragraph 1.2.2) that Manston might effectively serve as a 4th runway for Heathrow for air cargo flights is merely fanciful given the journey time of 1¾ hours, which is	Paragraph 1.2.2 of Volume 1 in section "**RiverOak's vision for Manston Airport**"	Paragraph 1.2.2 in section "**RiverOak's vision for Manston Airport**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
little shorter than the time from Heathrow to East Midlands Airport with an already well developed infrastructure for handling air freight and more likely to fulfil such a role in relation to freight overspill from Heathrow that is time critical or of such a special nature as to warrant the use of pure freighter aircraft."			
2.40 – "Many of the other points raised by Azimuth regarding security, e-commerce and just-in-time delivery are all factors relating to the overall efficiency of the industry. If anything, what the analysis presented by Azimuth demonstrates is the importance of developing efficient freight networks serving the whole of the UK rather than the need for a re-opened freight focussed airport in the South East of England. Manston could only recapture economic benefits from cargo being trucked to the continent, as asserted at paragraph 4.8.4, to the extent that it provides a more economically efficient solution…"	Paragraph 4.8.4 of Volume I in section "**Other South East UK airfields**"	Points relating to Operation Stack etc. are made in Paragraphs 6.4.11 to 6.4.12 of Vol I in section "**Air freight trucking**"; Paragraph 6.4.13 again makes the point that by flying freight from Manston Airport, negating the need to truck to and from European airports for some types of air transportation, should help to ease congestion in the area…	Redrafted text but claims about Manston's role in relation to intercepting trucking to Europe retained in new text.

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
2.41 – "One of the key reasons that the UK aviation sector is so productive, as cited by Azimuth at paragraph 5.2.1, is that it allows the market to work. Inefficient and unnecessary actors in the market are allowed to fail…"	Paragraph 5.2.1 of Volume 1 in section "**The Potential Effect of BREXIT on UK Aviation**"	Paragraph 6.2.1 in section "**The Potential Effect of BREXIT on UK Aviation**"	Final sentence "As such, it seems counter-productive to allow a potentially viable airport such as Manston to be used for housing" has been removed.
2.42 – "Azimuth asserts, paragraph 6.2.2, that the perceived lack of investment in Manston by the previous owners was an impediment to freight growth."	Paragraph 6.2.2 of Volume I in sub-section "Previous Operations"	Paragraph 7.2.2 of Vol I in sub-section "**Previous operations**"	Identical, although wording of last sentence changed slightly.
2.44 – "Volume II of Azimuth's work begins with an assessment of different forecasting approaches for cargo, noting that forecasting of cargo is not as well developed as that for passenger activity. We agree that air freight forecasting is difficult and that there is a lack of hard data. However, we do not agree with Azimuth's assertion that quantitative methods are, therefore, not suitable and that qualitative methods are more appropriate. The evidence cited by Azimuth at Table 3 does not support this conclusion and suggests that causal methods (regression analysis) remain the most appropriate for	Table 3 of Volume II titled "**Attributes of Aviation Forecasting Techniques**"	Table 2 of Vol II, titled "**Attributes of Aviation Forecasting Techniques**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
forecasting demand for cargo and freighters.)			
2.46 - "As well as reviewing forecasting methodologies, Azimuth sets out some air freight growth forecasts produced by others. At paragraph 3.6.1, Azimuth cite the DfT's assumption for growth in freighter movements in its 2013 UK Aviation Forecasts at 0.4% p.a"	Paragraph 3.6.1 of Volume 2 in section "**Department for Transport National Level Forecasts**"	Paragraph 2.6.1 in section "**Department for Transport National Level Forecasts**"	No change. However, the DfT 2013 UK Aviation Forecasts have been superseded by the DfT 2017 UK Aviation Forecasts that now assume no growth in freighter aircraft movements.
2.47 – "Given the existence of a definitive 'official' UK forecast for freighter movements over the period to 2050, it is not clear why Azimuth rely on global forecasts for air freight produced by the manufacturers Boeing and Airbus for the purpose of selling aircraft (paragraph 2.1.10) as a basis for the longer term projections of freighter movements at Manston in their Volume III (paragraph 2.3.2)."	Paragraph 2.1.10 of Volume III in sub-section "**Air Freight Forecasting Method**" Paragraph 2.3.2 of Volume III in sub-section "**Long-term Freight Forecasting Model**"	Paragraph 2.1.11 of Vol III in sub-section "**Air Freight Forecasting Method**" Paragraph 2.3.2 in sub-section "**Long-term Freight Forecasting Model**"	No change
2.48 – "Taken together, these reports point to a declining market share for freighter aircraft in mature markets such as the UK, where there is a good supply of bellyhold capacity. It is, hence, not reasonable to use the Boeing and Airbus growth rates as a basis for projecting future growth in movements by pure	Paragraph 2.3.2 of Volume III of sub-section "**Long-term Freight Forecasting Model**"	Paragraph 2.3.2 of Vol III in sub-section "**Long-term Freight Forecasting Model**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
freighter aircraft to and from the UK, particularly given the existence of DfT projections for such movements. Rather than being conservative, as suggested at paragraph 2.3.2 in Volume III, the use of a 4% per annum growth rate for years 10 to 20 at Manston is highly optimistic, and is certainly not supported by the DfT's analysis of the UK market."			
2.49 – "Having rejected the recognised methodologies for forecasting freight demand at an airport, Azimuth rely on interviews with 24 individuals and/or organisations as set out in Table 4 of their report. To a large extent, these are people with past connections with Manston and who may not have a totally unbiased view on the desirability of it re-opening. It is notable that few cargo airlines or large scale air freight operators were interviewed, rather the list is dominated by local interested parties and logistics firms, not all of which are still in business. In some cases, throughout the remainder of Volume II, individuals are referred to who are not listed in Table 4 and,	Table 4 of Volume II in sub-section "**Interview data collection**" Paragraph 4.3.1 of Volume II in sub-section "**Semi-structured Interview Schedule Design**"	Table 3 in sub-section "Interview data collection" Paragraph 3.3.1 of Volume II in sub-section "**Semi-structured Interview Schedule Design**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
in other cases, individuals or organisations are referred to in different terms to those listed in the table. This does not suggest a very robust or rigorous approach to setting out the potential for Manston. Although the framework of questions is set out at paragraph 4.3.1, we are unable to identify any questions that would enable an assessment to be made of future passenger or freight volumes that would be likely to use Manston and which could be used as the basis for any forecast of future usage."			
2.51 "This analysis is generic and of no direct relevance to the potential for Manston. In particular, no linkage is drawn between the commodities which typically use air freight set out at paragraph 5.1.2 and the economic sectors active in Kent. Significantly, at paragraph 5.1.5, Azimuth cite a respondent that made clear that "tendered" prices determine how air freight moves. This is a powerful reason why bellyhold will in most instances win over pure freighter operations. Issues of price for pure freighter operations are reinforced at	Paragraph 5.1.2 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 5.1.5 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 5.1.10 of Volume II in sub-section "**Findings by Category of Interview Question**"	Paragraph 4.1.2 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 4.1.5 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 4.1.10 of Volume II in sub-section "**Findings by Category of Interview Question**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
paragraph 5.1.10, particularly in relation to the risks associated with higher fuel prices."			
2.52 - "There are then a number of comments regarding the current difficulties of operating at Heathrow at paragraph 5.1.6ff."	Paragraph 5.1.6ff of Volume II in sub-section "**Findings by Category of Interview Question**"	Paragraph 4.1.6ff of Volume II in sub-section "**Findings by Category of Interview Question**"	No change
2.54 – "Again, paragraph 5.1.15 highlights the dominance of bellyhold freight. Whilst noting that the A380 aircraft has more limited space for bellyhold cargo than B747s at paragraph 5.1.14, Azimuth neglect to point out that other new aircraft, such as B787 and A350 aircraft, do not suffer from similar reductions in space and capacity and continue to offer substantial bellyhold opportunities and capacity."	Paragraph 5.1.15 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 5.1.14 of Volume 2 in sub-section "**Findings by Category of Interview Question**"	Paragraph 4.1.15 of sub-section "**Findings by Category of Interview Question**" Paragraph 4.1.14 of sub-section "**Findings by Category of Interview Question**"	No change
2.55 – "The response cited at paragraph 5.1.19 makes clear that the most important factor in considering freighter operations is "cost, speed and access to road networks", which is not a condition which Manston can meet for the majority of the UK. The local transport firms (paragraph 5.1.21) clearly saw an advantage for them in Manston re-opening but it is far	Paragraph 5.1.19 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 5.1.21 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 5.1.20 of Volume II in sub-section "**Findings by Category of Interview Question**"	Paragraph 4.1.19 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 4.1.21 of Volume II in sub-section "**Findings by Category of Interview Question**" Paragraph 4.1.20 of Volume II in sub-section "**Findings by Category of Interview Question**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
less clear that this was reflected by the broader industry. Significantly, paragraph 5.1.20 does not address the operational reasons why major freight forwarders seek to locate close to Heathrow, Stansted or East Midlands, except possibly for their city centre sales offices."			
2.56 – "The response quoted at paragraph 5.1.23 makes clear that for Manston to be an attractive option to freighter operations, it would need to offer night operations."	Paragraph 5.1.23 of Volume II in sub-section "**Findings by Category of Interview Question**"	Paragraph 4.1.23 of Volume II in sub-section "**Findings by Category of Interview Question**"	No change
2.58 – "The one airline interviewed made clear (paragraph 5.2.3) that "success at Manston depended upon identifying a niche market and becoming known for excellence. In particular, suggestions included a perishables centre, handling of live animals, easy access for charter flights, and handling cargo that is not necessarily straightforward". We would have expected the remainder of the report to concentrate on quantifying the size of this niche market, including any Brexit implications for exports (paragraph 5.2.1)."	Paragraph 5.2.3 of Volume II in sub-section "**Freight-Focussed Findings**" Paragraph 5.2.1 of Volume II in sub-section "**Freight-Focussed Findings**"	Paragraph 4.2.3 of Volume II in sub-section "**Freight-Focussed Findings**" Paragraph 4.2.1 of Volume II in sub-section "**Freight-Focussed Findings**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
2.59 – "The spurious suggestion that freight might be "banned" from Heathrow (paragraph 5.2.6) and Manston might benefit is clearly nonsense in the context of the Government's support for a third runway to provide capacity for freight in the bellyholds of passenger aircraft as much as for passengers."	Paragraph 5.2.6 of Volume II in sub-section "**Freight-Focussed Findings**"	Paragraph 4.2.6 of Volume II in sub-section "**Freight-Focussed Findings**"	No change despite the clear statement in the Airports NPS that R3 at Heathrow is intended to double the freight capacity of Heathrow.
2.60 – "Whilst the suggestion from Coyne Airways about the potential for Manston to offer fuel cost savings when flying south from the UK (paragraph 5.2.11) is interesting, it appears not to take any account of the locations where freight is generated in the UK or where it is consolidated into viable loads."	Paragraph 5.2.11 of Volume II in sub-section "**Freight-Focussed Findings**"	Paragraph 4.2.11 of Volume II in sub-section "**Freight-Focussed Findings**"	No change
2.61 – "Azimuth also claim that the bellyhold model is broken and that there is about to be a shift back to pure freighter operations at paragraph 5.2.25 but this is pure speculation and at odds with other industry commentators (see Airbus freighter forecasts which project an increasing share of bellyhold globally) and the UK Government's view as expressed by the Department for Transport."	Paragraph 5.2.25 of Volume II in sub-section "**Freight-Focussed Findings**"	Paragraph 4.2.25 of Volume II in sub-section "**Freight-Focussed Findings**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
2.62 – "Whilst paragraph 5.2.24 says there was underinvestment in facilities by the previous owners, the quotation from Finlays at paragraph 5.2.26 makes clear that Manston previously offered a good level of service. Hence, there is little evidence to suggest that underinvestment was any impediment to Manston attaining its natural share of the market in the past. Although Finlays have now relocated their operation back to Stansted, we would accept that they might choose to return to Manston with a similar number of movements as previously if the facilities were reinstated and provided the cost of operating was competitive compared to Stansted. There may also be scope for some humanitarian and military flights (paragraph 5.2.48) but these will be small in number and not the basis for a viable operation of the Airport."	Paragraph 5.2.24 of Volume II in sub-section "**Freight-Focussed Findings**" Paragraph 5.2.26 of Volume II in sub-section "**Freight-Focussed Findings**" Paragraph 5.2.48 of Volume II in sub-section "**Freight-Focussed Findings**"	Paragraph 4.2.24 of Volume II in sub-section "**Freight-Focussed Findings**" Paragraph 4.2.26 of Volume II in sub-section "**Freight-Focussed Findings**" Paragraph 4.2.49 of Volume II in sub-section "**Freight-Focussed Findings**"	No change
2.63 – "At paragraph 5.2.45, Fedex's criteria for an airport to be attractive to an integrator are set out and these seems to describe the characteristics of their main UK base	Paragraph 5.2.45 of Volume II in sub-section "**Freight-Focussed Findings**"	Paragraph 4.2.46 of sub-section "**Freight-Focussed Findings**"	No change No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
at Stansted. There is then a discussion about some of the problems DHL perceive at Heathrow but, of course, DHL's principal UK operation is focussed at East Midlands where they have an extensive operation. From our work with the integrators and with the Freight Transport Association, we know that Manston is too peripheral for integrator operations serving the UK. Integrators have a strong preference for locations more centrally located in the UK with good road access to all of the major markets. The availability of land for warehouses (paragraph 6.2.6) is far less important than a location central to the market and the availability of good road access, neither of which are characteristics of Manston. This would apply equally to the suggestion that Amazon might locate there or that the Airport could become a base for drone operations (6.3.24-27)."	Paragraph 6.2.6 of Volume II in sub-section "**Market Opportunities for Manston Airport**" Paragraphs 6.3.24-27 of Volume II in sub-section "**External Environment Scenarios**"	Paragraph 5.2.6 of Volume II in sub-section "**Market Opportunities for Manston Airport**" Paragraphs 5.3.24-27 of Volume II in sub-section "**External Environment Scenarios**"	Removed explicit quote from Atlas Air indicating support for Manston Airport, replaced by comment on discussions with Atlas Air. The position regarding Atlas Air's support needs to be clarified.
2.67 – "Again, there is reliance on our work for TfL and the FTA (paragraph 6.1.8) to justify the conclusions reached. As stated	Paragraph 6.1.8 of Volume II in sub-section "**Attracting Air Freight to Manston Airport**"	Paragraphs 5.1.8 of Volume II in sub-section "**Attracting Air Freight to Manston Airport**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
above this work does not support RSP's case."			
2.69 – "At paragraph 6.3.1, Azimuth set out 9 potential scenario drivers for Manston. However, it is not clear how these scenario drivers have been taken forward to the forecasts set out in Volume III, which do not set different potential scenarios for growth…"	Paragraph 6.3.1 of Volume II in sub-section "**External environmental scenarios**"	Paragraphs 5.3.1 in Volume II in sub-section "**External environmental scenarios**"	No change
2.70 – "Section 7 sets out the conclusions from Volume II. According to Azimuth (paragraph 7.1.1), the key issues that are seen to favour Manston are…"	Paragraph 7.1.1 of Volume II in sub-section "**Recommendations**"	Paragraph 6.1.2 of Volume II in sub-section "**Recommendation**"	No change but prefaced now by paragraph 6.1.1 which states *"It is recommended that the airport operator incorporate the opportunities shown below into their future development and marketing plans".* This suggests strongly that there is less certainty about the deliverability of the opportunities at Manston than is implied by <u>all</u> of these opportunities being included within the RSP forecasts for Manston.
2.71 – "Based on their analysis, Azimuth then set out (at paragraph 7.1.2), the markets which it believes that Manston could attract"	Paragraph 7.1.2 of Volume II in sub-section "**Recommendations**"	Paragraph 6.1.3 of Volume II in sub-section "**Recommendation**"	No change
2.73 – "The key conclusion drawn by Azimuth is that "This report demonstrates the potential demand	Paragraph 7.0.1 of Volume II in sub-section "**Conclusions**"	Paragraph 6.0.1 of Volume II in sub-section "**Conclusions**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
for Manston Airport, indicating its viability and clearly showing that Manston Airport is a valuable local, regional and national asset, providing airport infrastructure badly needed by the UK." (Paragraph 7.0.1)"			
2.76 – "The forecasts set out in Volume III draw extensively on the analysis in Volumes I and II. Although stated to be derived on a 'bottom up' basis (Executive Summary Page 1) and claimed to be more conservative than top down, econometrically driven, projections, reliance is still placed, at paragraph 1.1.1…"	Paragraph 1.1.1 of Volume III in sub-section "**Background**"	Paragraph 1.1.1 in sub-section "**Background**"	Minor rewording of language. No substantive change to continued reliance on York Aviation work despite the reliance on this work having been refuted.
2.77 – "Paragraph 2.1.2 again suggests that the literature review undertaken showed that "a qualitative approach was the most appropriate method through which to gather data on the potential demand for an individual airport". Whilst we agree that freight forecasting is difficult, as Azimuth themselves note, at paragraph 2.1.4, qualitative forecasts still need to be based on "market data" and, at paragraph 2.1.6, Azimuth go on	Paragraph 2.1.2 of Volume III in sub-section "**Air Freight Forecasting Method"** Paragraph 2.1.4 of Volume III in sub-section "**Air Freight Forecasting Method**" Paragraph 2.1.6 of Volume III in sub-section "**Air Freight Forecasting Method**"	Paragraph 2.1.2 of Volume III in sub-section "**Air Freight Forecasting Method**" Paragraph 2.1.4 of Volume III in sub-section "**Air Freight Forecasting Method**" Paragraph 2.1.7 of Volume III in sub-section "**Air Freight Forecasting Method**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
to refer to the anecdotal information collected in the interviews as primary market data."			
2.80 – "Azimuth place reliance on both the overspill argument (paragraph 2.2.2) and that there will be a reversal away from the existing preference for bellyhold for most types of air freight, despite the overwhelming evidence that this is likely to remain the case in future due to the lower freight rates available…"	Paragraph 2.2.2 of Volume III in sub-section "**Short and Medium Term Freight Forecasting Model**"	Paragraph 2.2.2 of Volume III in sub-section "Short and Medium Term Freight Forecasting Model"	No change
2.82 – "At paragraphs 2.2.6 and 2.2.7, Azimuth set out the methodology they have used for deriving freight movements and tonnage for Manston. In essence, these movement forecasts are entirely based on claimed confidential discussions with airlines, airports and others involved in the industry, which are then converted to freight tonnage based on the capacity of each aircraft and assumed load factors. These discussions would appear to be different from the list of interviewees reported in Volume II, which included only 1 airline	Paragraph 2.2.6 of Volume III in sub-section "**Short and Medium Term Freight Forecasting Model**" Paragraph 2.2.7 of Volume III in sub-section "**Short and Medium Term Freight Forecasting Model**" Paragraph 2.2.9 of Volume III in sub-section "**Short and Medium Term Freight Forecasting Model**"	Paragraph 2.2.6 of Volume III in sub-section "**Short and Medium Term Freight Forecasting Model**" Paragraph 2.2.7 of Volume III in sub-section "**Short and Medium Term Freight Forecasting Model**" Paragraph 2.2.9 of Volume III in sub-section "**Short and Medium Term Freight Forecasting Model**"	No change

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
(unlikely itself to relocate its single European operation to Manston) and no other airports. Although it is claimed (paragraph 2.2.9) that switching costs have been taken into account, there is no explanation as to how these costs have been factored into the assessment of what operations Manston might attract."			
2.83 – "A vague list of potential operations is set out at paragraph 3.2.3, albeit with specific assumptions then stated about the loadings on each…" [Also mentioned in YAL para 2.85]	Paragraph 3.2.3 of Volume III in sub-section "**Freight Forecast by Tonnage**"	Paragraph 3.2.3 of Volume III in sub-section "**Freight Forecast by Tonnage**"	Acknowledgement that some return legs can be empty has been added. In some cases, global growth rates from IATA have been added but these are not relevant to assessing the potential for such operations at Manston.
2.88 – "Although not the main focus of this summary report, we note that the passenger forecasts, set out by Azimuth in Section 2.4"	Title for sub-section 2.4 in Volume III "**Passenger forecasting method**"	Title for sub-section 2.4 in Volume III "**Passenger forecasting method**"	No change
2.91 – "In overall terms, the forecasts presented by Azimuth at Table 1 of Volume III are simply not credible and do not provide a robust basis for promoting a DCO."	Table 1 in Volume III "**Summary 20 year freight and passenger forecast"**	Table 1 in Volume III "**Summary 20 year freight and passenger forecast"**	Table unchanged. Paragraph below has now removed "*Nonetheless, the forecast shows the airport exceeding the Nationally Significant Infrastructure Project (NSIP) criteria for 10,000 freight movements by Year 6*".
Footnote 52 [from YAL Para 4.9] – "We are unclear why 19 Code E	Table 2 in Volume III "**Freighter Movements by Year by ICAO**	Table 2 in Volume III "**Freighter Movements by Year by ICAO**	Code F column has been removed. Code D movements have

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
stands are proposed given that the fleet mix at 2039 shows 85% of aircraft (at 17,171 annual cargo aircraft movements) being by aircraft smaller than Code E dimensions."	**Design Code"** in sub-section "**Freight Forecasts by Movements**"	**Design Code"** in sub-section "**Freight Forecasts by Movements**"	significantly decreased whilst Code E movements have significantly increased. The reasons for this is unexplained and this is inconsistent given that the total tonnages and tonnage assumptions per movement have not changed. This cannot be correct.
5.4 – "Azimuth spend some time considering the appropriate employment density on which to base an assessment of direct employment. They ultimately conclude that East Midlands Airport provides an appropriate comparator (see paragraph 4.1.4 of Volume IV)…"	Paragraph 4.1.4 of Volume IV in sub-section "**Macro Level Forecasts**"	Paragraph 4.2.1 of Volume IV in sub-section "**Comparator airport figures**"	Similar points but different wording, and a clarification over the calculation has been added.
5.8 – "In examining the employment projections presented (Section 5.1 of Volume IV), it appears that no allowance has been made for either productivity growth or returns to scale over time and as the Airport grows.	Section 5.1 of Volume IV titled "**Forecast Job Creation Resulting from Operations at Manston Airport**"	Section 5.1 of Volume IV is titled "**Forecast Job Creation Resulting from Operations at Manston Airport**"	No change here but some allowance has been made for productivity effects as set out in Volume IV at paragraph 4.3.3. Other points regarding the inappropriate employment density have not been addressed.
5.10 – "Section 7 of Volume IV discusses other socio-economic impacts. In particular, it talks about contributions to GDP. Para 7.1.1 describes GDP as "a monetary measure of the state of a Region's or a Country's economy"	Paragraph 7.1.1 of Volume IV in sub-section "**Gross Domestic Product**"	Paragraph 8.1.1 of Volume IV in sub-section "**Gross Domestic Product**"	Same error repeated. Definitions for acronyms are added.

York Aviation (YAL) Reference and Para	Azimuth Old Para	Azimuth New Para	Implications / Summary of Change
5.11 – "The comments in Paragraph 7.1.7 describing how Manston could contribute significantly to Thanet's Economic Growth Strategy aspirations in terms of GVA per job and per capita are, in reality, unsupported."	Paragraph 7.1.7 of Volume IV in sub-section "**Gross Domestic Product**"	Paragraph 8.1.7 of Volume IV in sub-section "**Gross Domestic Product**"	No change

APPENDIX D: YORK AVIATION FEBURARY 2018 NOTE

York Aviation

Manston Airport

RSP Consultation January 2018 – Further Comments on Azimuth Report *"Manston Airport – A Regional and National Asset"*

1. In this note we comment on the revised material presented in the 4 volumes of the Azimuth Report. However, much of this report remains unchanged and the significant shortcomings identified in our earlier report[1] have largely not been addressed and, where new material has been added, this fails to correct the previous misinterpretations.

2. Ultimately, Azimuth still seek to rely on our work for the Freight Transport Association and for Transport for London to justify their freighter aircraft movement forecasts despite our having made clear in our earlier report that this work cannot be interpreted in the way that Azimuth seek to do.

3. In this note, we address the new points made by Azimuth in each of the 4 volumes in turn.

Azimuth Report Volume I – Demand in the South East of the UK

Section 2 – UK Airport Capacity

4. As we pointed out at paragraphs 2.8 to 2.11 of our earlier report, almost all of the evidence presented by Azimuth to highlight the need for more airport capacity in the South East of England relates to the need for more airport capacity to meet growing passenger demand for flights to a wide range of global destinations fed by hub connecting services at Heathrow. These passenger flights also provide significant bellyhold freight capacity. Indeed, the recent non-statutory consultation material published by Heathrow Airport makes clear that, overall, the new passenger services and additional capacity made possible by the third runway will result in a doubling of freight capacity at the Airport[2].

5. The reference, at paragraph 2.1.2 of the Azimuth Report, to the Secretary of State for Transport's introduction to the new UK Aviation Forecasts in October 2017, stating that the runways at the London airports will be full at an earlier date than previously thought, needs to be seen in this context. It is clear that the reason that runway capacity is filling up more quickly than previously thought is due to growth in passenger aircraft as the actual decline in pure freighter flights is highlighted in the document at Figure 4.5[3] reproduced below.

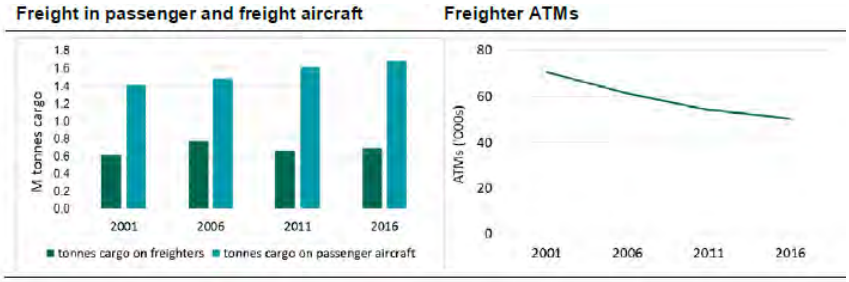


Figure 4.5 Historic freight carried at all modelled airports

[1] "SUMMARY REPORT ANALYSING USE OF YORK AVIATION MATERIAL BY RIVEROAK STRATEGIC PARTNERS AND ASSESSMENT OF CAPABILITY OF MANSTON AIRPORT" submitted to PINS and made available on the Stone Hill Park website in November 2017.

[2] The Case for Heathrow Expansion, Heathrow Airport Ltd, January 2018.

[3] UK Aviation Forecasts, Department for Transport, October 2017, corrected version issued 25th January 2018 as a result to discrepancies in the use of CAA Statistics data in the original report brought to the DfT's attention by York Aviation.

6. These forecasts do not support the need for more capacity for pure freighter aircraft. Reference, at paragraph 4.0.1 of the Azimuth report, to the difference between the constrained and unconstrained passenger forecasts are simply irrelevant to the requirement for capacity for freighter aircraft and, in practice, the constrained forecast represents an unrealistic situation of no further capacity expansion at any of the UK airports over the period to 2050. The Department for Transport's (DfT) long term assumption is that there will be no growth in pure freighter aircraft movements across all UK airports as we highlighted at paragraph 3.26 of our previous report and this is the relevant context for considering whether there is a 'need' for Manston. Azimuth are simply wrong when they say that the DfT's assessment of the extent to which runway capacity is full *"may not reflect the need for freighter aircraft going forward"* as it is clear from Table 68 of the UK Aviation Forecasts report that freighter ATMs are included within the assessment

7. Hence, Azimuth's inference from this information that there is a strong economic case for more freighter airport capacity in the South East of England is simply not correct and the evidence regarding the economic benefits of additional passenger aircraft capacity has been misapplied.

Section 3 – Air Freight Capacity

8. Additional references have been added, at paragraphs 3.15 and 3.16 of the Azimuth report, to the prospects for growth in demand for pure freighter operations globally. However, this is not relevant to the prospects for Manston as more specific information is available of the actual trends and requirements in the UK market, where there are high levels of bellyhold capacity available at a high frequency of service negating the need for substantial additional freighter markets. The UK market for freighter aircraft is analysed in detail in Section 3 of our November 2017 report. The fact that freighters carry a lower proportion of cargo to/from the UK than the global average (Azimuth paragraph 3.2.1) is a reflection of the strong global position of the UK in terms of the provision of long haul scheduled services offering passenger and freight capacity. There is simply no need for additional freighter operations given the high quality offer made available on passenger aircraft. These flights offer more than sufficient competition to ensure that shippers are not disadvantaged, with the costs of bellyhold being lower than pure freighter tariffs in any event.

9. Nor does the additional information about short term shortage of freight capacity in the run-up to Christmas 2017, consequential increases in freight rates across Europe and congestion in and around the cargo centre at Heathrow (para 3.1.8), demonstrate a requirement for additional pure freighter operations. What this additional information evidences is the shortage of bellyhold capacity, otherwise, if pure freighter operations were an economic solution for shippers, additional ad hoc flights would have been operated to Stansted or East Midlands to cover the shortfall, both airports having spare capacity for additional freighter movements. The fact that such extra flights were not operated is clear evidence that even at higher freight rates, additional freighter operations were not economic. The position is further evidenced by the reference at paragraph 3.2.5 to a 10% increase in cargo handled at Heathrow in 2017. Heathrow's current consultation on its expansion makes clear an intention to resolve congestion issues in and around the cargo centre, improving facilities and access to accommodate 100% growth in cargo throughput[4].

10. As noted earlier, this section of the Azimuth report continues to place inappropriate reliance on our earlier work for Transport for London and the Freight Transport Association. As we made clear at paragraphs 2.17 to 2.28 of our earlier report, this work cannot be interpreted in the way Azimuth seek to do. It is simply wrong to state, as Azimuth do at paragraph 3.4.6 of their report that we identified *"that an operational Manston Airport is the only viable option"*. This serious misrepresentation of our 2015 report for the Freight Transport Association, which did no more than mention that Manston had handled some freighter traffic prior to its closure, has not been corrected.

[4] Our Emerging Plans, Heathrow Airport Ltd, January 2018.

Section 4 – Air Freight Capacity in the UK

11. Section 4.1 of the Azimuth report relating to Stansted Airport has been extensively revised, noting that the Airport no longer intends to seek an increase in its annual movement limits but neglects to mention the fact that movements are reserved for freighter aircraft under the 2008 planning permission under condition ATM1: *"a limit on the number of occasions on which aircraft may take-off or land at Stansted Airport of 264,000 ATMs (Air Transport Movements) during any 12 calendar month period, of which no more than 243,500 shall be PATMs (Passenger Air Transport Movements) and no more than 20,500 shall be CATMs (Cargo Air Transport Movements)."* Of the 20,500 movements reserved for freighter aircraft, only 11,600 were used in 2016 meaning that there were almost 10,000 freighter aircraft movements of spare capacity at that airport alone. Indeed, the inference that Stansted will seek to displace freighter activity, at paragraph 4.1.5 of the Azimuth report, is simply not borne out by the facts. Attaining the planned 43 mppa with 243,500 PATMs would require an average number of passengers per aircraft of c.176, up from c.161 in 2017, which is a realistic target given that the new generation of Ryanair aircraft (Boeing 737 max) will provide increase in seat capacity by 9 passengers on each aircraft before any allowance is made for Stansted's growing portfolio of long haul services. The Stansted Airport Sustainable Development Plan 2015 makes clear that Stansted intends to increase pure freighter activity and expressly states the potential to increase from 230,000 tonnes to 400,000 tonnes of freight on dedicated aircraft[5].

Section 5.3 – E-commerce

12. A section has been added to the Azimuth report regarding growth in e-commerce and the effect on demand for air freight. However, of itself, this tells us nothing about the requirement for more pure freighter aircraft and may simply reflect growing demand for bellyhold capacity at economic freight rates.

Section 6 – Manston Airport

13. Section 6.1 of the Azimuth report adds substantial text about the history of Manston Airport, expanding on the original assertions that the failure of the Airport can be attributed by the failure of the previous owners to invest in facilities. As we noted at paragraph 2.62 of our earlier report, users of Manston previously appeared happy with the standard of service offered so there is no evidence that lack of investment was an impediment to growth, rather it was an absence of a market. Furthermore, investment in freight facilities at Stansted and East Midlands Airports was in response to clear demand from particular operators (e.g. DHL's own facility at East Midlands) rather than speculatively ahead of proven demand. Despite investment in cargo facilities, Doncaster Sheffield Airport attracted only 688 air freighter movements in 2016.

14. Reference has been added, at paragraph 6.2.3 of the Azimuth report, to our 2011 report on the Economic Impact of Night Flying Report for Manston where we noted that Manston stood to benefit from the levels of air freight growth being projected by Boeing and Airbus. It is important to recognise that these remarks were made in the context of a Government policy position which did not support the provision of any additional capacity across the London airports and whilst Manston was still operational in the market. This is not the situation today. Furthermore, at the time that this report was written, it was assumed that the decline observed in pure freighter movements to/from the UK could be attributed to the recession and that there would be an upturn in such movements with economic recovery. Clearly, we now have evidence that this has not been the case and there has been a structural change in the industry notwithstanding the availability of spare capacity for freighters at airports such as Stansted and East Midlands.

[5] Stansted Airport, Sustainable Development Plan 2015, Summary page 9.

Section 7 – Future Potential Opportunities for Manston

15. Whilst noting the responses to RSP's initial Summer 2017 consultation (paragraph 7.1.6 of the Azimuth report), it is important to note that this consultation does not represent a systematic or unbiased sample, particularly given the shortcomings in the case presented. As in the original Azimuth report, the findings of an earlier comprehensive resident survey conducted by MORI are referenced (paragraph 7.1.7). Azimuth seek to construe this as being supportive of growth on the basis that residents say they were little affected by noise from airport operations, including at night. Of course, at that time, the Airport was operating under the restrictions of a Section 106 Agreement which did not allow operations at night (other than for emergencies). Hence, it is hardly surprising that residents report that they were little disturbed by operations at night. However, when the MORI report is examined more fully, it is evident over half of the residents were concerned that expanded operations would give rise to negative impacts from night operations (page 5 of the MORI report[6]). This needs to be seen in the context of the substantial number of night movements being projected by RSP, as we discuss later in this note.

16. A new Section 7.5 has been added on slot restrictions at Amsterdam, presumably to counter our questioning of why Coyne Airways would relocate from Amsterdam to Manston in our earlier report. This sub-section neglects to mention that Schiphol Group is extending the runway at nearby Lelystad to accommodate overspill traffic[7], primarily for leisure flights so as to free up slots for 'Mainport' related activity at Schiphol which would include cargo services. Indeed, Schiphol Group is also investing in improving its cargo handling facilities[8] so, notwithstanding the application of the 80% 'use it or lose it' rule[9] in the short term which could impact disproportionately on cargo operators to the extent that they do not use all of their allocated slots, Schiphol has put in place plans to address the forthcoming capacity constraint through enabling Lelystad to act as a reliever airport, albeit that Airport will not be available until 2019. There are also ongoing discussions regarding the long term future of the existing movement limit[10]. In any event, the existence of a potential constraint does not automatically make Manston a preferred alternative as Brexit is likely to make the airport an unattractive alternative for cargo airlines seeking to serve the EU market more broadly. Other available airport capacity in continental Europe, including that at Lelystad, is more likely to be a first choice for any operations displaced from Schiphol.

Azimuth Report Volume II – A Qualitative Study of Potential Demand

Section 3 – Review of Air Freight Forecasting Literature

17. At paragraph 3.6.4, Azimuth have added a reference to the DfT 2017 UK Aviation Forecasts but seek to dismiss the projected no growth in freighter aircraft movements as merely an assumption (see Volume III, paragraph 2.1.14), referring to the historic tonnage growth percentages cited by the DfT. Unfortunately, Azimuth do not appear to have realised to what the percentage growth figures refer. The 5% growth referred to by DfT[11] is total growth in cargo carried across freighter and passenger aircraft combined over the period 2011 to 2016. When mail is included, tonnage growth over the 5 years has been only 3.2%, and there has be negative growth in combined tonnage on freighter aircraft of -2.2%[12]. In contrast, the combined tonnage of freight and mail carried on passenger aircraft grew by 1.1% over the period. Unfortunately, Azimuth's misunderstanding of the DfT data has been carried through to the forecasts in Vol III, which cover both freight and mail operations projected for Manston.

[6] http://hbm2015.com/wp-content/uploads/2016/08/2005-04-S106-Consultation-MORI-results.pdf
[7] https://www.lelystadairport.nl/en/future
[8] http://www.annualreportschiphol.com/results/our-results/competitive-marketplace
[9] EU Slot Allocation Regulation 95/93 as amended.
[10] https://theloadstar.co.uk/schiphol-artificially-restricting-airport-cargo-capacity-illegal-slot-rules/
[11] In the amended version of UK Aviation Forecasts 2017.
[12] CAA Airport Statistics, adjusted for Belfast International data as advised by DfT.

Azimuth Report Volume III – The Forecast

Section 2 – Review of Air Freight Forecasting Literature

18. At paragraph 2.1.6, Azimuth refer to a peer review of the forecasting methodology by Loughborough University but this peer review has not been published as would be normal best practice. We have set out at length in our previous report (paragraphs 2.76 to 2.87) the flaws in the approach adopted. These criticisms have not been addressed. In our view, the forecasts are purely aspirational and not grounded in the evidence. As such, they are highly likely to have been infected by optimism bias within the RSP team.

19. At paragraph 2.1.10, Azimuth cite recent growth in freight tonnage from an IATA bulletin and capacity growth but, again, these are combined freighter and bellyhold figures and fail to take account that load factors remain low in Europe at 46.4% over the 12 months as reported by IATA[13]. This suggests that there is substantial potential to increase cargo tonnage flown without the need to increase aircraft movements, notwithstanding the comments at paragraph 2.3.5 of the Azimuth report that there may be instances where volume is a better measure of how full an aircraft may be rather than weight, an issue which is likely to relate to special consignments rather than the majority of high value, low volume goods carried as air freight. Azimuth continue to rely inappropriately on combined cargo tonnage figures and projections as a proxy for expected growth in cargo aircraft movements. As made clear in our earlier report (paragraphs 2.47 to 2.48), the use of such data is not appropriate for considering the prospects for Manston.

20. At paragraph 2.1.13, Azimuth cites CAA Airport Statistics for cargo growth for 2016, seeking to suggest some reversal of past trends away from freighter aircraft movements. Paragraph 2.3.6 also cites short term tonnage increases on freighter aircraft to infer a longer trend. There is danger in relying on single year figures but the data for 2017 show cargo tonnage across the London airports growing by 9.8%, in line with the UK average, but that carried on freighter aircraft growing by only 7% with a 5.5% fall in cargo aircraft movements in the London area. This tends to confirm the long term trend towards the increasing use of bellyhold capacity on the wide global network served from the main London airports.

21. Most significantly, in the light of this misinterpretation of short term trends, Azimuth compound the error by taking the 4%[14] figure for growth in cargo tonnage on freighter aircraft over a 5 year period, cited in the original DfT Aviation Forecasts 2017[15] , and use this as a justification for continuing to use the Boeing/Airbus forecast of 4% per annum growth in global freight tonne kilometres as the basis of forecasting freighter movements at Manston for years 10 to 20 of the forecast. Leaving aside the questionable validity of using a freight tonnage forecast as the basis for forecasting freighter aircraft movements, this is mathematically wrong and the average annual growth rate in cargo tonnage on pure freighter aircraft is no more than 1% per annum based on the updated DfT growth of 5% in cargo tonnage (see paragraph 17 above). On this basis, the updated Azimuth report presents identical forecasts as previously, although how clearly based on an error in the growth rate applied. Even if the short term 'bottom up' forecasts were correct, which we dispute (see paragraphs 2.80 to 2.85 of our earlier report), the eventual forecast at year 20 should be no greater than 12,789 freighter movement rather than 17,171 movements.

Section 3 – Manston Airport Freight Forecast

22. The updated Azimuth report has provided no further substantiation of the short term forecasts, nor of the forecast fleet mix, so undermining the weight which can be attached to the reliance on the short term forecasts.

[13] IATA Air Freight Analysis, November 2017, page 4.

[14] Now revised to 5%.

[15] Paragraph 4.4.

23. Despite the lack of the required explanation of the derivation and make up of the forecasts in the Azimuth report, some further detail is now provided in the noise section of the updated PEIR, which sets out the details of the freight movement forecasts by airline and aircraft type (Appendix 12.3). This information is set out in a table appended to this note and we have added the relevant QC count information to illustrate some of the issues arising from the fleet mix. Significantly, the fleet mix assessed for noise is not the same as contained in Azimuth Vol III. The inconsistencies are unexplained and give rise to further doubt as to the robustness of the forecast and whether it is deliverable:

	Azimuth	**PEIR App 12.3**
Code C	43%	41%
Code D	42%	17%
Code E	13%	37%
Code F	2%	6%

24. When examined in detail, the projections underlying the whole application lack realism for the following reasons:

- ✈ Amazon - this is suggested as a B777-300ER freighter but there is no freighter variant of this aircraft; the only B777 freighters being -200 variants. Other airlines are also shown as using this type and it accounts for 26% of all freighter movements shown.

  In any event, it is not clear why Amazon would operate 5 flights a day from the US to Manston as the goods which Amazon sells in the UK are not, in the main US manufactured. This seems to confuse the claimed potential (Azimuth Vol II, section 6.3), which we dispute, for an Amazon distribution hub at Manston to serve the UK with long haul freight operations.

- ✈ Cargolux - this assumes reinstatement of the previous Cargolux flower operation which has relocated to Stansted.

- ✈ Fedex/DHL- the aircraft types shown appear to indicate a DHL operation (e.g. A330-343 aircraft, which are only operated by DHL). The integrator operation is expected to account for 22.8 movements per day or 46% of the total. Based on our knowledge of the integrator market, this is completely unrealistic as Manston is quite simply in the wrong location to serve as an integrator hub in the UK. It would also require a substantial night operation, for example at DHL's main UK base at East Midlands Airport has some 63% of freighter aircraft movements operating within the night period.

  Overall, the number of movements shown in the PEIR would imply around 8,322 annual movements by the integrator. This is around 43% of the total number of freighter movements at EMA in 2016 or around 2/3 of the current DHL operation. This is hardly realistic as it would imply Manston would be a major integrator hub, duplicating the EMA operation. It is also important to note that

freight tonnage continues to grow at EMA but the number of freighter movements have not systematically grown over the last decade.

- Pakistan Airlines - the airline no longer operate pure freighter aircraft.
- Postal - the B737 operation presupposes the development of a mail hub. Royal Mail have pared back on flying even at their main hub at EMA so it is unclear why a dedicated B737 operation would be operated from Manston.
- Russian - the types indicated have QC counts of 8 and 2 respectively on arrival and 16 on departure, with some movements shown as operating at night, in contravention of the proposed Noise Mitigation Plan banning such aircraft at night.
- TAAG Angola – the airline does not operate B747 freighters, which is the type shown, and, in any event, their operations by most aircraft types are banned from European airspace on safety grounds.

25. These basic errors reinforce the doubts expressed in our earlier report about the realism of the short term freighter movement forecasts.

Implications for Night Operations and Night Noise

26. The Noise Mitigation Plan sets out a Night Quota period from 2300-0600 and a Shoulder period from 0600-0700. The quotas proposed for each of these periods are 4,000 QC points and 2,000 QC points per annum respectively. These QC budgets can be compared to other airports where such quotas are in place:

- Luton 3,500 from 2330-0600 and 7,000 from 0600-0700
- Heathrow (from Nov 18) 5,150 from 2330-0600
- Gatwick (from Nov 18) 6,935
- Stansted (from Nov 18) 7,960

27. The proposed night noise quota of 4,000 QC points is higher than the night quota for Luton Airport and not significantly lower than that for Heathrow. Local residents will be subject to a substantial amount of noise during the sensitive night period.

28. The fleet mix information provided in Section 12 of the update PEIR shows an average of 7.1 aircraft movements per night[16] for the 7 hour night quota period. Based on the aircraft types shown and the relevant QC points, this would amount to 3,222 annual QC points, within the 4,000 quota proposed. The proposed quota would allow up to around 9 aircraft movements per night on average, assuming the same aircraft mix, equivalent to around 3,217 annual aircraft movements. It follows, therefore, that the 2,000 quota for the shoulder hour 0600-0700 would allow 4-5 aircraft movements a day. In total, the extended 8 hour night period quotas would allow 4,826 annual aircraft movements on the basis of the fleet mix shown. This could be higher if quieter aircraft were operated over time.

29. However, a key issue is the realism of the projected day/night split. The RSP/Azimuth projections indicate only 14% of freighter aircraft movements being at night whereas, at EMA, some 63% of freighter movements operate at night. Given the dominance of integrator operations within the total RSP/Azimuth forecast, this would suggest a far greater reliance on night movements than shown. Correcting the day/night balance just for the integrator operation would imply at least 14.4 aircraft movements per night on average for the integrators, rather than the 4 movements shown for these airlines in the detailed fleet forecast. Accommodating these additional movements would breach the night noise quota constraint by c.1,000 a year. In other words, either the noise quota will need to be increased or the forecast will need to be constrained to reflect that these movements are unlikely to operate.

[16] The number will clearly vary day by day in practice.

30. Indeed, the proposed night movement constraint reinforces the view that the establishment of an integrator hub at Manston is simply not credible. If an integrator hub cannot be established this would reduce the movement forecasts by 46%. At Year 10, this would mean no more than 6,425 freighter aircraft movements, even if the remainder of the forecast were correct. If this were to be grown for the longer term using the DfT's historic freight tonnage figures (see paragraph 21 above), the freighter movement forecast at Year 20 would not exceed 7,000 movements, below the threshold for a DCO.

Capability of the Airport

31. We made the point in our earlier report (paragraph 2.93) that we would have expected a clear explanation of how the forecasts for aircraft movements translated into the requirements for infrastructure. This explanation has still not been provided.

32. Prima facie, on the same basis as we assessed the 'capability' of the existing infrastructure at Manston (paragraphs 4.5 and 4.6 of our earlier report), the infrastructure proposed by RSP could have a capability of over 100,000 freighter aircraft movements a year, taking into account the night movement quotas and the passenger operations. This is clearly excessive but not explanation or justification for the scale of the facilities has been provided by RSP.

Azimuth Report Volume IV – The Economic and Social Impacts of Airport Operations

Section 3 – Forecasting the Socio-Economic Impact of Airports

33. Despite the substantial errors in the assessment of socio-economic impacts identified in Section 5 of our earlier report, Azimuth have made no attempt to correct these errors and the economic impact assessment remains as in the original Summer 2017 consultation documents.

34. At Section 3.4, further reference has been added to our 2004 study into the socio-economic impact of airports for the Airports Council International Europe. We had already pointed out to Azimuth in direct correspondence[17] that it was inappropriate to rely on 2004 data as representative of the position in 2017, not least because of increasing efficiency of passenger and cargo handling. Furthermore, as is made clear in Figure 6.5 of our 2004 report[18], the employment densities can vary quite widely across airports dependent on their characteristics so the use of averages is entirely inappropriate for any specific airport. The on-site employment estimates set out at paragraph 5.12 of our earlier report are the correct basis for assessing the employment impact of Manston as these are based on recent experience of specific UK airports, where detailed analysis of the impact has been carried out in recent years, rather than on the generic Europe-wide ratios that Azimuth seek to apply. We have not factored any extraordinary assumptions regarding future automation or productivity growth into our estimates (Azimuth paragraphs 3.46-3.47) so these are conservatively based on average rates of productivity growth as airports grow.

Section 4 – Employment Forecasts for Manston Airport

35. For the reasons explained in our earlier report, the methodology used by Azimuth for deriving indirect, induced and catalytic impacts remains flawed.

36. A new section 4.3 has been added on the location of employment, referring to work by Oxford Economics (OE) for London Luton Airport[19]. This is used by Azimuth to justify the assertion that all on-site employment will be taken by local residents. Unfortunately, Azimuth have not realised that the way in which the employment estimates were derived by OE, using Government business statistics, only measures employment by place of employment and does not reflect the place of residence of those employees so cannot be taken as a reflection of the extent to which jobs at Manston might be taken up by local residents from Thanet.

[17] E-mail of 6th October 2017.

[18] The social and Economic Impact of Airports in Europe, York Aviation for ACI EUROPE 2004

[19] The Economic Impact of London Luton Airport, Oxford Economics, November 2015.

Section 5 – Training and Education

37. New sections have been added in relation to support from East Kent College and Canterbury Christ Church University expressing support for activities that would generate jobs in East Kent. This is not specific to the RSP proposals but would also apply to employment generated through Stone Hill Park's proposals. The future of the Museums would, of course, be enhanced by Stone Hill Park's specific proposals for new facilities and a heritage aviation airport within its proposals. The prospects for a Manston Training Facility are speculative and depend, ultimately, on whether the proposals for the use of the Airport were realised in practice.

Section 6 - Tourism

38. Section 6 is a new section on tourism which is entirely aspirational, with precedents being drawn from the experience of Southend (Azimuth paragraphs 6.4.2 to 6.4.8) following expansion of passenger flights at the Airport. However, the evidence presented is circumstantial and compares tourism expenditure in the Southend area during the recession with more recent (2015) data. It does not directly relate the growth in tourism expenditure of visitors to any data on the extent to which the Airport was a factor in this increase. As is made clear in the reference to Bournemouth Airport (Azimuth paragraph 6.4.14), the ability to use an airport to leverage additional tourist visitors is dependent on the destinations offered, with Germany, Scandinavia and the Netherlands particularly highlighted as places where there is a greater propensity to visit the UK on holiday, although it must be noted that these countries tend to prefer ferry travel and the use of their own car transport more generally over the use of air services.

39. Ultimately, the extent to which Manston might act as a catalyst to inbound tourism depends on the likely route network. The fleet mix forecast (PEIR Appendix 12.3) shows Ryanair as operating 76% of all passenger flights, with the remainder, other than the assumed return of the KLM service, expected to be largely ad hoc charter. Taking an example of the route network which Ryanair might operate from a similar scale of base at Leeds Bradford where the airline handles around 1 million passengers a year similar to the Azimuth projection for Manston, the airline serves the following destinations[20]:

Alicante	Las Palmas
Bratislava	Malaga
Corfu	Malta
Chania	Murcia
Dublin	Palma
Faro	Pisa
Fuerteventura	Riga
Gdansk	Tenerife
Gerona	Venice
Ibiza	Vilnius
Krakow	Warsaw
Limoges	Wroclaw
Lanzarote	

40. The majority of flights (over 59% in the summer tourist season) are to typical outbound leisure destinations and such destinations would, in all likelihood, be those operated initially particularly if our assessment (see paragraph 2.88 of our earlier report) that Azimuth's passenger forecasts are substantially overstated by reference to the level of demand in the Manston catchment area. Overall, it is hard to see how Manston would support a portfolio of routes likely to contribute significantly to inbound tourism nor to greatly assist St Augustine's Divine Retreat Centre (Azimuth paragraph 6.5.2) in marketing its activities, not least as its principal marketing focus appears to be to UK residents.[21]

[20] Based on OAG data for February and July 2018.

[21] http://divineuk.org/about-us/ramsgate/ The organisation operates another retreat centre in Darlington.

41. The suggestion that Manston might support services from China (Azimuth paragraph 6.5.4) lacks any foundation; such services do not form part of the forecasts, passenger aircraft stands and the passenger terminal would not be appropriately sized to handle flights to/from China and only Heathrow and Manchester Airports in the UK manage to sustain regular flights from China at 78mppa and 28mppa respectively. The Manston catchment area would simply not be sufficient to sustain such services and it is not credible that an airport in the 1-2 mppa range (or smaller) would support regular flights to/from China.

42. Overall, the additional material added in relation to the value of tourism does not demonstrate any linkage between the re-opening of Manston Airport and the actual potential impact on tourism in Thanet and Kent.

43. The other comments made by Azimuth about the lack of impact of airport operations on the value of tourism in Southend, Bournemouth and the Southampton area (Azimuth paragraphs 6.4.7, 6.4.14) have to be seen in the context that these airports do not have flight paths over a major tourist area as would clearly be the case with Manston in relation to Ramsgate. In the case of Manston, any negative implications might be expected to be more significant.

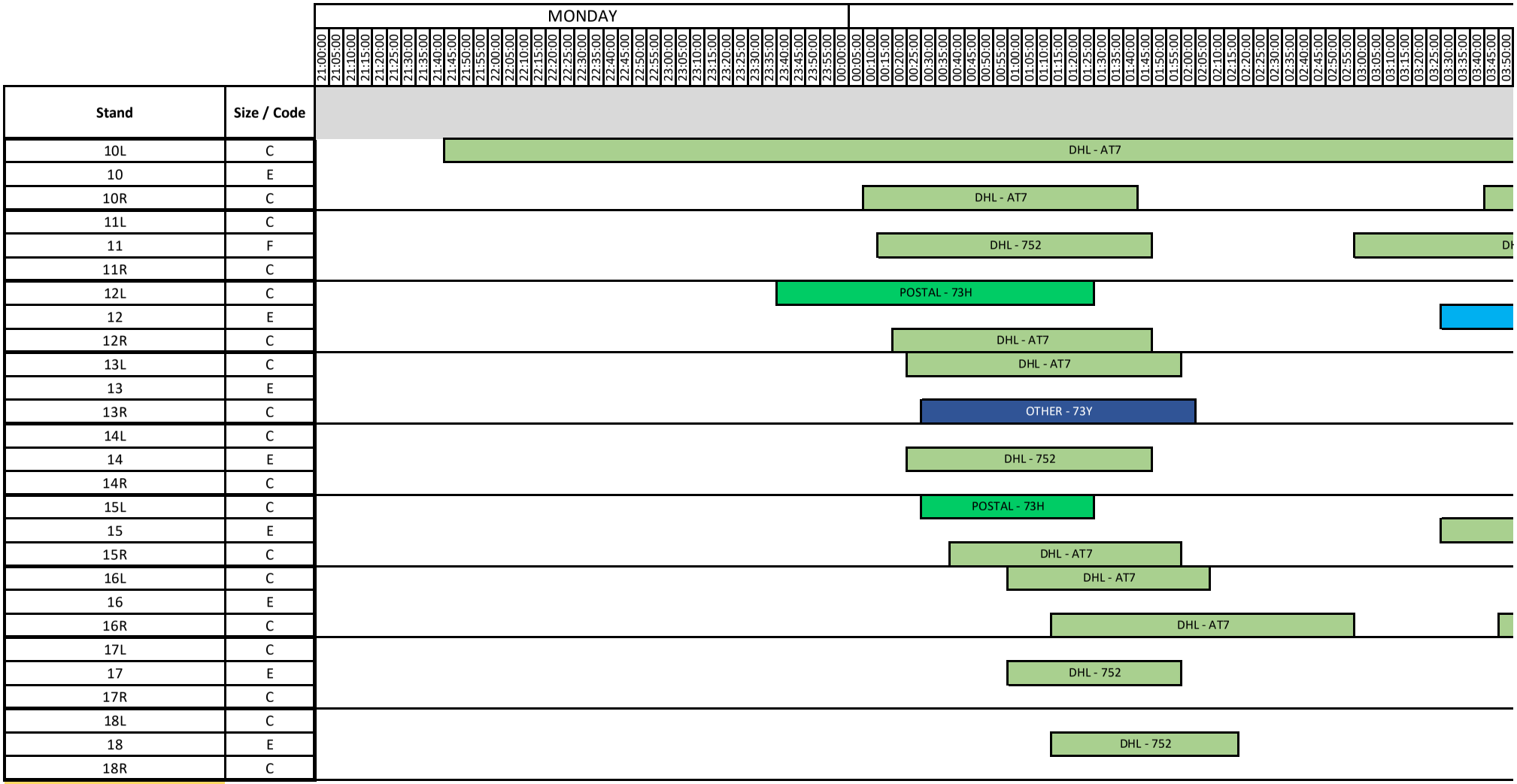
8th February 2018

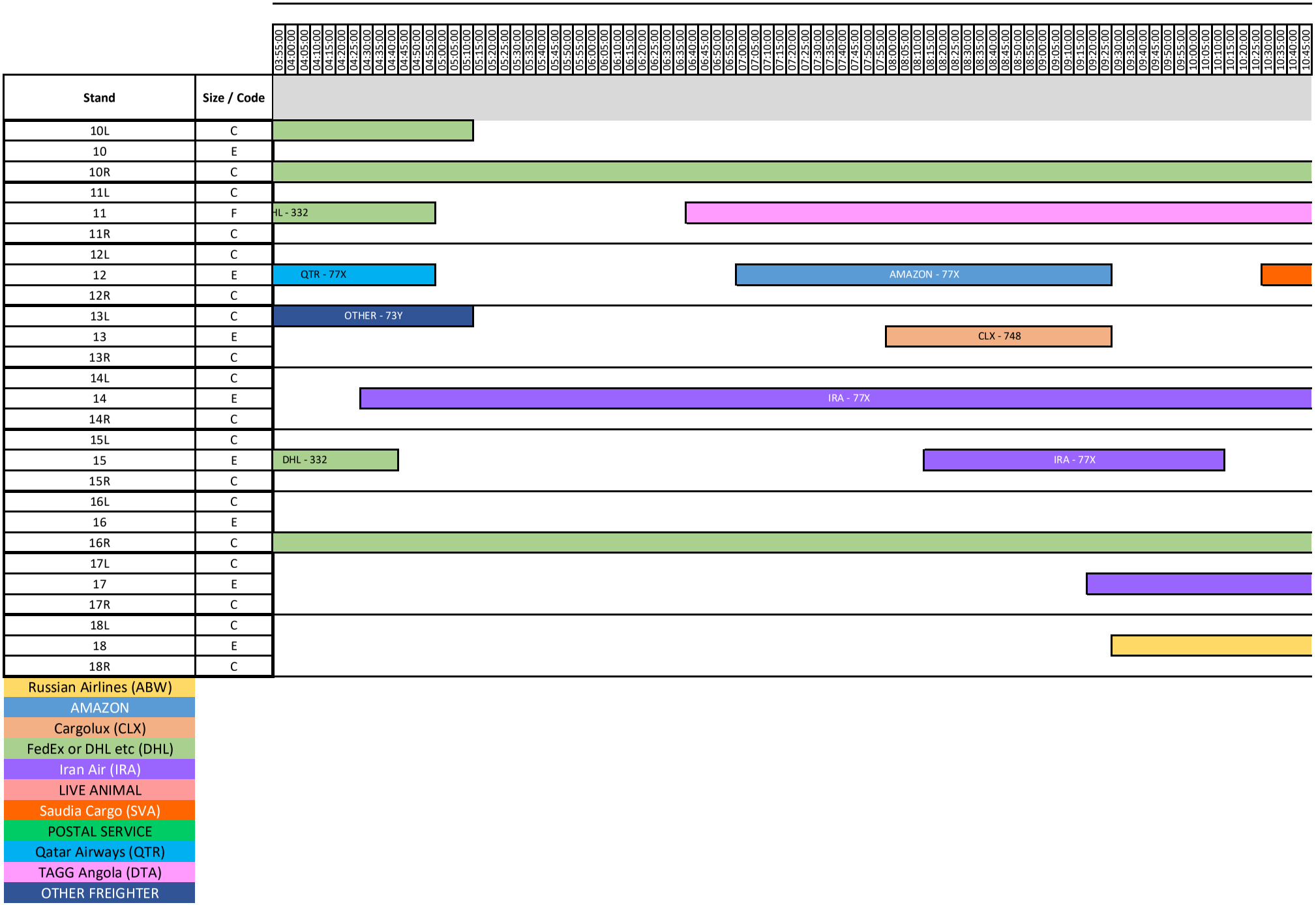
Appendix 12.3 Fleet Mix, QC points and Aircraft Categories

Airline	Type	Av Movements Day	Av Movements Night	QC A	QC D	Av QC	Total QC	Code
Amazon (US)	B777-300ER	4.6	0.5	1	2	1.5	0.75	E
Cargolux (Africa/Nairobi	B748	1.1	0.1	1	2	1.5	0.15	F
Fedex/DHL	B752	4.1	1.4	0.25	0.5	0.375	0.525	D
Fedex/DHL	A332	4.1	1.4	0.5	1	0.75	1.05	E
Fedex/DHL Feeders	ATR72	10.6	1.2	0.25	0.25	0.25	0.3	B
Fish and crabs (Dubai)	B777-300ER	0.4	0	1	2	1.5	0	E
Iran Air	B777-300ER	4.2	0	1	2	1.5	0	E
Live Animals	B777-300ER	0.4	0	1	2	1.5	0	E
Middle E (Egypt/Saudi	B777-300ER	0.9	0.1	1	2	1.5	0.15	E
PIA	B777-300ER	0.2	0	1	2	1.5	0	E
Post	B737-800	1.1	1.1	0.5	1	0.75	0.825	C
Qatar	B777-300ER	1.6	0	1	2	1.5	0	E
Russian	IL76	2.3	0.3	8	16	12	3.6	D
Russian	AN124	0.8	0.1	2	16	9	0.9	F
TAAG Angola	B748	0.7	0.1	1	2	1.5	0.15	F
Other	B737-300	5.7	0.6	1	0.5	0.75	0.45	C
Military	C17	0	0.1	0.5	2	1.25	0.125	D
Military	C130	0	0.1	0.5	2	1.25	0.125	D
Humanitarian	B748	0.1	0	1	2	1.5	0	F
KLM	F70	4	0	0	0.25	0.125	0	C
Charter	A320	1	0	0.25	1	0.625	0	C
Blue Air	B737-800	1.3	0	0.2	1	0.6	0	C
Cruise Flights	B757-300	0.8	0	0.25	1	0.625	0	D
Ryanair	B737-800	21.9	0	0.5	1	0.75	0	C
Total Freight		**42.9**	**7.1**				**9.1**	
Total		**71.9**	**7.1**				**9.1**	

APPENDIX E: INDICATIVE STAND ALLOCATION OF RSP/AZIMUTH AIRCRAFT MOVEMENT PROECTIONS BASED ON A RATIONAL TIMETABLE OF OPERATIONS

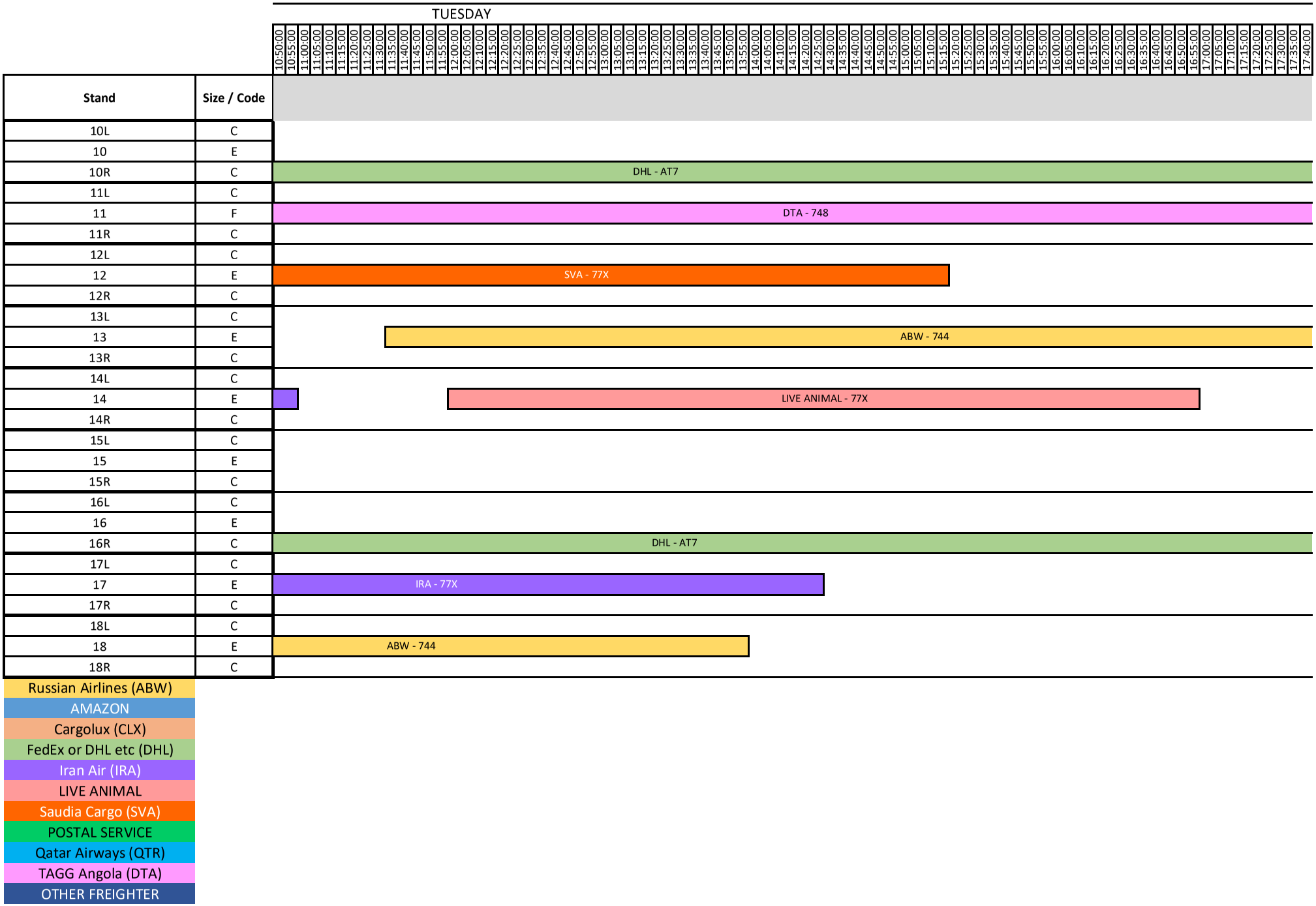
STAND ALLOCATION CHART FOR RSP FORECAST SCHEDULE BASED ON RATIONAL DAY NIGHT SPLIT





Stand	Size / Code
10L	C
10	E
10R	C
11L	C
11	F
11R	C
12L	C
12	E
12R	C
13L	C
13	E
13R	C
14L	C
14	E
14R	C
15L	C
15	E
15R	C
16L	C
16	E
16R	C
17L	C
17	E
17R	C
18L	C
18	E
18R	C

Russian Airlines (ABW)
AMAZON
Cargolux (CLX)
FedEx or DHL etc (DHL)
Iran Air (IRA)
LIVE ANIMAL
Saudia Cargo (SVA)
POSTAL SERVICE
Qatar Airways (QTR)
TAGG Angola (DTA)
OTHER FREIGHTER



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Cargolux (CLX)
FedEx or DHL etc (DHL)
Iran Air (IRA)
LIVE ANIMAL
Saudia Cargo (SVA)
POSTAL SERVICE
Qatar Airways (QTR)
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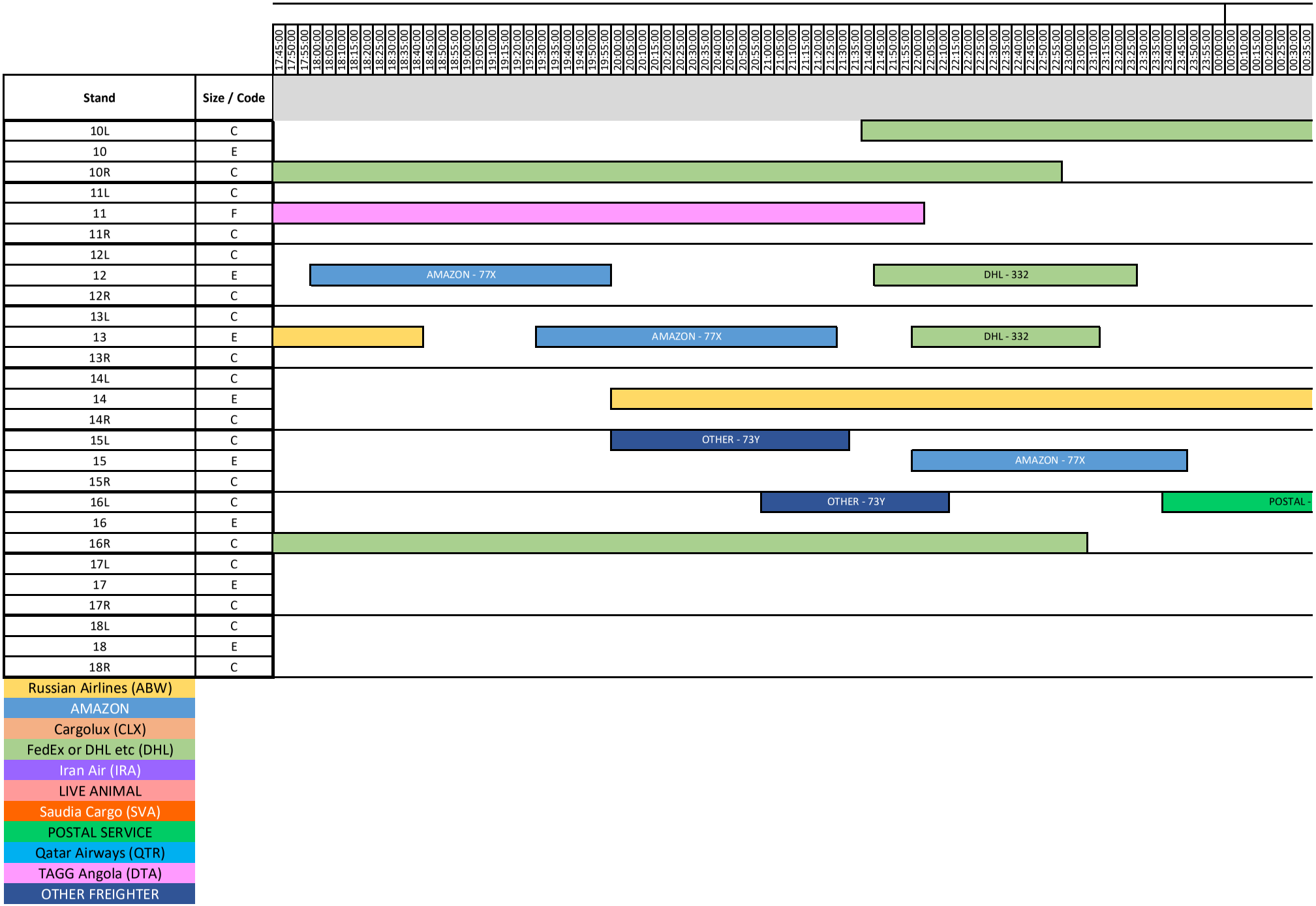

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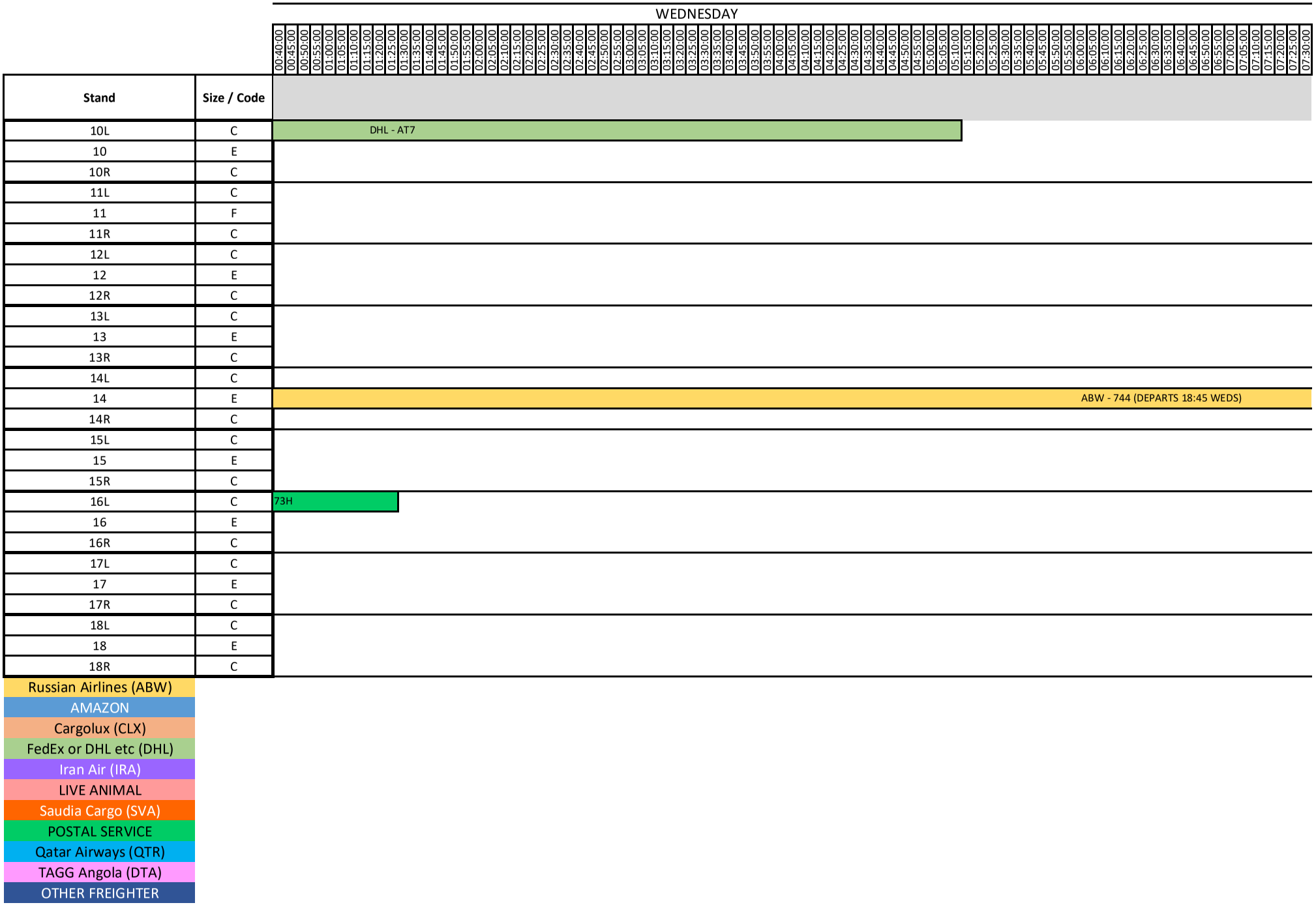

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MANSTON AIRPORT DEVELOPMENT CONSENT ORDER EXAMINATION

SUBMISSION TO DEADLINE 11:

Comments on Information requested by the ExA and received from the Applicant to Deadline 10

REGISTER OF ENVIRONMENTAL ACTIONS [REP8-018]

HEALTH & WELL BEING

1. We respectfully note that the Health & Well-Being mitigation proposed by the Applicant of *Good Quality Employment Generation* Page 87 of the Updated Register of Environmental [REP8-018] is **not anchored in any proposed plan or in the DCO** and as such these columns have been left blank.
2. A Unite the Union search for 'airport' lists a large number of industrial actions of 2018/2019 which we have attached a small selection to this submission. These evidence the low pay, long hours, shift patterns and zero hours of airports up and down the country in a wide range of positions.
3. The evidence for the conclusion reached of the post-mitigation effect in the Updated Register of Environmental Actions [REP8-018] is no longer valid as it is not supported by evidence, is without foundation and cannot be relied upon.
4. **We robustly recommend the Examining Authority recommend that the Applicant's proposed mitigation Health & Well-Being:** *Good Quality Employment Generation* **would be Negligible Beneficial**.
5. **Further, we question whether the Examining Authority can give any comfort to the Secretary of State that such benefits are secured, and the level of confidence in their delivery.**

The guards staff all the vehicle barriers into Gatwick's service areas. Any strike action will disrupt supplies, fuel and materials entering the airport as well as causing knock-on disruption to the surrounding road network.

Unite has begun a consultative ballot of the workforce today (January 21) closing on Monday 4 February. If the workforce gives their backing for industrial action, a full industrial action ballot will take place and strike action will begin this spring.

£1 an hour increase

Unite is seeking a pay increase for the workers, of a £1 an hour which would raise their pay to £9 an hour. OCS has offered the workers a 4.5 per cent pay increase but this has been rejected by the entire workforce.

Workers treated with disdain

Unite regional officer Jamie Major said: "The hardworking and dedicated staff have kept the airport secure for years, but their loyalty has been treated with disdain by management.

"As the workers have not received a rise for over a decade, they would need a 40 per cent pay increase to restore their earnings to the real terms level it was in 2007.

"All the workers are asking for is a £1 an hour rise to increase their pay to £9 an hour.

"There is absolutely no justification for OCS to refuse this very modest pay rise and it's a disgrace how these workers have been treated."

ENDS

Notes to editors:

Gatwick Airport Christmas strike off following vastly improved pay offer (https://unitetheunion.org/news-events/news/2018/december/gatwick-airport-christmas-strike-off-following-vastly-improved-pay-offer/)

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Glasgow Airport ‘severely disrupted’ as more strikes scheduled

Friday 7 June 2019 **Share**

Unite the union has today (7 June) stated that the industrial action taking place between 04:00-16:00. has ‘severely disrupted’ operations at Glasgow Airport as further strike dates were announced. The action undertaken involves airport security officers, airport fire safety, airfield operations officers, and engineering technicians.

Unite confirmed another six hour stoppage on 21 June from 08.30 to 14.30. This is in addition to the following stoppages:

- 10 June between 04.00-16.00
- 14 June between 04.00 and 08.00

The union has also lambasted the false statements by Glasgow Airport alleging that Unite was not willing to enter further talks. Unite can confirm that communications to airport management on 5 June stated that the union was willing to 'discuss this and other matters relating to the dispute on pay and pensions in an attempt to find a remedy prior to the industrial action'. These overtures were ignored by Glasgow Airport management. The airport is part of AGS Airports Limited group, which also owns Aberdeen and Southampton airports.

The dispute centres on Glasgow Airport withdrawing from negotiations over its proposal to close its pension scheme to existing members. The decision broke an existing Acas agreement made in 2016, which has already saved AGS £12 million in the last three years. Glasgow Airport posted a £74 million profit after tax in 2017 up from £51 million in 2016.

Pat McIlvogue, Unite regional industrial officer, said: "The industrial action has severely disrupted Glasgow Airport's operations, despite the underhand tactics by management which included substituting fire safety officers with other staff on site who were questionably trained for the job. It's a shame that passengers' travel has been disrupted but this is 100 per cent the fault of Glasgow Airport management.

"For the avoidance of doubt, Unite has repeatedly requested meetings with management and can categorically prove that we wanted to meet any time this week to try and find a resolution to this dispute. But, our overtures have been completely ignored which is why we have added further dates for industrial action. If we continue to be ignored then we will have no option but to escalate this dispute."

ENDS

For more information contact Pat McIlvogue on (07918631805).

Notes to editors:

- Unite Scotland is the country's biggest and most diverse trade union with around 150,000 members. The union is led in Scotland by Pat Rafferty.

Further reading

Glasgow Airport strikes suspended as new offer put to workforce (/news-events/news/2019/july/glasgow-airport-strikes-suspended-as-new-offer-put-to-workforce/)

Stansted easyJet ‘check-in chaos’ moves a step closer as workers back strike action by 100 per cent (/news-events/news/2019/july/stansted-easyjet-check-in-chaos-moves-a-step-closer-as-workers-back-strike-action-by-100-per-cent/)

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Heathrow expansion ‘masterplan’ important step on the road to creating thousands of jobs, says Unite (/news-events/news/2019/june/heathrow-expansion-masterplan-important-step-on-the-road-to-creating-thousands-of-jobs-says-unite/)

Stansted easyJet ‘check-in chaos’ on cards, as workers ballot for strike action over ‘dismal’ pay (/news-events/news/2019/june/stansted-easyjet-check-in-chaos-on-cards-as-workers-ballot-for-strike-action-over-dismal-pay/)

Further industrial action dates announced for Aberdeen Airport (/news-events/news/2019/june/further-industrial-action-dates-announced-for-aberdeen-airport/)

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This is what we do best as a union. Fight for our members, for their jobs, for their working conditions, for the future of their communities”

Len McCluskey

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Low paid cleaners call for a living wage at Luton Airport

Tuesday 7 August 2018 **Share**

Over 100 low paid cleaners at Luton Airport employed by Sasse Group are calling for their pay to be brought in line with the real living wage of £8.75.

The workers who are responsible for maintaining a safe and clean environment for staff and passengers at Luton Airport are currently struggling to make ends meet on the minimum wage of £7.83. Sasse has offered to increase their pay by between 15p and 20p an hour, well below the real Living Wage.

The cleaners are the second group of workers at Luton airport to demand fair pay.

The cleaners have joined with staff at Luton Airport responsible for helping disabled passengers. The workers employed by Clece Care Services are on a toxic combination of zero hours and the minimum wage. The workers have taken a brave stand by taking two periods of strike action.

Unite regional officer Jeff Hodge said: "Growing passenger numbers at Luton mean that keeping the airport safe and clean for staff and passengers is hard work. Cleaners deserve a living wage so they can afford the day-to-day essentials.

"Profits are up for Sasse and Luton Airport. Together they must address the scourge of low pay for cleaners at the airport. The cleaners have been angered by a paltry pay offer of just 15p an hour for the day shift and 20p for night shift workers.

"Workers employed by Clece to provide services to disabled passengers at Luton are also in a battle for fair pay at Luton. They are on a toxic combination of zero hours and the minimum wage.

"With healthy profits and growing passenger numbers, Luton and its contractors have no excuse for paying workers below the real Living Wage."

ENDS

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- Unite is Britain and Ireland's largest trade union with over 1.4 million members working across all sectors of the economy. The general secretary is Len McCluskey.

For more information contact Ciaran Naidoo 07768 931 315

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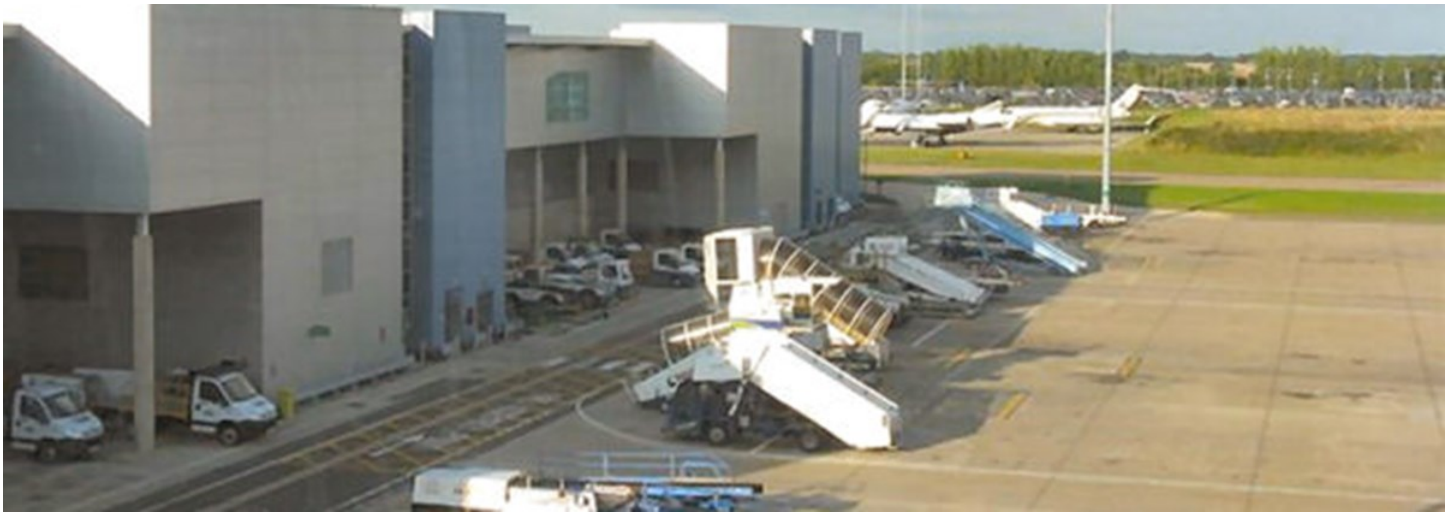

Luton Airport's baggage handlers and check-in staff in strike vote over pay freeze

Wednesday 30 January 2019 **Share**

Baggage handlers and check-in staff employed by Azzurra Ground Handling at Luton Airport will begin voting for industrial action today (Wednesday 30 January) over the company's decision to impose a pay freeze on hardworking staff.

Unite, which represents the majority of workers at Azzurra, submitted a pay claim at the beginning of 2018 but despite numerous attempts to get meaningful pay talks underway the company has refused to engage with the workforce.

Azzurra provides ground-handling services to Wizz Air at Luton Airport. Wizz Air is a low-cost airline with around 42 routes from Luton.

Unite regional officer Jeff Hodge said: "Luton Airport is one of the busiest airports in the UK and Azzurra should be recognising the contribution baggage handlers and check-in staff make by increasing pay so workers can keep up with the rising cost of living.

"The union has been calling for meaningful talks since the beginning of 2018. Azzurra's failure leaves workers with no other choice but to begin a ballot for strike action. If a strike goes ahead it will lead to considerable disruption to flights out of Luton. We hope the company will now sit down with the workers' representatives and resolve this dispute."

Cleaners at Luton Airport employed by Sasse recently voted to end their strike over pay after the workers voted to back an improved pay offer from the company. Cleaners on the day shift will receive an increase of five per cent and night shift workers will get a six per cent increase backdated to October 2018 up to April 2019, followed by a three per cent increase for the day shift and a four per cent increase for the night shift from April 2019 to April 2020.

ENDS

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Further reading

Glasgow Airport strikes suspended as new offer put to workforce (/news-events/news/2019/july/glasgow-airport-strikes-suspended-as-new-offer-put-

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Luton borough council must intervene to end low pay at Luton Airport

Monday 5 November 2018 **Share**

WHAT: Protesters to urge council to intervene in Living Wage row at Luton Airport

WHEN: Tuesday 6 November 2018 between 17:00-18:00

WHERE: Outside Luton Town Hall,George St, Luton, LU1 2BQ

Workers will hold a protest to call on Luton borough council, the majority shareholder and landlord at Luton Airport, to use its influence to press the airport to become a Living Wage employer.

Low paid cleaners employed by Sasse and workers employed by Clece Care Services who help passengers with mobility difficulties are fighting for at least a real Living Wage of £9.00 an hour and dignity at work. Ahead of a meeting of the full council workers will stage a protest outside the town

hall to insist the airport's contractors pay the real Living Wage.

This week is Living Wage Week. The Living Wage Foundation has today (5 November) announced an increase in the real Living Wage by 35p an hour to £10.55 in London and by 25p to £9 outside the capital (see notes to editors).

Unite regional officer Jeff Hodge said: "The council and the airport must take responsibility now for ending the scourge of low pay at Luton Airport. As a majority shareholder and landlord Luton council must do all it can to persuade Luton Airport to become a real Living Wage employer for all workers at our airport. We have had very positive discussions with the council who fully support our objectives but our members want to see action.

"Luton Airport announced profits of almost £40 million, carried more than 16 million passengers in 2017 and is undergoing a £160 million redevelopment. Workers directly employed by the council and the airport are paid at least the real Living Wage. There is no excuse for allowing contractors at the airport to pay workers so poorly that they can't afford the day to day essentials."

Unite members employed by Clece Care Services have voted to take strike action for a second time and will take a week of strike action from Thursday 8 November beginning at 05:00 until Thursday 15 November ending 17:00. The Clece Care Services' workforce at Luton Airport, who are responsible for helping passengers with mobility restrictions, including disabled passengers, are on a toxic combination of zero hours and the minimum wage.

Cleaners began voting on strike action last week. The workers employed by Sasse who are responsible for maintaining a safe and clean environment for staff and passengers at Luton Airport are currently struggling to make ends meet on the minimum wage of £7.83. Sasse which was awarded the contract by Luton Airport in April this year has offered a three year pay deal to increase workers' pay, but by 2021 workers will still be earning below the real Living Wage.

ENDS

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The Living Wage Foundation publishes the Living Wage figure: an hourly rate, set independently every year, and updated annually in November. It is calculated according to the cost of living and gives the minimum pay rate required for a worker to provide their family with the essentials of life.

For more information contact Ciaran Naidoo 07768 931 315

Further reading

Glasgow Airport strikes suspended as new offer put to workforce (/news-events/news/2019/july/glasgow-airport-strikes-suspended-as-new-offer-put-to-workforce/)

Stansted easyJet 'check-in chaos' moves a step closer as workers back strike action by 100 per cent (/news-events/news/2019/july/stansted-easyjet-check-in-chaos-moves-a-step-closer-as-workers-back-strike-action-by-100-per-cent/)

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Mitie workers vote for industrial action in Sellafield and City airport disputes

Monday 8 April 2019 **Share**

Troubled outsourcer Mitie is facing fresh disruption as members of Unite, the UK and Ireland's largest union, have voted for industrial action in separate disputes at London City airport and at the Sellafield nuclear reprocessing centre in Cumbria.

Sellafield dispute

The Sellafield dispute concerns pay and involves workers employed as security guards, catering, vending and laundry operatives. The workers at the category one nuclear site are paid just £8.45 an hour.

Despite overwhelmingly rejecting Mitie's pay offer, the company has refused to allow Unite a seat at the negotiating table and, therefore, the union undertook an industrial action ballot.

Unite's 180 members voted by 98 per cent in favour of strike action on a 70 per cent turnout.

Two periods of 10 day strike action

Unite has announced two 10 day periods of strike action the first beginning at 00:01 on Friday 19 April, concluding at 06:00 on Monday 29 April 2019, followed by a further strike beginning at 00:01 on Saturday 4 May, concluding at 06:00 hours on Monday 13 May. This will be complimented by a discontinuous ban on overtime commencing at 00:01 on Friday 19 April 2019.

Unite regional officer Ryan Armstrong said: "Mitie is a multi-million pound company that is refusing to pay workers even the living wage, on a high security site.

"Our members are no longer going to accept poverty wages and if Mitie wants to prevent huge disruption at the complex, then it needs to make a fair pay offer."

Action at London City Airport

Unite members employed by Mitie at London City Airport are also set to take action in a dispute over pay, conditions, recognition and welfare facilities. The workers are employed as security guards and providing assistance to workers with mobility issues.

The workforce is seeking a significant pay increase, enhance rates of pay for overtime and improved sick pay. They are also demanding that Mitie recognises Unite and that adequate rest break facilities are provided. Currently workers have just a 45 minute break, but their restroom is a 15 minutes walk away from their workplace.

Workers voted 100 per cent in favour of industrial action on a 69 per cent turnout.

Unite regional officer Michelle Cook said: "Mitie is treating its workforce with complete contempt. Workers are being subjected to low pay and third rate conditions.

"Mitie is drinking in the last chance saloon and if it wants to avoid industrial action then they need to immediately enter into meaningful negotiations and properly address the workers concerns."

Meanwhile, in a further example of Mitie industrial unrest, Unite members employed at Southampton hospital as security guards held the first of eight days of industrial action last Friday (8 April) in a dispute over safety, pay and sick pay. (/news-events/news/2019/march/southampton-hospital-security-staff-strikes-to-go-ahead-as-talks-over-lack-of-correct-protective-equipment-break-down/)

Mitie has failed to provide the security guards with stab vests despite the workers coming under frequent attack from patients and hospital visitors.

The workers are paid just £8.64 an hour and only receive sick pay if they can prove that they were injured at work.

There will be seven days of strike action with further 24 hour strikes on 19 April and 24 May. There will also be a 48 hour stoppage starting on 3 May and a further 72 hour strike on 7 June. All the strikes start at 00.01.

ENDS

Notes to editors:

For more information please contact Unite senior communications officer Shaun Noble (mailto:shaun.noble@unitetheunion.org) on 020 3371 2060 or 07768 693940. Unite press office is on: 020 3371 2065

- Unite is Britain and Ireland's largest union with members working across all sectors of the economy. The general secretary is Len McCluskey.

Further reading

Glasgow Airport strikes suspended as new offer put to workforce (/news-events/news/2019/july/glasgow-airport-strikes-suspended-as-new-offer-put-to-workforce/)

Stansted easyJet 'check-in chaos' moves a step closer as workers back strike action by 100 per cent (/news-events/news/2019/july/stansted-easyjet-check-in-chaos-moves-a-step-closer-as-workers-back-strike-action-by-100-per-cent/)

Unite confirms Aberdeen Airport dispute over (/news-

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More strikes planned against 'heavy–handed' management at Luton Airport

Monday 20 May 2019 **Share**

Security guards employed by London Luton Airport will step-up their campaign against 'heavy-handed' shift changes with 12 consecutive days of strike action, including the bank holiday weekend.

The security guards responsible for searches, baggage checks and general security across the airport will strike for 12 days from Thursday 23 May at 04:30 until Monday 3 June at 20:59.

London Luton Airport is attempting to push through a new shift pattern affecting around 120 security guards which forces them to work an extra 15 days a year and will only get nine free weekends a year.

The previous series of strikes at the beginning of the month caused significant delays at Britain’s fifth busiest airport. The union has called on the airport to suspend the implementation of the new shift pattern to allow further talks.

A record 16.6 million passengers used Luton airport last year. Unite believes the recruitment of security staff has not matched increasing passenger numbers; instead the airport is putting all the burden on its existing workers, forcing them to work an extra 15 days a year.

95 per cent of the workers who took part in the ballot voted for strike action.

Unite regional officer Jeff Hodge said: "Security guards at Luton Airport are preparing to step-up their campaign against management’s heavy handed changes.

“The airport is trying to force their staff to work significantly more unsocial hours. Workers will only get nine weekends a year off and will have to work an extra 15 days a year.

“Unite has notified Luton Airport that the workers are planning 12 days of strike action which include the bank holiday weekend.

“Unite believes the recruitment of security staff has not matched increasing passenger numbers and the airport is heaping the burden on its existing staff.

“The workers are standing firm and are determined to ensure the airport treats them fairly. The airport must suspend the implementation of the new shift pattern to allow further talks. It's time for management to get around the negotiating table to reach a fair deal."

ENDS

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Stansted easyJet 'check-in chaos' moves a step closer as workers back strike action by 100 per cent

Wednesday 3 July 2019 **Share**

Passenger service agents employed by Stobart Aviation Services Limited on the easyJet contract at Stansted airport have voted by 100 per cent to take strike action in a dispute over pay and union recognition, Britain and Ireland's largest union, Unite announced today (Wednesday 3 July).

The result raises the prospect of strike action and delays for easyJet passengers at the Essex airport this summer if a breakthrough in talks between Unite and Stobart Aviation Services can't be found when the two sides meet tomorrow (Thursday 4 July).

Unite represents 43 passenger service agents employed by Stobart Aviation Services Limited. The workers are angry over the company's refusal to pay wages in line with similar companies at Stansted; its refusal to recognise Unite as a trade union for collective bargaining purposes; and a breakdown in industrial relations.

The turnout in the industrial action ballot was 88.4 per cent.

Commenting Unite regional officer Mark Barter said: "This emphatic vote in favour of strike action should leave Stobart Aviation Services in no doubt of the depth of anger felt by our members.

"Our members work unpaid overtime, experience staffing issues and lack basics, such as drinking water during their long shifts, while being paid up to 20 per cent less for doing the same job as their counterparts in other companies at Stansted.

"This unacceptable situation has only been compounded by the attitude of bosses at Stobart Aviation Services who have refused to fully honour the trade union recognition agreement that carried over when our members transferred over from Menzies about a year ago.

"We hope that Stobart Aviation Services will do the right thing and avoid the possibility of strike action by engaging meaningfully with Unite to reach a deal on pay and trade union recognition."

ENDS

Further reading

Glasgow Airport strikes suspended as new offer put to workforce (/news-events/news/2019/july/glasgow-airport-strikes-suspended-as-new-offer-put-to-workforce/)

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Strikes averted at Gatwick airport as BA food drivers agree 18 per cent pay deal

Monday 25 March 2019 **Share**

Strikes scheduled for this week at Gatwick airport have been called off after Unite, the UK Ireland's largest union, secured an 18 per cent pay package on behalf of drivers employed by Alpha Flight, the sole supplier of inflight food for British Airways at Gatwick Airport.

The 55 drivers were due to stage a strike beginning on Wednesday 27 March and ending the following day (Thursday 28 March).

18 per cent pay increase

An initial six per cent increase in pay was rejected in a consultative ballot and then following further pay talks an improved offer was voted on and accepted by the drivers. The drivers will receive a pay increase worth a total of 18 per cent, a 30 minute reduction in the working week and each worker will receive an additional £420, as part of a two year pay deal with the final payments made in November 2019.

£12.70 an hour

When pay talks began the drivers were receiving £10.64 an hour and the new deal will see wage rates increase to £12.70 an hour.

The pay deal is groundbreaking, as Unite has become increasingly aware that HGV drivers at Gatwick airport, are not receiving the market rate for the job and the pay deal with Alpha Flight is the first time that a company has taken the underpayment issue seriously.

Complete unity

Unite regional officer Jamie Major said: "By displaying complete unity our members have secured an excellent pay deal, which ensures their earnings are in line with local HGV drivers' earnings.

"Alpha Flight is the first company at Gatwick airport to take the argument for paying a market rate for HGV drivers seriously.

"By introducing a market rate for drivers Alpha Flight has now established itself as the market leader for HGV driver pay on the Gatwick campus.

"Unite will now be working to ensure that other employers at Gatwick also boost drivers' pay and introduce a market rate."

ENDS

Notes to editors:

BA passengers at Gatwick still facing food shortages as pay offer rejected (https://unitetheunion.org/news-events/news/2019/march/ba-passengers-at-gatwick-still-facing-fresh-food-shortages-as-pay-offer-rejected/)

For more information please contact Unite communications officer Barckley Sumner on 020 3371 2067 or 07802 329235.

Email: barckley.sumner@unitetheunion.org (mailto:barckley.sumner@unitetheunion.org)

- Unite is Britain and Ireland's largest union with members working across all sectors of the economy. The general secretary is Len McCluskey.

Further reading

Glasgow Airport strikes suspended as new offer put to workforce (/news-events/news/2019/july/glasgow-airport-strikes-suspended-as-new-offer-put-to-workforce/)

Stansted easyJet 'check-in chaos' moves a step closer as workers back strike action by 100 per cent (/news-events/news/2019/july/stansted-easyjet-check-in-chaos-moves-a-step-closer-as-workers-back-strike-action-by-100-per-cent/)

Unite confirms Aberdeen Airport dispute over (/news-events/news/2019/july/unite-confirms-aberdeen-airport-dispute-over/)

McCluskey: Reject Brexit division and unite for a Corbyn government (/news-events/news/2019/june/mccluskey-reject-brexit-division-and-unite-for-a-corbyn-government/)

Aberdeen Airport strike action to go ahead after pay offer rejection (/news-events/news/2019/june/aberdeen-airport-strike-action-to-go-ahead-after-pay-offer-rejection/)

Heathrow expansion 'masterplan' important step on the road to creating

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Unite confirms Aberdeen Airport dispute over

Tuesday 2 July 2019 **Share**

Unite can confirm today (2 July) that its membership at Aberdeen Airport has voted to accept the latest offer on a 98 per cent turnout with 60 per cent voting in acceptance. This now ends the dispute at Aberdeen Airport.

ENDS

For more information contact Shauna Wright on 07850644809.

Notes to editors:

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Unite holds industrial action ballot over pay and pension dispute at Glasgow airport

Tuesday 12 March 2019 **Share**

Unite the union has today (12 March) confirmed that it is holding an imminent industrial action ballot at Glasgow Airport over a pay claim for 2019 and following proposals to close the final salary pension scheme.

In January 2019 the airport issued a 60-day consultation on closing the defined benefit pension scheme which has broken an Advisory, Conciliation and Arbitration Service (Acas) agreement made in 2016 to keep the scheme open to existing members. The airport is unilaterally proposing the scheme's closure, despite posting huge profits.

Glasgow airport's latest pay offer of 1.5 per cent, which represents a real terms pay cut, was rejected following a consultative ballot by 100 per cent on a 97 per cent turn out. The pension proposal was also rejected by a consultative ballot on the exact same figures. Glasgow airport has failed to significantly increase the pay offer despite admitting that they remain on target to increase profits for 2019 by at least six per cent.

The airport is part of AGS Airports Limited group, which also owns Aberdeen and Southampton airports, with all three airports being subject to the pension proposal. Unite represents around 500 workers at Glasgow airport. The company posted a £74 million profit after tax in 2017 up from £51 million in 2016. If the strike action ballot is successful, Unite members are expected to take action during the mid-April to mid-October period with an overtime ban scheduled to take place during the same period.

Pat McIlvogue, Unite regional industrial officer, said: "The proposal to close the final salary pension scheme at Glasgow airport breaks all existing agreements we have with the company. The company have reneged on their word as only three years ago Glasgow Airport agreed to retain its final salary pension scheme. The offer on pay is an insult to our members. Glasgow airport is asking our members to take a real terms pay cut while they enjoy pre-tax profits of £91 million. This is corporate avarice of the highest level and totally unacceptable.

"Unite has no option but to ballot our members to defend their pension scheme and to secure a decent pay rise following the company doubling its profits. If there is widespread disruption over the Easter & summer months then the public should know now that the company is fully to blame for the situation."

ENDS

For more information contact Pat McIlvogue on (07918631805).

Notes to editors:

- Unite Scotland is the country's biggest and most diverse trade union with around 150,000 members. The union is led in Scotland by Pat Rafferty.

Further reading

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Unite workers at City Airport to be balloted on new pay offer

Wednesday 10 April 2019 **Share**

Unite members employed by controversial outsourcer Mitie at London's City Airport are being balloted on an offer to pay the London living wage (LLW) from 1 July.

Unite, Britain and Ireland's largest union, which represents 32 security guards and those providing assistance to workers with mobility issues, said today (Wednesday 10 April) that its members were being balloted on Mitie's new offer of paying the LLW, currently £10.55 an hour, from 1 July this year.

However, Unite warned that the offer, which came after its members had voted unanimously for industrial action, does not address all the members' concerns, which include demands for improved sick pay, adequate rest break facilities and recognition of Unite for collective bargaining purposes.

Unite regional officer Michelle Cook said: "Yesterday (Tuesday 9 April) Unite received confirmation from the Mitie regional manager at the London City Airport that the LLW would be paid to workers from 1 July, after they threatened strike action.

"We will ballot our members on this new offer as this proposal does not address all our members' legitimate concerns.

"We are aware that GMB has sole recognition at Mitie's operations based at London City Airport, however, Unite represents nearly 60 per cent of the workforce who were balloted for industrial action."

Mitie is currently embroiled in two other industrial disputes with Unite members across the UK.

At the Sellafield nuclear reprocessing centre in Cumbria, security guards, and catering, vending and laundry operatives are due to strike over pay for 10 days starting on 19 April.

At Southampton General Hospital, security guards employed by Mitie have already taken a day's strike action over lack of protective equipment as they are regularly attacked by those under the influence of drink and drugs or with mental health problems. Pay and sick pay are also issues in the Southampton dispute.

ENDS

Notes to editors:

For more information please contact Unite senior communications officer Shaun Noble on 020 3371 2060 or 07768 693940. Unite press office is on: 020 3371 2065

Email: shaun.noble@unitetheunion.org (mailto:shaun.noble@unitetheunion.org)

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Workers at Luton Airport step up action with 49 day strike

Wednesday 5 June 2019 **Share**

Security guards employed by London Luton Airport will take strike action through most of June and July in a dispute over 'heavy-handed' changes to working time.

The workers will begin their fourth period of strike action today (Wednesday 5 June) from 04:30 through to Tuesday 23 July at 20:59. Unite is meeting the airport with Acas next Wednesday (12 June) to try to resolve the dispute.

London Luton Airport is imposing a new shift pattern affecting around 120 security guards which means the workforce will have to work an extra 15 days a year. Workers say the new shift pattern is taking a heavy toll on their well-being.

The new shift pattern means:

- Working an extra 15 days and only getting 9 full weekends free a year
- Workers have less rest time between shifts
- The new shift means workers incur additional costs in childcare, and travel
- I impacts workers with caring responsibilities

95 per cent of the workers who took part in the ballot voted for strike action.

Unite regional officer Jeff Hodge said: "Security guards are determined to fight back against Luton Airport's heavy-handed and antisocial shift changes. Management are trying to force staff to work for longer, with shorter breaks, while piling extra costs on the workforce. The airport management have even callously cut the amount of free weekends workers get to spend with their friends and family.

"The airport needs to take responsibility for the staff shortages by doing what's needed to recruit new staff rather than heaping all the burden on its workforce.

"The airport now faces disruption through most of June and July. This latest strike represents a significant failure on the part of management at Luton Airport. Workers would not be taking this action unless they had genuine and serious grievances. We hope the airport listens and works with Unite to resolve this dispute."

ENDS

Notes to editors

Further reading

Glasgow Airport strikes suspended as new offer put to workforce (/news-events/news/2019/july/glasgow-airport-strikes-suspended-as-new-offer-put-to-workforce/)

Stansted easyJet 'check-in chaos' moves a step closer as workers back strike action by 100 per cent (/news-events/news/2019/july/stansted-easyjet-check-in-chaos-moves-a-step-closer-as-workers-back-strike-action-by-100-per-cent/)

Unite confirms Aberdeen Airport dispute over (/news-events/news/2019/july/unite-confirms-aberdeen-airport-dispute-over/)

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Aberdeen Airport strike action to go ahead after pay offer rejection (/news-events/news/2019/june/aberdeen-airport-strike-action-to-go-ahead-after-pay-offer-rejection/)

Heathrow expansion 'masterplan' important step on the road to creating thousands of jobs, says Unite (/news-events/news/2019/june/heathrow-expansion-masterplan-important-step-on-the-road-to-creating-thousands-of-jobs-says-unite/)

Stansted easyJet 'check-in chaos' on cards, as workers ballot for strike action over 'dismal' pay (/news-events/news/2019/june/stansted-easyjet-check-in-chaos-on-cards-as-workers-ballot-for-strike-action-over-dismal-pay/)

Further industrial action dates announced for Aberdeen Airport (/news-events/news/2019/june/further-industrial-action-dates-announced-for-aberdeen-airport/)

Winning, organising, growing

This is what we do best as a union. Fight for our members, for their jobs, for their working conditions, for the future of their communities"

Len McCluskey

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Workers at Luton and Manchester Airports suspend industrial action

Thursday 19 July 2018 **Share**

An industrial action ballot was due to start tomorrow (Friday 20 July) involving security staff at Manchester Airport. Unions and management concluded discussions today (Thursday 19 July) which have resulted in an amended and improved roster which will be recommended for acceptance. On the basis that these are agreeable to members they will be implemented on 15 September.

ENDS

Unite is a union that campaigns for and delivers better pay and conditions for its members. Unite is winning at work based on three core values. Secure Work: fighting for jobs and job security, Strong Voice: a union which is a respected voice at work and Decent Pay: a union focussed on pay and

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Workers, who assist 670,000 passengers at Gatwick Airport, to strike in pay row

Workers, who assist 670,000 passengers at Gatwick Airport, to strike in pay row

Thursday 1 November 2018 **Share**

Gatwick Airport workers, looking after an estimated 670,000 passengers annually, many with disabilities, will strike for six days in the next two months in a row over a 'massive inequality' in pay.

Thousands of passengers who need assistance will be affected when more than 250 workers stage three 48 hour stoppages from 05.00 on 20 November, ending at 05.00 on 22 November. The strike action will be repeated at the same times on 26/28 November and on 21/23 December.

The workers, members of Unite the union, employed by logistics giant Wilson James, voted by 98 per cent for strike action. The union estimates that its workers look after about 14,000 passengers a week.

The dispute centres on a demand for a £1 an hour pay rise for the year starting 1 April 2018 to begin to bridge the gap with those airport staff pushing luggage trollies who earn significantly more than Wilson James staff. Those assisting disabled passengers are paid just £8.27 per hour.

Unite today (Thursday 1 November) called on the bosses at Wilson James to get around the table for constructive talks on pay, before the first strikes start to bite.

Unite regional officer Jamie Major said: "Our members have given us an overwhelming mandate for strike action in their dispute over this massive inequality in pay.

"We now have a generous window of opportunity for the management to sit down with us and negotiate a decent pay award before the six days of strike action kick in this month and in December.

"The last thing our members want is to cause inconvenience and distress to those passengers who rely on their services during their time at Gatwick Airport – but they feel they have been forced into a corner by a tight-fisted management who refuse to address the pay inequality issue.

"There is no rhyme nor reason why pushing luggage is valued more than helping people – perhaps, it's because airlines can charge more for heavy luggage to increase profits.

"It remains a mystery to our members. Gatwick Airport needs to get its priorities right, otherwise it will suffer huge reputational damage in the run-up to the Christmas holiday season.

"The current pay of £8.27 an hour for our members is less than the voluntary UK living wage which is currently £8.75 outside London – and the south east is one of the most expensive places to live in the country."

ENDS

Notes to editors:

For more information please contact Unite senior communications officer Shaun Noble (mailto:shaun.noble@unitetheunion.org) on 020 3371 2060 or 07768 693940. Unite press office is on: 020 3371 2065

Commercial Viability of Manston Airport

AviaSolutions FINAL Report for Thanet District Council

September 2016

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Glossary of Terms

- **Air Journeys:** Also referred to Journeys. A unit of measurement for the number of flights taken by passengers.
- **Air Traffic Movement:** Abbreviated to 'ATM'. Defined as an aircraft landing or taking-off for commercial purposes.
- **Belly-hold:** A term referring specifically to passenger aircraft (as opposed to freighters). This term refers to the hold of the aircraft that is utilised for the carriage of passengers' baggage and freight.
- **Capacity per ATM:** A unit of measure defined as the number of seats or freight capacity on each ATM. Often an average of a larger sample.
- **Capacity:** The total capacity of an airport or aircraft to transport passengers or freight.
- **Catchment Area:** Airports draw their passengers from within a catchment area. The size of the airport and its network affect the size of the catchment area. Typically, the smaller the airport the smaller the catchment area that it can draw upon.
- **Discovery Park Limited:** Also referred to as Discovery Park. An entity that is closely linked to Stone Hill Park Limited through shared ownership.
- **Freight per ATM:** A unit of measure defined as the number of tonnes of freight loaded on each ATM. Often an average of a larger sample.
- **Freight:** Also referred to as Cargo or Air Freight. This includes all shipments that are transported for commercial purposes on board the aircraft under an Air Waybill excluding 'Mail'.
- **Freighter:** An aircraft specifically designed for the transportation of freight. This type of aircraft has no seats fitted, and in their place, has a cargo hold.
- **Full Service Carrier:** An airline business model that includes carriers who have traditionally offered all services included in one ticket price. This includes carriers such as British Airways, Lufthansa, Air France-KLM and Virgin Atlantic.
- **IATA Airport Code:** A three letter code designated by IATA to many airports around the world. All major airports are assigned a code, the most commonly used in this report are.
- **Kent Airport Limited:** Formally Infratil Kent Airport Limited. An entity whose main purpose is the operation of Manston, Kent's International Airport.
- **Kent Facilities Limited:** Formally Infratil Kent Facilities Limited. An entity whose main purpose is the provision of facilities to the operator Manston, Kent's International Airport. This entity in effect owns the airport site.
- **London System:** Also referred to as London Area Airports. A term referring to six airports of London (LHR, LGW, STN, LTN, LCY, SEN).
    - London City - LCY
    - London Gatwick - LGW
    - London Heathrow - LHR
    - London Luton - LTN
    - London Southend - SEN
    - London Stansted - STN
- **Low Cost Carrier:** Abbreviated to LCC. Low cost carriers are one of the major airline business models. Major European LCCs include Ryanair, easyJet, Norwegian, Wizz, and Vueling.
- **Million Passengers per annum:** Abbreviated to mppa. A standard unit of measurement for airport capacity or throughput.
- **Narrow-Body:** A type of aircraft, typically distinguished as one which has a fuselage wide enough for one passenger aisle. Includes aircraft such as Boeing B737 series and Airbus A320 family.
- **Passenger Movement:** A unit of measure referring to the number of passengers arriving or departing from an airport.
- **Passenger:** Abbreviated to PAX. The fare paying passengers on board an aircraft. Excludes those travelling on non-revenue tickets such as airline employees.
- **Passengers per ATM:** Abbreviated to PAX per ATM. A unit of measure defined as the number of passengers carried on each ATM. Often an average of a larger sample.
- **Peak Demand:** The demand at its highest point for an airport. There are several forms of peak demand, these include a daily peak (often early morning) and annual peaks (often around holiday seasons).
- **RiverOak Investment Corporation LCC:** Also referred to as RiverOak. An American investment firm that is seeking to acquire the Manston Airport site.
- **RTK:** Revenue tonne kilometre. A unit of measure in the freight industry. Calculated as the tonnes uplifted multiplied by distance flown.

- **Stone Hill Park Limited:** Previously Lothian Shelf (718) Limited. The current entity that owns Manston Airport.
- **Unaccommodated Demand:** A term referring to the demand that cannot be accommodated at a particular airport or combination of airports due to it exceeding the capacity available.
- **Wide-Body:** A type of aircraft, typically distinguished as one which has a fuselage wide enough for two passenger aisles. Includes aircraft such as Boeing 767, 777 and 787 series and Airbus A330, A340 and A350 family.

1. Introduction

1.1. Context

Thanet District Council ("TDC") appointed AviaSolutions to provide independent advice on whether a re-opened Manston Airport might a have financially viable future as an operational airport.

The airport closed in May 2014 and the current owner, Stone Hill Park (formally Lothian Shelf 718), has submitted a planning application for a mixed-use development on the site, comprising 2,500 dwellings, general business and commercial areas which is reported to support the creation of up to 4,000 jobs, and a range of leisure and sports activities.

RiverOak Investment Corporation ("RiverOak") is an American investment firm that wish to acquire the Manston site and re-establish airport operations. The re-established airport would be freight focussed but would also offer passenger services along with ancillary businesses. RiverOak are seeking a Development Consent Order (DCO) under the Planning Act 2008 to compel the sale of the site as a Nationally Significant Infrastructure Project.

TDC is seeking guidance on whether the airport has a reasonable prospect of operating as a financially viable, standalone entity within the period of the Local Plan which extends to 2031.

AviaSolutions commenced this study on 13th July 2016.

1.2. Scope and Limitations

The scope of AviaSolutions work was set out in the procurement document issued in June 2016 by TDC and our proposal for services submitted in the same month. Specifically, the scope requested:

> "The Council requires an independent assessment advising whether or not it is possible to run a viable and economically sustainable free-standing airport operation from Manston. The Council is seeking advice from an independent expert aviation consultant who can make this assessment within the context of the national and international air traffic market, the viability of airport operations at a national and international scale and likely future developments in airport operations."
>
> *Source: TDC Briefing Document*

Our proposal and this subsequent report have been developed in the context of these requirements. It is therefore necessary to indicate specifically those areas which fall outside of the scope of our works, and to which we have given no credence in the application of our analysis. These areas include:

- Whether Manston Airport is an asset of national significance
- The effect of any scenario on the wider Kent economy, or subsequently the effect on the UK economy as a whole
- The legal, planning, environmental, or social effects of any scenario, or whether these elements would present any challenges
- The economic benefit or need for industrial or housing units in the Thanet area
- The comparison between any airport scenario and any other alternative use of the airport site
- Passing judgement on the use of the site beyond that of whether an airport may be viable
- We take a neutral view with regards to the local campaign groups, both those for and against the airport

It should also be noted that many of the stakeholders engaged by AviaSolutions sought to broaden the discussion to include a wide range of airport-related topics. Whilst this has provided useful context and highlights the political sensitivity of the airport, AviaSolutions study is restricted to commercial analysis and does not seek to provide any legal, environmental or socio-economic advice or comments.

1.3. Our Approach

AviaSolutions commenced the study with a review of the various documents that describe the history of Manston Airport, the local and national planning context and the current development proposals for the site. The two main aspects of our work however were seeking the views of stakeholders relevant to the specific topic of airport commercial viability, and an extensive analysis of the relevant air transport market.

In conjunction with TDC, we agreed the primary and secondary stakeholders to be contacted for this engagement. Our interview programme was not intended to canvass the views and opinions of the many parties and individuals with views, many strong held, about the airport and its future. It was intended to seek facts about its historic development and proposed future development from the two prospective developers (Stone Hill Park and RiverOak) and from a range of parties within the air transport and freight industries. It is these parties and their like who will determine whether commercial aviation activities could be viable on the Manston site. Whilst conducting these interviews, many companies and individuals spoke on the condition of anonymity.

Our analysis added to our existing knowledge of the air transport industry the specifics that are associated with Manston Airport, namely its historic traffic performance, details of its catchment area, and the experiences of previous airline and freight users of the airport. AviaSolutions has developed two models specifically for this study. The first assessed the capacity of six airports serving the London Area and how future passenger and freight traffic might be distributed between these airports including Manston, and the second was a financial model to assess the potential cashflow outlook for Manston Airport.

1.4. Report Structure

In this report, we first summarise the history of Manston Airport and describe the different visions of its future put forward by Stone Hill Park and RiverOak. We next describe different scenarios for possible air transport use of Manston Airport, before investigating the passenger and freight traffic potential of each scenario. We then describe our financial model, setting out the basis of our revenue and cost assumptions if Manston were to be brought back to use as an operational commercial airport. Finally, we bring together the different threads of our analysis and reach our conclusions on the financial viability of Manston Airport.

1.5. AviaSolutions' Qualifications

AviaSolutions has been appointed to provide an independent assessment of the prospects for Manston Airport. We are is an aviation management consultancy, established in 2001. In October 2012, GE Capital Aviation Services acquired 100% ownership, adding consultancy to the leasing business for which it is known. Since then, AviaSolutions has grown rapidly, building an airline business in addition to our traditional airport advisory services. Over the past 15 years AviaSolutions has earned a strong market reputation in a number of key areas:

- Airport Strategy and Support
- Airline Strategy and Support
- Airport and Aviation Transactions
- Air Service Development
- Regulation, Policy and Planning
- Passenger and Cargo Traffic Forecasting
- Route and Network Strategy
- Ground Handling
- Business and Commercial Advisory

2. Executive Summary

2.1. Summary

AviaSolutions was appointed by Thanet District Council ("TDC") to advise on whether viable airport operations could be re-instated on the site of Manston Airport. Following ownership by the Ministry of Defence, three separate private companies tried and failed to operate Manston Airport profitably and the airport closed in May 2014. TDC needs to prepare its next Local Plan looking forward to 2031, and has two proposals for the use of the site: an operating airport or a mixed residential, business and leisure development.

AviaSolutions has discussed the re-opening of Manston Airport with a number of organisations and individuals, and carried out a detailed assessment of the air transport market and the potential finances of a re-opened Manston Airport. On this basis of this work, we have concluded that it is most unlikely that Manston Airport would represent a viable investment opportunity even in the longer term (post 2040), and certainly not during the period of the Local Plan to 2031.

The assessment of financial performance of a re-opened Manston Airport is based on relatively favourable assumptions for Manston Airport. We would typically position the financial forecast as a 'High Case' as a number of tailwinds are required to deliver the financial forecast in terms of passenger and freight volume and the revenue yield that can be achieved. Throughout the research AviaSolutions has consistently taken a positive outlook with regards to the underlying demand assumptions. Specifically, this means that we have opted for the upper bounds of traffic, the upper bounds of unit operating revenue, the lower bands of unit operating costs, and minimal asset costs and capital investment requirements.

2.2. Background

Since the Ministry of Defence sold Manston Airport in 1998, three separate private sector investors have attempted to develop the airport as a viable commercial undertaking. These ventures have all been unsuccessful and have incurred substantial losses in the process. The airport closed in May 2014. TDC has undertaken extensive exercises to find new investors prepared to re-open the airport, but has failed to identify an appropriate party. One interested party, RiverOak Investment Corporation LLC ("RiverOak"), has though emerged from this process, and is interested in acquiring the site and developing Manston Airport as a freight airport. RiverOak has been critical of previous owners, considering that they were not sufficiently active in seeking to develop and market Manston as a freight airport. In contrast, the current owner of the site, Stone Hill Park Limited ("Stone Hill Park"), has brought forward plans to develop the area for mixed residential, employment and leisure uses. TDC has identified a need to understand whether an airport would be a viable use for the site, and whether there is a reasonable prospect of that occurring within the period of the Local Plan to 2031.

2.3. Historic Performance of Manston Airport

During its years of operation as a commercial airport, Manston had a range of air services to domestic and short haul Europe points, and handled around 30,000 tonnes of freight a year, almost exclusively imports of fresh produce coming on dedicated freighter aircraft. The scale and nature of the passenger traffic suggests that Manston has relatively few air journeys originating or destined for a catchment area of East Kent that it might reasonably be expected to serve: we estimate that demand from this catchment area is about a third of the size of the demand in a catchment area of Southend Airport. While we consider that a re-opened Manston Airport would attract some passenger services and regain freighter operations at a level similar to its historic performance, our financial assessment is that this would be insufficient to support financially viable operations of the airport.

2.4. Manston as an Overflow Airport for London

Manston is located in the South East of England, where there is a need for additional runway capacity. This issue has been researched extensively over recent years, including the Davies Commission which recommended in 2015 that a third runway be constructed at Heathrow. A decision on the new runway

capacity is expected to be made in October 2016. In addition to the recommendation for Heathrow, Davies also considered a second runway at Gatwick, opening up the possibility of alternative decisions, including of course that either both or neither runway may be approved. We have developed a detailed model of how future passenger and freight demand might be distributed around the six airports in the London area under different airport capacity scenarios, in order to assess how much unaccommodated demand would be generated by 2050. We have also assessed how much traffic might be attracted to a re-opened Manston Airport.

These traffic estimates have been inputs to a financial model which AviaSolutions has developed to assess Manston's viability to 2050. We have based our estimates of unit aeronautical revenue, commercial revenue and operating costs on those levels achieved at other UK airports of a similar scale to that projected for Manston. We have also assumed that the site could be acquired for £10 million, and that further capital expenditure of £27 million would be required to re-commission the site as a licensed commercial airport. We further assume that the business is financed initially through an equity injection from shareholders of £50 million with no debt funding.

The scenario recommended to Government by the Davies Commission is the construction of a third runway at Heathrow. Under this scenario, the forecast passenger traffic at Manston would initially grow to almost 2.5 million passengers per annum (mppa) immediately before the opening of the third runway in 2030, but would fall materially afterwards. Retained earnings would not become positive until around 2040, preventing payment of dividends to equity investors until around that date. EBITDA margin would become positive in the early 2030's and grow and reach 41% by 2050. On this basis, we would very much doubt that an informed private sector investor would consider an equity stake in Manston Airport.

The scenario which most supports the re-opening of Manston Airport is one in which no new runways are built in the South East of England in the period to 2050. In this scenario, forecast operating cash flow of Manston Airport is negative until 2025; re-financings of £20 million are required in both 2028 and 2029 to fund terminal expansion; and retained earnings remain negative until 2029 preventing the payment of dividends. Thereafter, financial performance improves significantly, but it is 2043 before EBITDA margin reaches 50%.

It should be noted that these conclusions are based on a set of assumptions that favour Manston Airport at all times, with examples including above market aeronautical yield, aggressive cost reduction projections and minimal acquisition costs, which, while in our opinion are achievable, would nonetheless require some significant management attention. This attention would be focused on two aspects, securing new business at advantageous aeronautical revenue per passengers from LCC's and structuring the business to take advantage of unit cost reduction through scale. . These would not be assumptions which AviaSolutions would suggest are presented as a Base Case to an Investment Committee considering the proposition, but rather ones describing a potential upside scenario. In our experience, it is likely that an Investment Committee would not consider investing on this basis.

This scenario of no runway development in the South East of England before 2050 is also a low probability scenario in our view. It also carries a high risk that a decision in 2016 not to commission another runway could be reversed at any time in the future. If Manston were operational at the time a decision were reversed the impact on the business would be considerable, and the decision is not one in which the owners would have any control whatsoever To give just one minor illustration of the risk, it was reported in early September 2016 that Heathrow Airport Limited was considering requesting permission to operate an additional 19,000 ATMs each year, which if granted would reduce the traffic that might spill to Manston.

The other runway scenarios which collectively are more likely than 'no runway development', produce worse financial forecasts for Manston Airport.

2.5. Conclusions

AviaSolutions concludes that airport operations at Manston are very unlikely to be financially viable in the longer term, and almost certainly not possible in the period to 2031.

3. Manston Airport: History and Development Proposals

3.1. Introduction

In this chapter, we briefly describe the history of Manston Airport and the different development proposals that are currently being tabled. We also summarise the information and views that we gathered during our interviews with each prospective developer of the site.

3.2. Manston Airport History

The history of Manston Airport has been well documented in a series of reports and investigations about its prospects. Like many airports, it started life as a military airfield and played an important role during the Second World War. Although it continued as an Air Force base after the war, civilian operations were permitted. In 1998, the Ministry of Defence sold the site to the Wiggins Group plc, which endeavoured to build up commercial operations, including investment in an airline (EU Jet) to provide passenger services. However, the airline quickly ceased operations in July 2005 and the parent group (renamed Planestation), went into administration.

The following month, Infratil Limited acquired Manston Airport from the administrators, and sought to continue commercial air transport operations. However, without the support of a based airline, passenger numbers returned to the historically low levels experienced prior to EU Jet. In each year that Infratil Limited owned Manston it incurred losses of more than £3 million per annum and wrote off the purchase price of £17 million. Infratil disposed of the airport and associated liabilities in November 2013 for the notional price of £1.

Manston Skyport Limited completed its acquisition of the airport in December 2013, but in the face of continuing financial losses gave notice to staff in March 2014. The airport closed for operations on 15 May 2014.

TDC then explored the possibility of using a Compulsory Purchase Order (CPO) to buy the airport, and then sell immediately onto a private sector investor willing to use the site as a commercial airport. A month-long search yielded a small number of interested parties but further scrutiny indicated that none provided the Council with sufficient confidence that it would be indemnified were it to exercise its CPO rights. This led the Council to reach an initial conclusion in December 2014 that it was unable to find a CPO Indemnity partner.

At the request of RiverOak Investment Corporation (one of the previously interested parties), in May 2015 it started a review of this decision and in October 2015 reached the same conclusion. Nonetheless, at the start of 2016, the Council launched a further search for a CPO Indemnity partner, but this again proved unsuccessful.

In the meantime, the former airport site was sold in September 2014 to the current owners, Stone Hill Park Limited

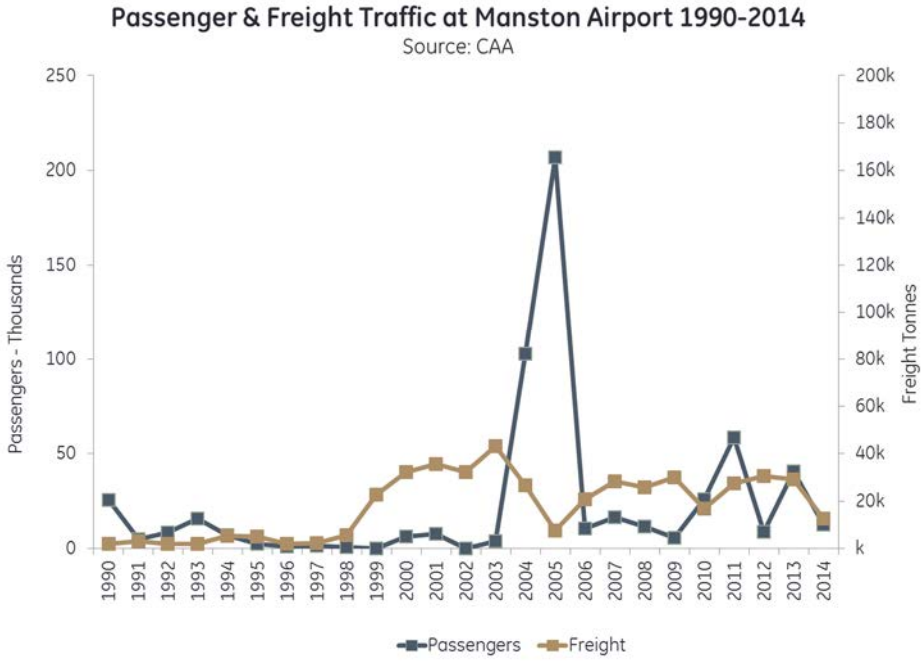
3.3. Commercial Activity at Manston Airport

Immediately after Wiggins Group plc acquired the airport Manston saw an increase in freight traffic. This grew rapidly to circa 30,000 tonnes per annum, however the passenger element of the business stagnated. After Wiggins Group plc invested in an airline specifically for the region, EUJet, the airport saw rapid growth in passengers increasing to 200,000 in 2004. EUJet however, quickly fell into financial difficulty and ceased operations in July 2005 bringing an abrupt halt to the passenger growth.

In the years since, through the ownership of Infratil and Manston Skyport, freight volumes were maintained at circa 30,000 tonnes per annum. Passenger volumes increased with the introduction of Flybe in 2010 but

fell back as the routes were withdrawn. Most recently, KLM began operations from the airport in 2013 but were also withdrawn due to the announcement of the airports closure.

Since being taken into private ownership the airport has averaged 30,500 passengers and 25,000 tonnes of freight per annum, with the peak being 207,000 passengers in 2005 and 43,000 tonnes of freight in 2003.



3.4. Stone Hill Park Development Proposal

Stone Hill Park Limited has lodged a planning application with TDC to construct a mixed development of residential and business units on the site of the former airport.

Stone Hill Park set out its position with regard to the history of the airport, indicating its years of financial losses under various ownerships. The company also outlined the steps that had been taken by management and consultants, both when the airport was operational as Manston SkyPort, and when it came into its ownership, to revive the airport's fortunes. It should be noted that Stone Hill Park indicated that no documents or reports were available to evidence these efforts. Stone Hill Park concluded that the airport site would be better utilised as a redevelopment site than as an airport[1].

3.5. RiverOak Investment Corporation Development Proposal

RiverOak was perhaps the most interested party in TDC's search for an Indemnity Partner to support its consideration of a CPO. It has indicated that its plan for the re-opening of Manston Airport is based on attracting 10,000 annual movements by freighter aircraft.

During AviaSolutions interviews, RiverOak provided a high level review of why it wished to acquire the airport and its vision of the airport's future development. The strategy is to develop a freight hub with supporting passenger services. RiverOak criticised the previous owners' lack of effort to develop air freight traffic at Manston.

[1] The scope of this report does not extend to a consideration of other uses for the airport, and AviaSolutions is therefore not able to comment on the reasonableness or otherwise of the alternative use proposals.

RiverOak was unwilling to disclose any material detail of its Business Plan for reasons of commercial confidentiality. Therefore, the discussion over future viability was at a more generic high-level basis, with RiverOak not disclosing any traffic projections, revenue projections, cost base or specific airlines (passenger or freight) with whom it had discussed plans (with the exception of Ryanair). It did not name any parties that had given firm commitments to use a re-opened Manston[2].

A critical factor for RiverOak's proposal is that in order to establish an airport on the Manston site it will need to obtain ownership of the site from the current owners. They have not secured the site's sale through negotiation with the owners and are currently preparing for a DCO process, a part of which shall aim to demonstrate to the relevant authorities that the airport site is nationally significant transport infrastructure. If successful, RiverOak may then be granted the ability to purchase the site on a compulsory basis. Without this power, there appears little prospect at present of the group securing ownership.

[2] For the avoidance of doubt, AviaSolutions therefore does not offer any opinion about the reasonableness or otherwise of RiverOak's commercial plans for the airport.

4. Potential Development Scenarios

4.1. Introduction

In this chapter, we describe a number of possible development scenarios for Manston Airport. These scenarios have been developed on the basis of our experience of the air transport industry and provided the background for our discussions stakeholders within the air transport industry.

We first describe two scenarios (4.2 and 4.3) that consider possible developments at Manston with regards to cargo and passengers. These scenarios are considered in isolation from decisions made in relation to the provision of a runway in the London area. However, given that Manston is in the South East of the UK, its potential development is likely to be directly influenced by any runway decision. Consequently, we incorporate the first two scenarios into a wider consideration of possible developments in the London area in view of the possibility that Manston might provide some 'over-flow' airport capacity. These considerations are drawn together in our four distinct demand scenarios for Manston Airport.

4.2. Cargo Activity

In the past, Manston Airport was able to attract a certain level of cargo activity, and a potential future role would be for it to again serve this market. In our assessment, we assume as a minimum that Manston attracts this previous freight, totaling 30,000 tonnes per annum.

We also consider whether the scale of activity might be greater than experienced in the past. There would be two possible causes for this:

- The selection of the East Kent area by a major multinational manufacturing (e.g. an Asian electronics or white goods company) or retail group (e.g. Amazon) as the location of its distribution network. Such location decisions can have a significant impact on freight volumes. However the UK's planned exit from the EU leaves makes this less likely.
- As a consequence of their lower sensitivity to airport location, freighters are generally amongst the first category of traffic to be 'squeezed' out of busy airports. With the pressure on runway capacity in the South East of England, it is possible that freighters currently operating through the London airport systems might seek to move to an alternative airport. We discuss this further throughout the remainder of this chapter.

We also considered the role of integrators in the air freight market. Whilst general cargo traffic tends to be more flexible about the location of the airport it uses than passenger traffic, this does not apply to the major integrated freight operators. The business model of operators such as DHL, FedEx and UPS is based on a hub and spoke principle involving both aircraft and road feeder services: the surface element of the network has a greater requirement for a central location within the market being served. We consider the geographic location of Manston precludes it from being a suitable base airport for an integrator in particular when compared to UK competitors such as East Midlands Airport.

4.3. Regional Passenger Airport

Manston Airport played a role from the early 2000s until its closure as a local airport serving the East Kent region. Although our research and analysis (described in Section 5) has indicated that its core catchment area produces significantly less demand for air travel than the area around Southend Airport, we consider that it might nonetheless be able to support an operation equivalent to one or two 150-200 seat passenger aircraft operated by a LCC based at Manston. However, the longevity of such a development may be limited since if a new runway were to be built at Heathrow or Gatwick, the LCC concerned would in all probability transfer its aircraft to the new runway. There are many reasons why these aircraft would be re-based, including:

- Gaining access to vitally important catchment area

- Competitive positioning, the major LCCs are likely to fiercely compete and attempt to gain first mover advantages
- The airlines will need to base multiple aircraft at the airport with a new runway in order to achieve economies of scale on the cost lines of their business
- Securing slots at valuable airports to secure slots
- Airlines have finite resources, including the number of aircraft they have to operate. A major structural change in the runway capacity environment will demand that those resources be reviewed and the optimum allocation revised.

In our analysis we make the assumption that the airport quickly ramps up to 800,000 passengers per annum on this basis until such a time as a new runway is opened, at which point the aircraft are re-based and the passenger traffic lost. This volume of annual passengers is equivalent to two B737-800 based aircraft with a typical LCC seat configuration. We also assume that Manston would not feature in the network plans of airlines for non-based aircraft.

4.4. Runway Development in the South East

The shortage of airport capacity in the South East of England has been widely debated for many years, if not decades. The most recent public investigation was undertaken by the Davies Commission which reported to Government in 2015. No decision on its recommendation to provide a third runway at Heathrow has yet been made, although one is expected in October 2016. Even if a decision is made as currently planned, it could be ten years or more before that runway would be operational. The Davies Commission considered a long list of possible locations for additional runway capacity in the South East, although it should be noted that Manston Airport (still open at the time) was not one of them, and despite its available capacity a new runway was still deemed necessary.

The Commission short-listed two schemes at Heathrow for a third runway (LHR3) and the provision of a second runway at Gatwick (LGW2), and recommended LHR3. During the next ten years, there will be a shortage of airport capacity in the South East, leading to a scenario in which Manston acts as an overflow airport for demand that cannot be accommodated elsewhere. We consider that there are four possible outcomes from the Government's current decision process:

- Build LHR3: While in line with the Davies Commission recommendation, this choice would nonetheless be the most controversial, and probably take the longest time to deliver.
- Build LGW2: It is likely that a runway at Gatwick would be available earlier than at Heathrow. It is probably the outcome that would be least supportive of a re-opening of Manston Airport, since Gatwick is the closest airport to Manston, and a runway there is likely to be operational several years before one at Heathrow.
- Build both: Should Government indicate that its policy would permit both to be built, Gatwick shareholders might well conclude that while its runway could be operational first, there would be a significant risk of loss of traffic to Heathrow as and when its additional runway opened.
- No expansion: It is possible that Government will not sanction any runway expansion in the South East. It is the outcome that would be most supportive of a re-opening of Manston Airport, albeit an outcome that could be reversed at any time in the future, thereby depriving a re-opened Manston of traffic.

It is feasible that there would be a legal challenge, irrespective of which of the above possibilities were chosen (possibly less so with the fourth 'do nothing' option), further delaying the opening of a new runway. It is unclear whether the Government's decision would indicate simply its preferred location with the airport operator then following the normal planning process to obtain the necessary permissions, or whether it would seek to provide the permissions through a Parliamentary process.

4.5. Dynamics of Traffic in the London Airport System

The six airports of the London Airport system all have different owners, and each has a particular characteristic in the traffic which it handles. However, there is a dynamic in the distribution of traffic between the airports, which also have a particular hierarchy.

Heathrow is the premier airport, and there are numerous examples of airlines moving services there when they are able to do so. This has been evidenced with airlines purchasing slots from incumbent Heathrow

airlines, for example in February 2016 Oman Air purchased a pair of Heathrow slots from Air France-KLM for a reported $75 million.

Gatwick is clearly the second airport in the system, and secondary slot trading is also beginning to take place. The airports of Stansted and Luton to the north of London play similar roles in supporting the low cost airline market. London City Airport is very much a niche airport and has marginally relieved pressure on Heathrow by serving an increasing range of short haul (often business-oriented) destinations. The least busy airport is Southend which has grown again in the last few years as a result of easyJet basing two to three aircraft at the airport.

4.6. Model Scenarios

Before the construction of a new runway at Heathrow and/or Gatwick, there is expected to be a shortage of airport capacity with passenger demand growing. We have developed a simulation model to estimate the size of unaccommodated demand at one airport, and how the demand might respond to an airport capacity shortage. Our demand cascade follows the form of:

- Some passengers using the airport to connect between flights will choose to use other airports as their connection point (voluntarily to avoid over-crowded facilities and delayed flights, or as a consequence of airlines increasing fares to such passengers);
- Some passengers will choose not to travel, or not to travel by air (as air fares are increased);
- Some passengers will endeavour to use another London airport; and
- The remaining potential travellers are available for attraction by UK airports other than the six London area airports.

We have used our experience and discrete analyses to determine the likely sizes of the first two categories above, and then estimated the passenger handling capacities of the airports. In general, this is based on the number of Air Transport Movements (ATMs) that each airport's runway system can handle[3] and the average number of passengers per ATM at the airport. There is a long-term and widespread trend for passengers per ATM to increase, meaning that the passenger handling capability of an airport can grow even though there may be no change in the number of ATMs that it can handle. We have also divided the maximum ATMs between passenger and freighter operations, maintaining freighter operations at the average level seen over the five years 2011 to 2015[4], except at Stansted. Within this model we have also considered freight demand and the ability of airlines to carry this demand, either on the dedicated freighter ATMs or in the belly-holds of passenger aircraft.

Once the total unaccommodated demand for the London System has been identified we then apply analysis to identify the share of this unaccommodated demand Manston might attract. These 'spill' demand scenarios are in addition to the base loads of 800,000 passengers (up until a new runway) and 30,000 tonnes of freight. Our demand scenarios are therefore:

- LHR3: The spilled passenger demand Manston would capture if a third Heathrow runway were developed and in addition 800,000 passenger per annum and 30,000 tonnes or freight per annum until FY2030.
- LGW2: The spilled passenger demand Manston would capture if a second Gatwick runway were developed and in addition 800,000 passenger per annum and 30,000 tonnes or freight per annum until FY2025.
- Both: The spilled passenger demand Manston would capture if a third Heathrow runway were developed and a second Gatwick runway were developed and in addition 800,000 passenger per annum and 30,000 tonnes or freight per annum until FY2025.
- No Runway: The spilled passenger demand Manston would capture if no new runway were developed and in addition 800,000 passenger per annum and 30,000 tonnes or freight per annum until FY2050.

[3] *In the cases of Heathrow, Stansted and London City there are also statutory limits*
[4] *One of Stansted's S106 conditions specifies the division of ATMs between passenger and freighter, with freighter ATMs being 20,500 per annum, and passenger ATMs 243,500 per annum*

4.7. Development Options Outside of Scenarios

We have not included in the possible scenarios any development that does not include commercial air transport operations. Hence, we do not consider the potential use of the Manston site as; a Maintenance, Repair and Overhaul (MRO) centre, an aircraft refurbishment or fit-out location, aircraft 'tear-down' or storage centre, or flight training facility. These and similar activities are often sought by owners of airports with low levels of aircraft activity as a means of generating ancillary revenue to boost income. However, the operators of these businesses are often flexible about the location of the works, and as such, the businesses providing these types of activities are highly sought-after by existing airports and the businesses are able to negotiate favorable commercial terms.

Given the intense competition that exists for these types of business, in our judgment no private sector investor would re-open Manston Airport based primarily on this type of activity. Similarly, while the site has an historic position in aviation and has a heritage centre, and this activity could add to viability, this would be only a marginal financial contribution and would be dependent on there being a commercially viable airport around which to build such an activity.

We also discounted the possibility of Manston developing as a business aviation (GA) centre: it is simply too distant from London to be an attractive offering to corporations and high net-worth individuals using private jets and would struggle against established airports such as Farnborough and London City.

5. Passenger Analysis

5.1. Introduction

In this section, we discuss the passenger market both at Manston and in the London Area as a whole. We then explore the potential demand scenarios outlined in section 4.6.

5.2. Historic Passenger Traffic at Manston Airport

Various passenger services have operated at Manston Airport in the past. In general, they were consistent with the type that might be expected at a small UK regional airport, namely scheduled services to major short haul domestic and European destinations, supplemented by charter flights to the more popular Mediterranean holiday resorts.

Passenger volumes peaked in 2005, when EUJet, then a subsidiary of Planestation, was operating from Manston Airport. A large number of destinations were served, although EUJet was achieving a load factor of only 41% when it ceased trading in July 2005.

Destinations/Origins of Manston Airport Passengers, 2005

Airport	Passengers	Airport	Passengers
Edinburgh	32,259	Gerona	6,177
Dublin	26,879	Newcastle	5,118
Amsterdam	16,600	Belfast	4,563
Manchester	15,091	Barcelona	4,351
Malaga	14,119	Ibiza	3,657
Prague	10,434	Shannon	2,897
Nice	9,848	Valencia	2,316
Murcia	9,774	Glasgow	2,200
Alicante	7,822	Madrid	2,077
Palma	7,584	Other international	12,186
Geneva	6,801	Other domestic	18
Faro	6,502	Total	209,273

Source: CAA Airport Statistics

After EUJet ceased trading, passenger volumes fell dramatically, and remained persistently below 20,000 per annum until 2010/11 when Flybe commenced some limited flying to domestic destinations. The service to Manchester performed poorly, with an average load factor of 26% (source: CAA) and was soon terminated. A Belfast service had a marginally better load factor at 44% but ultimately was unsustainable. The highest performing route in terms of load factor was to Edinburgh which reached a load factor of 53% Passengers were mainly outbound from Manston and travelling for personal or leisure reasons resulting in fare yields being relatively low. The culmination of this poor demand resulted in Flybe ceasing services from the airport (source: Flybe Interview).

In 2013, KLM commenced a twice daily service on weekdays from and to Amsterdam, aiming to feed its connecting hub at Schiphol as well as facilitating travel to and from the city. KLM operates to many airports in the UK on this basis and in 2013, KLM carried nearly 36,000 passengers. However, in that same year, a further 48,000 passengers from Manston's core catchment area travelled to Amsterdam from other London Area Airports, meaning that the Manston service captured just 42% of the demand that arose from Manston's core catchment area (albeit services started only in April 2013).

Passengers to Amsterdam, 2013

London Area Airport	Passengers to Amsterdam from Manston Catchment Area, 2013
Heathrow	22,008
Gatwick	20,048
London City	4,091
Stansted	1,932
Luton	596
Total	48,675
Passengers on KLM service from Manston	35,854 (42%)
Total Catchment Area Passengers to Amsterdam	84,529 (100%)

Source: CAA Passenger Survey (N.B. Southend not included in survey)

5.3. Local Demand

We have defined an area of eastern Kent as Manston's core catchment area, as shown in the diagram below.

To gauge the demand from Manston Airport's core catchment, we analysed the number of journeys from the core catchment to a basket of easyJet destinations (using Southend Airport's easyJet network as a typical example). The London airports captured 517,000 air journeys to these UK domestic and short haul

European destinations[5]. This figure does not include the small number of passengers that travelled via Manston to Amsterdam in the first three months of the year.

District	Passengers from Manston's Catchment Area
Ashford	59,463
Canterbury	78,339
Dover	48,575
Maidstone	74,279
Medway	131,123
Shepway	41,159
Swale	47,074
Thanet	37,315
Total Using London Area Airports	**517,327**
Passengers on Services from Manston	**12,344**
Total Catchment Area Passengers to these points	**529,671**

Source: CAA Passenger Survey (N.B. Southend not included in survey)

In contrast, in 2014, the core catchment area for Southend generated more than 580,000 passengers to and from these points flying from the other London Airports. This is in addition to the passengers carried by easyJet from Southend to these destinations.

A proportion of the passengers that used services from Southend will have come from outside the airport's core catchment area. The analysis indicates that the maximum proportion of demand from a core catchment area that a small airport might attract is around 60%. This assumed percentage capture is broadly in line with the 42% capture by KLM from Manston during its first nine months of operations in 2013.

Airport Used	Passengers from Southend Catchment Area
Gatwick	270,450
Stansted	251,443
Heathrow	21,978
London City	20,868
Luton	16,820
Total using London Area Airports	581,559 (38%)
Passengers on easyJet services from Southend	959,523 (62%)
Total Catchment Area Passengers to these points	1,541,082 (100%)

Source: CAA Passenger Survey (N.B. Southend not included in survey)

If this same percentage were applied to the 2014 demand from Manston's core catchment area, it suggests that the maximum number of passengers that might be attracted to these points on services from a re-opened Manston would be some 330,000 per annum (529,000 x 62%). To sustain operations, it is therefore conceivable that Manston would, like Southend, almost certainly need to attract passengers from outside its catchment area. Southend is some 55 minutes from central London by rail (with pedestrian access between airport terminal and station), while Manston is scheduled to be 75 to 105 minutes from

[5] *Barcelona, Belfast, Amsterdam, Faro, Alicante, Ibiza, Malaga, Jersey, Palma. Geneva, Venice, Edinburgh, Berlin, Krakow, Tenerife*

Central London. Manston would face a significant challenge to match Southend's attraction to passengers from central London.

Train to London from airport, (Assumes Ramsgate connection for Manston)

Airport	Train to London	Connect to Terminal	Vs. Manston
Heathrow	15 minutes every 15 minutes from Paddington	Direct to terminal	75 minutes quicker
Gatwick	30 minutes every 15 minutes from Victoria	Direct to terminal	60 minutes quicker
Stansted	50 minutes every 15 minutes from Stratford / Liverpool Street	Direct to terminal	40 minutes quicker
Luton	40 minutes every 10 minutes to Kings Cross St Pancras	10 minute shuttle	50 minutes quicker
London City	On the DLR Line	Direct to terminal	Variable
Southend	53 minutes to Liverpool Street, 44 minutes to Stratford. 8 trains an hour at peak	Direct to terminal	37 minutes quicker
Manston	75 - 105 minutes to Ramsgate, four trains per hour to Kings Cross St Pancras	15 minute shuttle	n/a

Source: Airport website, national rail

This potential level of passenger demand at Manston for short haul services would be approximately equal to that which could be handled by one 150 seat narrow-body aircraft (such as a Boeing B737 or an Airbus A319) operated by an LCC based at Manston.

5.4. Airline Interviews

AviaSolutions spoke to several passenger airlines with regards to potential future operations at Manston airport. More detailed notes are provided in Appendix A.

Ryanair provided the most positive indication of future service concluding that:

> '*Ryanair are constantly reviewing their network and remain open to approaches from any airport. If the airport became operational, the airline would review its potential and fit within the wider airline network in due course, and is available to discuss terms with the owners at any time*'
> Ms. Kate Sherry, Deputy Director of Route Development, Ryanair

Whilst Ryanair remained somewhat open to the possibility of future services, it was in our opinion, far from a commitment to serve Manston airport if it should re-open. We received a similar positon statement from KLM, effectively citing that a re-opened Manston would be included in the annual network review.

Discussions with other carriers indicated a less positive outlook for the airport, with Flybe, an airline that had previously served Manston stating:

> 'I*t is unlikely that, even if Manston should reopen, the airline would choose to serve the airport.*'
> Mr. Martin Pearce, Flybe

Other airlines and individuals interviewed had similar stances, stating that:

> *'…Manston would not be a consideration for us…'*
> Major European LCC

and that:

> '*Following the BREXIT vote many airlines will be considering their approach to the UK. During a period of uncertainty, it will be difficult for Manston to convince carriers to open routes to the airport*'
> Ex-Director of Network Route Development for Major European LCC

We also discussed with a major UK carrier its views on Manston Airport as part of an operational resilience strategy. This is an aspect of the airport which has been made promoted as a potential benefit to the UK aviation sector. Flight Operations within an airline is a highly scrutinised function, in particular with regards to fuel and diversionary airport selection. When calculating a Flight Plan, airlines plan contingency fuel based on regulatory standards that ensure sufficient fuel is available upon landing, meeting this minimum landing fuel is a core part of the duty of all aircraft commanders. Our contact stated that:

'It is my personal view that Manston does not offer any safety or resilience benefits of a material nature to the UK system. The airport is located in close proximity to six London airports which offer excellent resilience already'
Manager, Flight Operations, Major UK Carrier

Based on AviaSolutions interviews in relation to passenger services, we conclude that whilst there is some notional interest in passenger services at Manston Airport, no airline was committed at present, or in the future seeking to serve to the airport should it re-open. No airline wished to give any more commitment beyond that it would consider Manston as part of their process of reviewing their network.

5.5. Potential Overflow from London Area System - Model

We outlined in Section 4 the principles on which we have based our model of how passenger traffic might cascade around the London Area Airport system. In this section we set out the main assumptions and results.

Capacity
The starting point of our assumptions is the ATM capacity of the London airports. At a number of airports, the ATM capacity has a statutory cap (as opposed to an estimate based on its physical capacity). At these airports we have assumed up to 97.5% of the movement cap to reflect constraints on the optimal scheduling and peak demand profiles.

Airport ATM Capacity

Airport	Annual ATM Capacity	Comment
Heathrow	480,000	With two runways. Statutory limit
	720,000	With three runways, from 2030 if added
Gatwick	280,000	Estimated capacity of single runway
	480,000	With two runways, from 2025 if added
Stansted	264,000	Statutory limit. Includes 20,500 for freight flights
Luton	100,000	Estimated. Statutory passenger cap of 18 mppa
London City	111,000	Statutory cap (noise-adjusted) - passenger limit of 6.5 mppa
Southend	53,300	Statutory cap

These ATM capacities are converted into a passenger capacity by multiplying by the average number of passengers per ATM. Passengers per ATM have historically increased over time as a result of larger aircraft with more seats and the increase in the number of seats occupied (the load factor).

We have assumed a continuation of this trend, although at a rate of 0.5% per annum, much lower than seen in recent years. It may be seen that even by 2050, the number of passengers per ATM with this assumption never exceeds 200 at any airport. This assumption acts to increase the demand that cannot be accommodated at the six London Area airports. However, it is likely that when faced with runway capacity constraints, airlines will increase passengers per ATM at a faster rate than would otherwise be the case. Our assumed rate of increase is consequently likely to lead to an over-estimation of the demand that is available to be handled at Manston.

Passengers per ATM

Airport	Passengers per ATM					CAGR 2011 to 2015	CAGR 2015 to 2050	Pax per ATM 2050
	2011	2012	2013	2014	2015			
Heathrow	146.6	149.5	155.0	156.8	159.7	2.2%	0.5%	190.2
Gatwick	137.9	142.5	145.2	149.7	153.5	2.7%	0.5%	182.8
Stansted	142.3	144.1	146.3	149.2	155.9	2.3%	0.5%	185.6
Luton	136.4	139.0	141.8	143.3	145.1	1.5%	0.5%	172.8
London City	49.2	46.9	49.7	52.0	54.5	2.6%	0.5%	64.9
Southend	33.8	84.9	102.4	95.5	100.4	5.7%*	0.5%	119.5

* 2012 to 2015

Demand

We have based our forecasts of future passenger traffic on those set out in the Davies Commission Report - unconstrained carbon traded forecast (the most optimistic). Given that the early forecast volumes have been superseded by actual performance, we have uplifted the forecast figures to reflect actual demand seen across the London System in the intervening years.

Demand Allocation London System

Demand is then compared to capacity available, and assigned to the airport which Davies assumes is its natural first choice. The greatest demand is for Heathrow, and traffic not accommodated there is assumed to (a) spill to other non-London Area airports for connecting traffic, (b) 5% is assumed not to travel (by air), or (c) spill to Gatwick.

A similar process is then followed for Gatwick, with any unallocated demand being allocated to one of the other four London Area airports, until each has reached its capacity. At this point, any unaccommodated demand becomes available for other airports outside the London System to handle. We summarise below the forecast demand at the London Area airports in 2050 for each of our defined scenarios, together with unaccommodated demand.

Forecast Passenger Demand (mppa) at London Area Airports, 2050

Airport	Scenario			
	LHR R3	LGW R2	Both	Neither
Heathrow	134	89	134	89
Gatwick	51	88	88	51
Stansted	45	45	45	45
Luton	17	17	17	17
London City	7	7	7	7
Southend	2	2	2	2
Unaccommodated	44	40	5	79

Unaccommodated Demand (mppa) by Scenario and Year

Year	Scenario			
	LHR R3	LGW R2	Both	Neither
2020	5	5	5	5
2025	11	9	9	11
2030	17	6	2	25
2035	9	9	4	36
2040	16	16	5	49
2045	27	27	3	61
2050	44	40	6	79

Demand Allocation - Regionals

This Unaccommodated Demand is potentially available to airports other than the six London airports and specifically to airports in regions other than the South East as well as to Manston. Using CAA data, we have calculated the origin and destination distribution of passengers at the London Airports split by the part of the UK they are travelling either to or from. This indicates that 49% of total passengers are travelling to or from Greater London and 4% to or from Kent. We have assumed that the distribution of future Unaccommodated Demand matches the pattern of demand seen in 2014, such that if 100 passengers were unaccommodated, 49 of those are travelling to or from Greater London and 4 to or from Kent.

We have then estimated how much of this Unaccommodated Demand Manston may reasonably be assumed to capture. Given its location in Kent it is reasonable to assume it would capture a large share of the Unaccommodated Demand for Kent (4 passengers in the example above). We have assumed that this share is 90% (90% of the 4 passengers). Applying a similar logic, we assume that the Greater London passengers would have more choice and therefore Manston would capture a smaller share of this market. We have assumed Manston will captures 10% of the Greater London market (10% of the 49 passengers).

It is also important to recognise that currently 27% of passengers using the London Area airports do not have origins or destinations in the South East region, but use surface means to access the air services at the London airports. It is our view that airlines will consider adding additional capacity at airports to the North and West of London (potentially Southampton, Bournemouth, Cardiff, Birmingham, Manchester) to dissipate this excess demand and permit the London System to absorb the demand growth in the Greater London area. These non-London airports, in general, have a wider catchment area already provide services from many carriers with the associated economics of scale and mature presence in these markets.

Surface Origin/Destination of Terminating Passengers at London Area Airports, 2014 (mppa)

Area	LHR	LGW	STN	LTN	LCY	Total	%
South East	36.0	28.1	11.6	10.2	3.3	84.2	73%
of which							
Greater London	24.9	15.0	10.1	5.3	3.1	56.7	49%
Kent	0.9	2.5	0.4	0.1	0.1	4.1	4%
Other UK regions	11.3	7.2	7.5	5.0	0.3	31.2	27%
Total Terminating	47.3	35.2	19.1	10.2	3.6	115.4	100%
Connecting	25.8	2.6	0.8	0.2	0.1	29.5	
Total Terminal	**73.1**	**37.9**	**19.9**	**10.4**	**3.6**	**144.9**	

Source: CAA Passenger Survey

In addition to this overflow of unaccommodated demand, in each of our scenarios we have added the introduction of an LCC base of two aircraft supporting 800,000 passengers per annum from 2018, equivalent to two Ryanair B737-800 aircraft. This base continues at Manston until a new runway is opened at Heathrow and/or Gatwick. In the year when new capacity is introduced, the Manston based aircraft are assumed to transfer to the airport with the new runway, as the airline concerned seeks to establish presence at that airport at the same time as consolidating its operations in the London area.

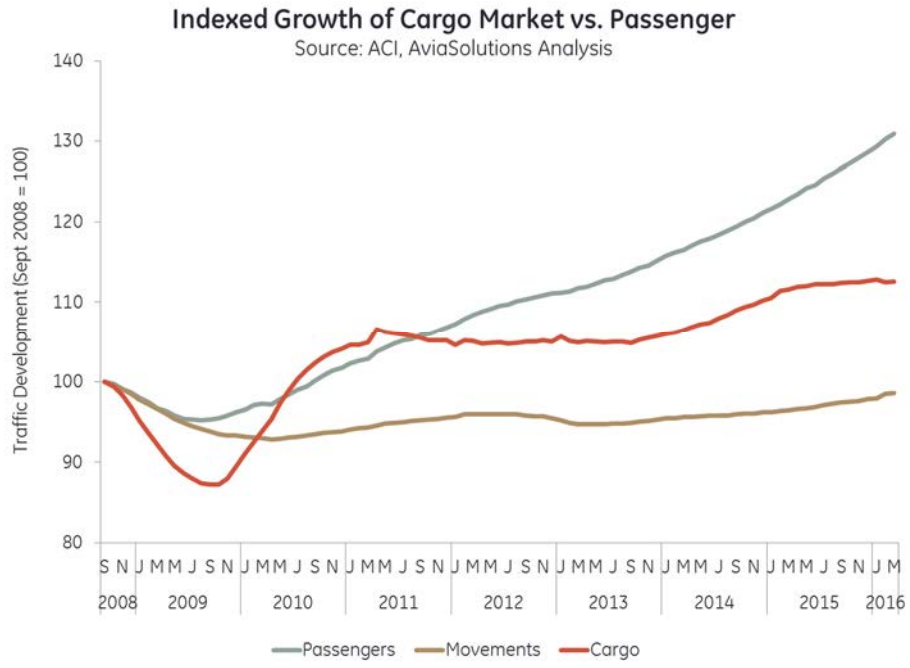
6. Cargo Analysis

6.1. Introduction

In this chapter we examine the air cargo market and its overall prospects. We also consider how freight traffic might develop at Manston Airport in our scenarios.

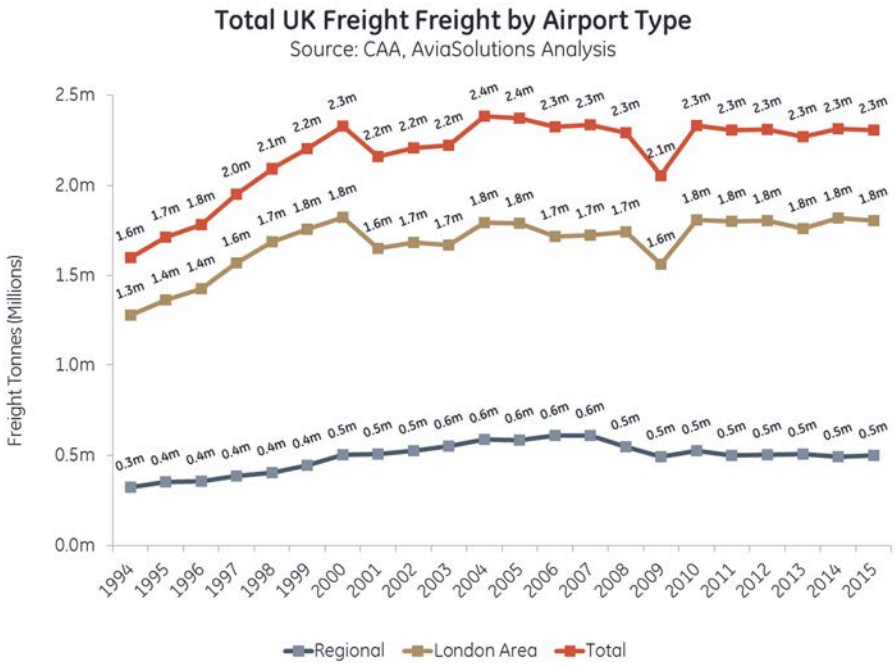
6.2. Overall Cargo Market

The air cargo market declined significantly after the global financial crisis of 2008. Although cargo volumes recovered to previous levels within two years following the crash in 2008, growth over the last five or six years has been modest.



A similar pattern has been observed in the UK. Indeed, total air freight handled at UK airports has been virtually constant at around 2.3 million tonnes per annum since 2000, with the exception of reductions immediately after the start of the recession in the early 2000s and the financial crisis in 2008. Prior to this period, demand for air freight had grown at CAGR of 8% since 1990.

There is a reasonably even split between freight set-down (imports for international freight) at 52.5% and freight picked-up (exports) at 47.5%. More than 95% of UK air freight in 2015 was international.



Within this national context, individual airports' performance has varied, with the five London area airports (Heathrow, Gatwick, Stansted, Luton and City) increasing their aggregate share slightly to just under 80%, with regional airports reducing by an equivalent amount.

The busiest airport for freight has consistently been Heathrow, responsible for two thirds of the country's air freight. This position owes much to the very considerable cargo capacity in the holds of the wide-body aircraft providing the many long haul passenger services from the airport. In contrast, East Midlands' position as the second busiest freight airport is due to its role as the centre of the UK distribution network of the integrated cargo carriers, especially DHL but also UPS and Royal Mail. Stansted is preferred by FedEx and is also used by the cargo operations of a number of airlines. These included British Airways before it discontinued its all-freighter operations in April 2014 and switched to the freighter operations of Qatar Airways.

It has been argued by, for example, York Aviation on behalf of the Freight Transport Association that the stagnation of growth in UK air freight market since 2000 has been caused by a lack of airport capacity in the London area and specifically at Heathrow. Whilst the lack of ATM growth at Heathrow has undoubtedly hampered the development of the national air freight market, it is also true that over this period there was adequate airport capacity available at both Stansted and Manston to support additional dedicated freighter movements. Freighter movements at Stansted decreased over the period[6], while Manston closed. This strongly suggests that the stagnation of UK airfreight is not a consequence of capacity constraints given the excess capacity at Stansted and Manston.

Air freight activity in the UK is highly concentrated, with just six airports handling 95% of the UK's air freight volume.

[6] *Stansted's freight ATMs declined from 13,967 in 2000 to 9,956 in 2015*

Freight by UK Airport

Airport	Freight (Tonnes) 2013	2015	% of 2015 Total	Cumulative Share	% carried on Freighters in 2015
Heathrow	1,422,939	1,496,551	65%	65%	5%
East Midlands	266,968	291,689	13%	78%	100%
Stansted	211,952	207,996	9%	87%	100%
Gatwick	96,724	73,371	3%	90%	0%
Manchester	96,373	100,021	4%	94%	10%
Manston	29,306	-	0%	94%	100% (2013)
Belfast International	29,288	30,389	1%	95%	100%
Luton	29,074	28,008	1%	97%	96%
Birmingham	21,067	7,164	0%	97%	0%
Edinburgh	18,624	19,322	1%	98%	99%
Total	**2,267,812**	**2,304,345**			**30%**

Source: Analysis of CAA Statistics

In 2015, there were around 60,000 ATMs by all-freight aircraft across UK airports. These were split almost equally between international and domestic operations. Freight movements are relatively concentrated on a small number of airports, with East Midlands and Stansted accounting for 64% of movements in 2015.

Airport	Freighter ATMs Domestic	International	Total	Int. as % of 2015 Total
Heathrow	3	2,385	2,388	8%
East Midlands	9,603	12,516	22,119	42%
Stansted	3,445	6,511	9,956	22%
Gatwick	0	3	3	0%
Manchester	205	830	1,035	3%
Belfast International	4,091	17	4,108	0%
Luton	183	1,519	1,702	5%
Birmingham	0	0	0	0%
Edinburgh	3,883	1,088	4,971	4%
Other	10,136	5,032	15,168	17%
Total	31,549	29,901	61,450	100%

Source: Analysis of CAA Statistics

It is important to note that, in the UK market, only 30% of airfreight is carried on dedicated freight aircraft. This is substantially less than the global average, where approximately 56% of RTK's are transported on freighters. In part, this disparity is due to the excellent belly-hold networks available from UK airports and in particular from Heathrow.

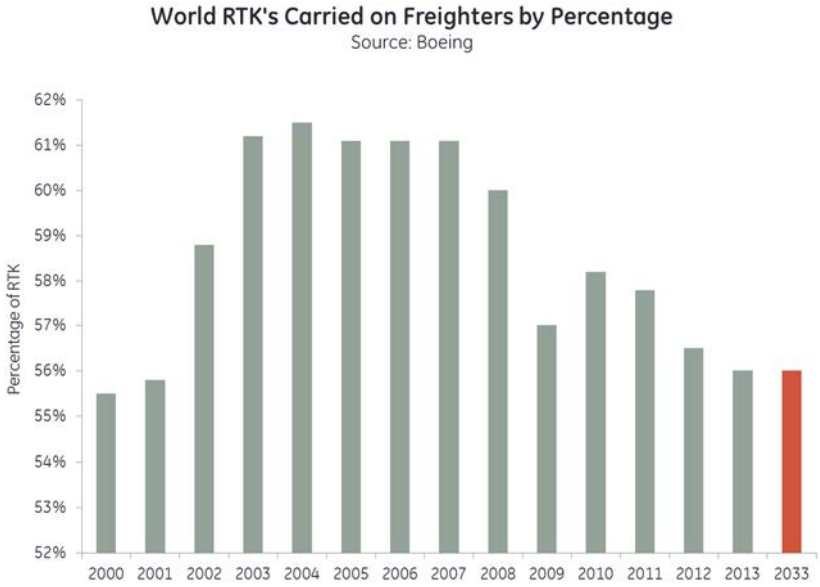
As passenger demand increases additional belly-hold capacity will enter the market. This capacity growth is unhooked from the demand scenario for belly-hold cargo and can result in excess capacity in the market. As a result airlines will often sell this belly-hold capacity using a marginal cost pricing structure. This pricing structure does not need to account for the high cost of the aircraft and must only meet the additional marginal cost that each kilogram of cargo incurs. Through the application of this pricing

structure, belly-hold cargo often undercuts the minimum price that can be charged on dedicated freighter operations.

As a result of this market dynamic, an airport focused on airfreight carried by dedicated freighters may be overly exposed to a declining or stagnant total market, or at best to a market that is not exposed to strong potential.

However, there are some elements of the market that appear to be limiting the increase in belly-hold capacity. These include

- Some of the newer aircraft types have a smaller belly-hold cargo capacity than the aircraft they replace; and
- Low Cost Carriers (such as easyJet and Ryanair) are gaining market share but generally ignore the freight market.



Manston

Before its closure in 2014, Manston Airport was the sixth busiest airport in the UK for freight. For the last ten years of operations the airport handled between 25,000 and 30,000 tonnes of freight annually, representing just over 1% of the UK market (refer table 'Freight by UK Airport' on previous page)

In 2013, the overwhelming majority of the airport's freight was carried on all-freight aircraft, CargoLux being the primary operator. There were 511 freighter movements (landings or take-offs) during the year, with an average of 57 tonnes of freight per movement. In reality Manston was almost exclusively used for imports, and this averaged 107 tonnes per import, with virtually no export volume.

6.3. Freight Industry Interviews

Our discussions with representative of the cargo industry indicate that much of the cargo at Manston was fresh produce from Africa. The airport was popular with shippers as it was uncongested, offered good quality handling services (provided by airport staff) and the airport charges were competitive. While it is close to continental Europe, airlines/shippers nonetheless had to incur the costs of flying freight aircraft virtually empty on the return leg to their base airport (e.g. Luxembourg, Ostend and Liege) after off-loading. When Manston closed, it is understood that some movements transferred to Stansted, whilst others switched to airports on the near-Continent and their loads trucked across the Channel to the UK.

Our primary interest in interviewing representatives of the freight industry (current and former executives), and previous users of the airport was to assess potential future use. It was clear from these discussions that whilst the airport clearly offered a professional service, the strategic position of the airport was a clear disadvantage.

> *'Airlines base the decision on where to operate their freighters based on a multitude of factors. However, the overriding factor is based on where investments in infrastructure have been made by*

their clients, freight forwarders. These capex investments by freight forwarders are required to ensure they maintain economies of scale through their transit facilities and distribution centres. In the UK, these investments are centred at Heathrow, and more recently Stansted'
Senior Executive in Cargo Division for airline operating freighters at Stansted.

The individual went on further to discuss the possibility of relocating his freighters to Manston Airport and was unequivocal in his position:

'The airline would be extremely unlikely to consider moving services to Manston, even if we were no longer able to serve Stansted, regardless of the commercial terms offered. If the airline had to move services, we would consider East Midlands and Manchester or other centrally located airports before Manston'
Senior Executive in Cargo Division for airline operating freighters at Stansted

This view was echoed by Mr. Stanley G. Wraight, a cargo professional with a global reputation, and over 40 years' experience in the cargo industry:

'The conclusion is there is virtually no incentive for operators to move operations to Manston, there are alternative UK airports that offer competitive services on reasonable terms. The UK doesn't need another airport for freight that has no USP. If Manston were to be developed it would be essential for it to gain a niche market such as becoming an Amazon or Alibaba e-commerce base'
Mr. Stanley G. Wraight – Senior Executive Director Strategic Aviation Solutions Limited

Balancing this view were those of an air cargo charter broker who had previously used Manston for charter services. The airport had offered excellent service and, while the broker's use might be for a moderate level of ATMs, it would be keen to re-establish a presence, provided the right commercial terms could be agreed:

'...we would certainly be interested in using the airport again if it re-opened but in order to do so, we would be looking to secure competitive rates for landing, parking and screening charges...'
Air Cargo Charter Broker – UK

We conclude therefore that there is limited interest from the cargo industry in using a re-opened Manston Airport for air freight. The larger scheduled freighter operators are unlikely to relocate their services to the airport, particularly if the airport does not have a unique product offer. We believe it is more likely that were Manston Airport to re-open, the most likely role would be to serve smaller freight operators and the larger operators on an *ad-hoc* basis. There is no compelling reason to believe that the airport would be able to generate appreciably more freight activity than previously, other than in the context of a shortage of airport capacity in the London area.

6.4. Potential Future Freight Operations - Model

Based on our research and analysis, it is AviaSolutions' view that if Manston were to re-open as an airport, it would attract some dedicated freighter operations. However, in the absence of a firm commitment from a multinational to establish a distribution centre near Manston, the growth of freight activity at the airport would be in line with historic performance, with incremental growth resulting from a general expansion of the UK cargo market and a diversion of freighter flights if these were constrained at Stansted.

Demand

There are very few national forecasts for the development of air freight. One example is the report developed by Oxford Economics and Ramboll for Transport for London as part of the investigation of the development of an estuary airport for London. A potential cause of the stagnation of growth in air cargo since 2000 was identified as the increase in oil and jet fuel price. Trend forecasts were based on average growth from 2000 to 2012 (the Lower Bound) and from 1990 to 2012 (the Upper Bound). The difference in growth rates of the two periods produce very different forecast outcomes.

Average Annual Growth	Period	London Area Airports	UK

Belly Hold Cargo	1990-2012	2.95%	2.87%
Belly Hold Cargo	2000-2012	0.49%	0.48%
Dedicated Cargo	1990-2012	2.76%	3.52%
Dedicated Cargo	2000-2012	0.02%	0.40%

Source: Oxford Economics

We note that despite being one of the world's leading economics consultancy's, Oxford Economics relied on a forecasting technique based on historic trends, rather than econometric regression analysis seeking to correlate historic growth in air cargo with changes in external/exogenous variables such as GDP, international trade etc. that might be driving the freight growth. Boeing and Airbus base their long term forecasts on GDP changes. The Oxford Economics' approach is consistent with it either not being confident in any relationships that exist, or simply not finding any explanation for the stagnation of air freight. Certainly, the forecasts produced have an exceptionally large range between low and upper bounds, which indicate the difficulty of forecasting cargo growth with confidence.

We have used the mid-point of these forecasts to drive our cascade model of how traffic might be distributed across the London area airports as and when airport capacity becomes constrained. We have estimated available capacity for cargo based on belly hold capacity generated on passenger services and on dedicated freighter flights.

Capacity

We have considered only belly-hold capacity Heathrow and Gatwick. At Heathrow with a significant number of wide-bodied aircraft (35%), we estimate the average belly-hold freight capacity to be 7 tonnes per ATM at LHR (2015), significantly higher than the actual freight per ATM of 3 tonnes. In an environment of freight growth, we have assumed this figure would increase at 1% per annum, reaching 4.3 tonnes per ATM in 2050, a load factor of 61%.

Currently, the majority of flights (85%) at Gatwick are narrow-bodied aircraft to short haul destinations, and likely to carry minimal volumes of freight. We estimate Gatwick's belly-hold capacity to be two tonnes per ATM. In 2015, actual belly-hold loads averaged less than 0.3 tonnes per ATM. We have assumed that this increases at 1.5% per annum, and reaches just over 0.3 tonnes per ATM in 2050, reaching a load factor of 15%.

We have assumed that the number of dedicated freighter flights remains at the average activity of the last five years at Heathrow and Luton. However, at Stansted permitted freighter movements may approach the statutory cap of 20,500 per annum. We have not included freighter movements at any of the other London airports. As the capacity per ATM on freighters at both Heathrow and Stansted was significantly above the loads actually carried, we have assumed that loads on freighters at these airports would grow by 1.5% per annum if UK freight market was growing at the forecast rate noted above. These assumptions take average loads on freighters to 55 tonnes and 53 tonnes respectively in 2050, still materially lower than the available capacity. We have assumed that the average load on freighters at Luton continues at 2015 levels.

Airport	Capacity Type	2011	2012	2013	2014	2015	Capacity 2015
Heathrow	Belly Hold load (tonnes)	3.0	3.0	2.9	3.0	3.0	7
	Freighter ATMs	2,456	2,380	2,365	2,084	2,388	2,388
	Freighter load (tonnes)	31.3	30.0	29.9	32.8	32.9	83
Gatwick	Belly Hold load (tonnes)	0.4	0.4	0.4	0.3	0.3	0.3
Stansted	Freighter ATMs	9,359	9,602	9,788	9,340	9,741	20,500
	Freighter load (tonnes)	20.3	21.3	21.2	21.7	21.0*	80*
Luton	Freighter ATMs	1,717	1,810	1,716	1,520	1,701	1,693
	Freighter load (tonnes)	15.6	15.9	16.3	15.1	15.8	15.8

* The average load in international freighter ATMs in 2015 was 31.7 tonnes per ATM, and the capacity on these movements 80.3 tonnes. We have used this as our forecasting base since most freight traffic is international.

Demand Allocation

These assumptions indicate that all forecast freight demand can be accommodated in all scenarios up to 2045. It is only in this year that some demand remains unaccommodated in two of the scenarios, although by 2050 there is unaccommodated demand in all scenarios.

Unaccommodated Demand (Tonnes x 1,000) by Scenario and Year

Year	Scenario			
	LHR R3	LGW R2	Both	Neither
2020	0	0	0	0
2025	0	0	0	0
2030	0	0	0	0
2035	0	0	0	0
2040	0	0	0	0
2045	0	35	0	123
2050	173	178	62	278

There is strong anecdotal evidence that a material proportion, probably around 20%, of air freight flying to and from the UK actually originates or is destined for continental Europe and is trucked across the channel. We have assumed that 20% of unaccommodated demand is lost to the UK air freight industry and flies from continental European airports. For the purposes of our assessment and in recognition of RiverOak's stated intention to develop Manston as a freight airport, we have assumed that half of the remaining unaccommodated demand is flown via Manston, with the other half going to other UK regional airports, potentially led by East Midlands and Manchester.

7. Financial Analysis

7.1. Introduction

In this section, we present the findings of our financial analysis based on the passenger and cargo forecasts set out in the earlier sections following an assumed re-opening of Manston Airport. The principles of the financial model and underlying assumptions are explained, followed by the outputs of the model for the Heathrow Third Runway scenario as it is the recommendation of the Davies Commission to Government. Finally, we present summary results of the other scenarios. A more comprehensive description of the outputs for the other scenarios is given in Appendix C.

7.2. Model Description and Input Assumptions

7.2.1. Financial Model

AviaSolutions has developed a model to assess the financial viability of a re-opened Manston Airport. This model assesses the financial performance of the airport based on various assumptions for four London area capacity scenarios which result in different demand scenarios for Manston. The assumptions have been developed in a number of different ways and draw on a wide range of sources including; analysis of the wider aviation industry, published financial accounts of the companies responsible for Manston Airport, benchmarking of comparable airports, information from our stakeholder interviews and our independent judgment based on knowledge and expertise within the aviation industry.

7.2.2. Brief Overview of Model

The model simulates the financial performance of the airport under different scenarios. This performance is measured through simplified financial statements including a Profit and Loss Statement (P&L), Cash Flow Statement and Balance Sheet. It should be noted that these are simplified statements used to illustrate performance and have not been produced to GAAP standards. The financial statements are modelled over a period from FY2017 to FY2050, on the assumption that the airport is reinstated on the site in FY2018. The Financial Year is assumed to correspond to the calendar year. This time period is typical of that used to evaluate long term infrastructure assets such as an airport, and the specific dates correspond with the period of the passenger forecasts used by the Davies Commission.

7.2.3. Approach to Assumptions

Throughout the research AviaSolutions has consistently taken a positive outlook with regards to the underlying demand assumptions. Specifically, this means that we have opted for the upper bounds of traffic, the upper bounds of unit operating revenue, the lower bands of unit operating costs, and minimal asset costs and capital investment requirements.

We therefore conclude that the assumptions and analysis that follow present the prospects of Manston airport in a very favourable context. We would consider these outputs to represent a 'High Case' and believe they present the airport in a situation where there is a very limited prospect of additional revenue or lower cost structures.

7.2.4. General Assumptions

Revenue

Airports generate revenue from two primary sources: from the charges levied on airlines for using their facilities (referred to as Aeronautical Revenue), and from more discretionary activities including retail, car parking and property (referred to as Non-aeronautical or Commercial Revenue). Manston Airport historically provided ground handling services to its customer airlines, and revenue from these activities is included in Aeronautical Revenues. Previously Manston Airport supplied fuel to some airlines, and our model includes this as a separate revenue line (as a net revenue so that the cost of the fuel does not need to be considered).

Revenue Assumptions within AviaSolutions Model

Revenue	
Aeronautical Revenue per Passenger	£7.00
Revenue per Tonne of Freight	£50.00
Commercial Revenue per Passenger	£5.00
Fuel Revenue per WLU	£0.93

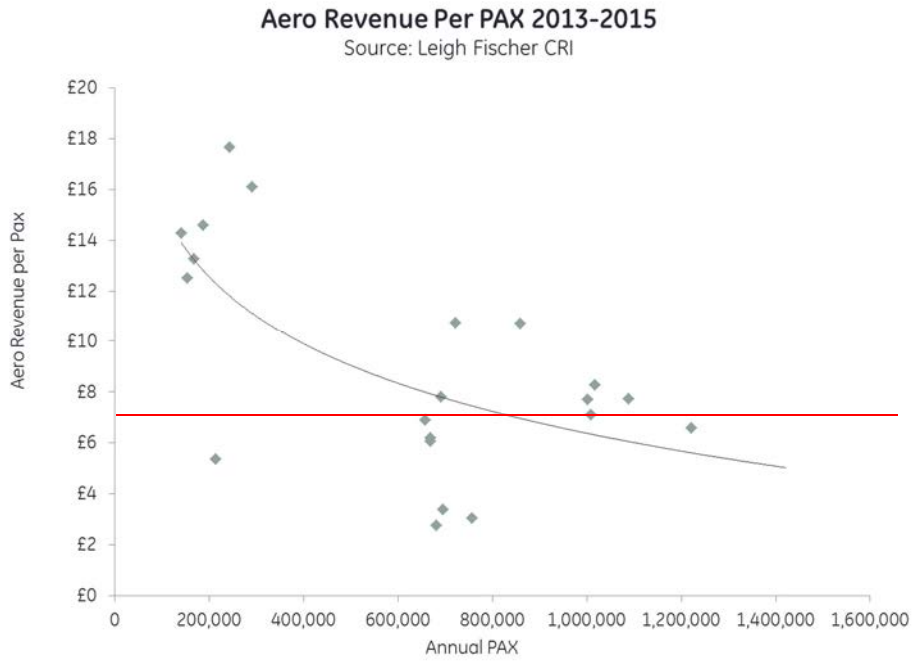
Aeronautical Revenue per Passenger

This revenue includes all airline related fees, including landing charges, passenger charges, and aircraft parking charges. However, it excludes Air Passenger Duty (APD), which is collected by the airline but passed on directly to the UK HMRC. It is normal industry practice, however, and for LCCs in particular to agree a fixed fee per passenger covering the entire range of airport operations (excluding any property rental).

Our experience is that the fees generated by the airport are greatly affected by the type of airline operating at the airport and the level of throughput achieved by the airline. Ryanair's airport charges, across its entire European network in 2015, amounted to €7.80 per total passenger (€15.60 per departing passenger) and during our stakeholder interview the airline indicated it would need to secure a highly competitive airport charge to base aircraft at Manston. The Ryanair average airport charge of €7.80 will include many capital city airports where the airline is very likely to be paying significantly above this average.

We also considered the average aeronautical revenue per passenger of airports that operate with a large share of LCC traffic, as would be expected at a re-opened Manston Airport. In the most recently published accounts (2015) Luton and Bristol airports reported aeronautical revenues of £5.66 and £4.24 per total passenger (£11.32 and £8.48 per departing passenger) respectively.

We have also assessed the aeronautical revenue per passenger achieved across a large sample of similar sized airports in the UK.



Based on these comparisons, we have concluded that a reasonable aeronautical revenue assumption for Manston Airport would be £3.50 per total passenger (£7 per departing passenger) for LCC traffic, and £7.00 per total passenger (£14 per departing passenger) overflowing from the London area.

Revenue per Tonne of Freight

The published accounts of Kent Airport Limited from 2013 identified revenues generated by freight activities. These revenues will reflect the landing charges from freighter movements, the use of the freight warehouses and the handling services provided to the airline. We have confirmed through an independent source that the historic revenue per tonne for freight achieved at Manston is consistent with market rates generally in the UK.

Commercial Aeronautical Revenue

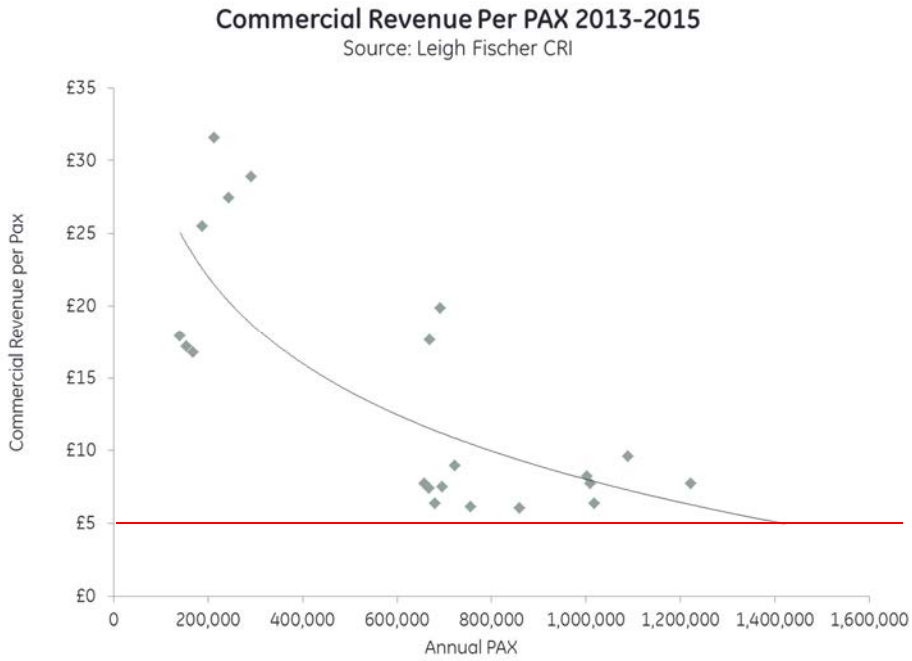
Commercial revenue is generated from passenger-facing services at the airport. One of the main sources of revenue are the airport concessions to operators of the retail shops (including duty free), food and beverage (F&B) outlets, car rental and currency exchange services. The operator will typically pay a percentage of turnover to the airport. Car parking is another source of revenue, with some airports managing operations in-house, whilst others out-source to specialist operators, such as APCOA or NCP.

Property revenue at Manston was £110,000 in 2014, and we have assumed that at a re-opened Manston Airport arrangements would continue on a similar basis.

We have built-up an estimate of potential commercial revenue per passenger by considering typical passenger spending and concession rates (turnover rent) that could be expected at a relatively small airport such as Manston.

In aggregate we have assumed that Manston could generate around £5.00 per total passenger (£10 per departing passenger).

We have also compared the unit commercial revenues generated at a number of smaller UK regional airports. It may be seen that there are a number of airports with low passenger throughputs which record high levels of commercial revenue per passenger. This is almost certainly caused by dividing a relative fixed rental income by a small number of passengers leading to an artificial inflation of the commercial revenue when measured on a per passenger basis.



We therefore conclude that a reasonable initial assumption for commercial revenue per passenger across all non-aeronautical activities is £5.00.

We have also considered the forecast expansion of the terminal to provide the necessary passenger capacity in later years under some scenarios. The terminal expansion would be expected to improve the retail and F&B offer and is assumed to contribute increased commercial revenue by £2 per passenger.

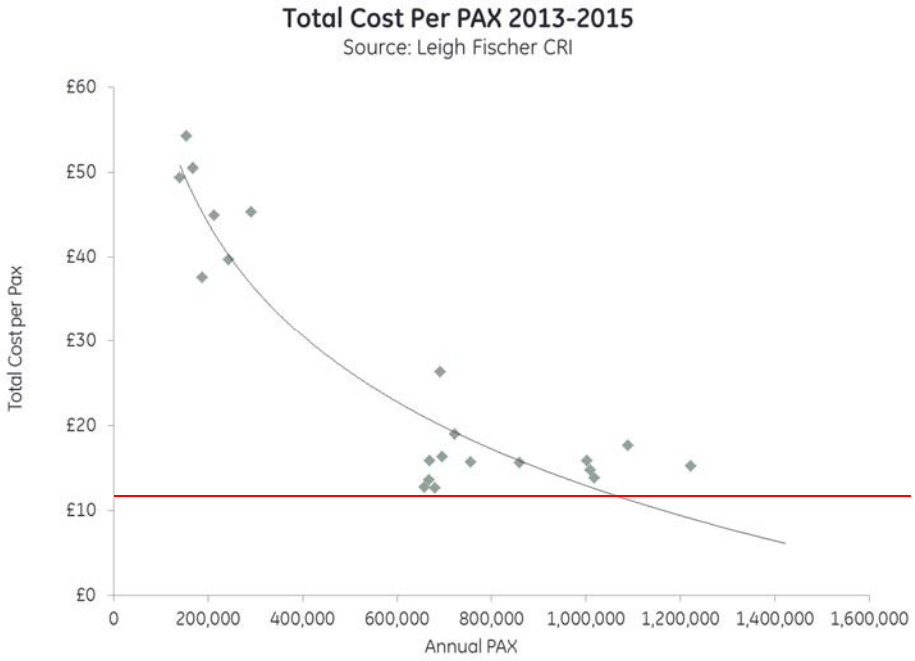
Aviation Fuel

The forecast for aviation fuel revenue is based on the net revenue after cost of fuel has been subtracted. The revenue is effectively the margin payable to the airport for fuel flowage. The margin has been estimated based on industry experience ranging from 3.5% - 7.5%. We have assumed Manston is able to achieve a margin of 5.5% and applied this to the total fuel revenue published in Kent Airport Limited's accounts (2014) to identify the fuel revenue per passenger or tonne of freight.

Total Operating Costs

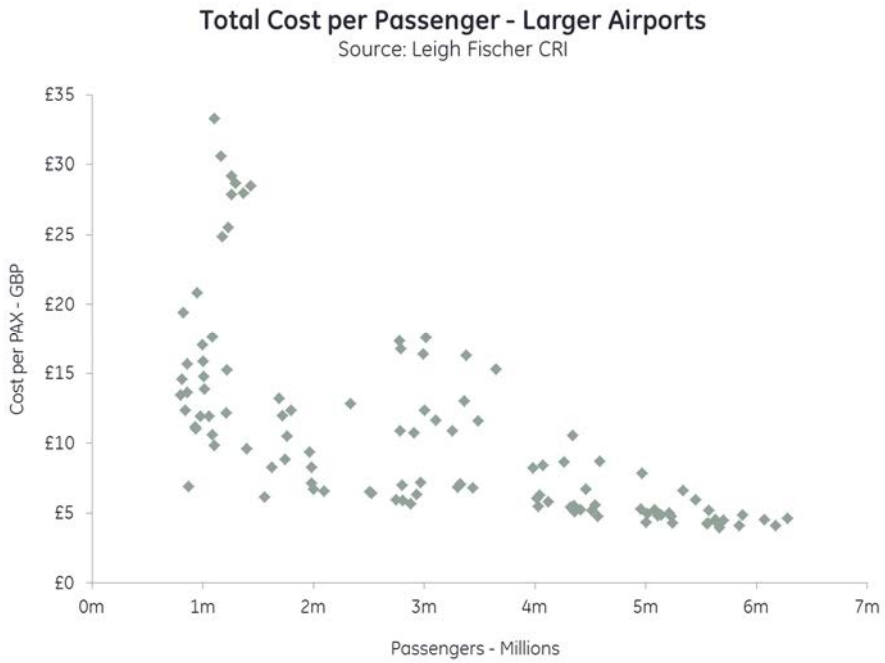
Airports with very low throughput have a high cost of operation per passenger: the fixed cost of airport operations can only be distributed across a low volume. Within a limited range, the marginal operating cost of an additional passenger is zero, but the marginal revenue of an additional passenger will be close to the average revenue per passenger.

This financial characteristic is common to capital intensive infrastructure assets. The chart below illustrates the relationship between volume and unit operating costs (per passenger) at a sample of small UK regional airports.



To reflect the expected evolution of the airport's operating costs over the forecast period we have assumed a fixed total operating cost of £7 million when annual passenger throughput is below 0.5 million. As passenger volume increases beyond 0.5 million we assume that the total operating cost per passenger will decline on a linear basis to reach £12 per passenger at around 1.0 million passengers. This would position Manston Airport amongst the best in class cost per passenger within its UK peer group.

It is reasonable to assume that unit operating costs will continue to decline with further increases in throughput leading to additional economies of scale, as illustrated below. We have linked unit costs to annual passenger throughput such that when annual throughput reaches 6.5 million passengers the unit cost would be £5.00.



Costs specifically associated with freight have been estimated at circa 60% of freight revenue based on the historic performance at Manston.

Overheads

Overheads have been obtained from the published accounts of Kent Airport Limited (2014) and exclude any restructuring costs. In a standard business plan these would often be linked with elasticity to revenue growth. However, as growth would come from a very low base AviaSolutions' view was this would have introduced too many additional costs into the business. Therefore, we estimated that these costs grew at a rate of 0.1x Work Load Units.

Other Assumptions

We have made several assumptions about the initial equity and purchase price of the airport. These assumptions have come from our stakeholder interviews and other research. They are for illustrative purposes only and may differ significantly from any actual investment.

Our estimate of the site purchase price is derived from the recognised value of the airport in Kent Facilities Limited's 2014 published accounts (£7 million) inflated by circa 50%. It is believed that this could be considered a conservative valuation of the site, dependent on the designation of the land at the time of acquisition. The current owners (Stone Hill Park) are seeking planning permission for up to 2,500 dwellings, should this permission be granted, we would assume the land to be valued far in excess of £10m.

We have developed our own estimate of the costs of re-establishing the site as an operational airport based on our industry experience and a site visit. The estimate includes the necessary work to return the airport to a serviceable condition that would satisfy the CAA and facilitate the handling of up to about 2 million passengers annually. We have excluded any advisory or legal fees associated with the Development Consent Order, though these may be considerable.

Cash Flow & Balance Sheet	
Initial Capital Injection	50,000,000
Airport Site Purchase Cost	10,000,000
Airport Site Development Costs	27,000,000
Debt Interest Rate P.A	3.0%
Straight Line Depreciation Years	60
Effective Tax Rate on Net Income	20%
Dividend Payment % of Profit / Cash	0%

We have also assumed that the investment in Manston is funded solely by equity with no debt facility. This is in part to reduce the assumed cash outflow in the early years of operations, but also because we believe that debt-financing would be difficult to secure and relatively expensive.

Additional Capital Expenditure (CAPEX)

Additional capital expenditure is assumed to be required at the point when the airport reaches 2.0 million passengers per annum and is forecast to remain at this level or above. Where the airport is growing rapidly (notably in the 'No Runway' scenario), the additional capacity investment is in two £50 million stages. Where the airport is expected to grow more slowly, additional capacity investment is assumed in a single £30 million stage.

Financial Statements

Taking the combined effect of the financial assumptions and the demand scenarios we have developed a number of illustrative financial statements. These include:

Profit and Loss:

- Operating Statistics
- Revenue Lines
- Direct Cost Lines
- Gross Income
- Overheads
- EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation)
- EBITDA Margin (EBITDA as a percentage of revenue)
- EBIT (Earnings Before Interest and Tax)
- Net Income (EBIT less Interest and Tax))

Cash Flow Statements:

- Opening Cash Balance
- Net cash flow from Operating activity
- Net cash flow from Investing activity
- Net cash flow from Financing activity
- Closing Cash Balance

Balance Sheet:

- Total Assets
- Long Term Liabilities
- Owner Equity
    - Retained Earnings (which in part determines the ability to dividends to equity investors)
    - Share Capital

7.3. Outputs for LHR Third Runway Scenario

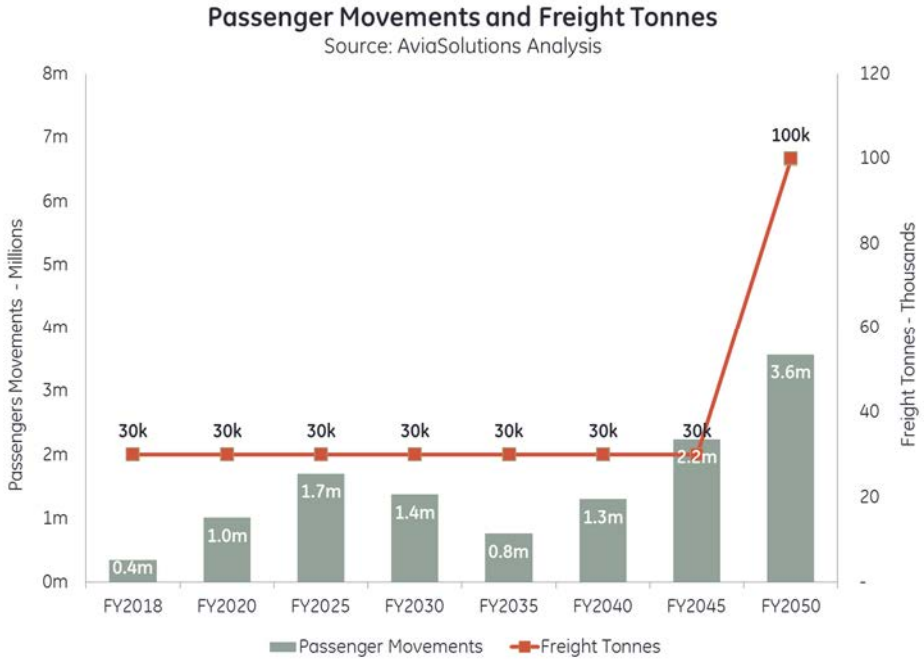
In the following paragraphs we explore the financial viability of Manston Airport based upon there being a third runway at Heathrow. This is the option which was recommended by the Davies Commission and therefore may be presumed to be the most likely outcome. However, the likelihood is that a runway at Heathrow would take longer to commission than one at Gatwick so consequently, Manston may have an initial boost to traffic before falling back and then growing again. This scenario takes spill from the London system in addition to a base level of activity generated from the presumed small LCC operation and freighters. This scenario is more favourable for Manston Airport than a development at Gatwick, and is perhaps the most likely.

7.3.1. Volume Profile

Passenger numbers are forecast to grow to nearly 2.5 million by 2029, the year before the assumed opening of the third runway at Heathrow Airport, but immediately fall back from 2030 and decline to a low of 0.5 million in 2033. From this low point, traffic volume grows as a result of the resumption of overflow, reaching 3.5 million passengers in 2050. Overall growth between FY2018 and FY2050 averages 10% annually.

Freight is not forecast to grow beyond the 30,000 tonnes of the core freighter operations until FY2040, but at that point, freight is assumed to spill from the London Area taking it to some 100,000 tonnes by FY2050.

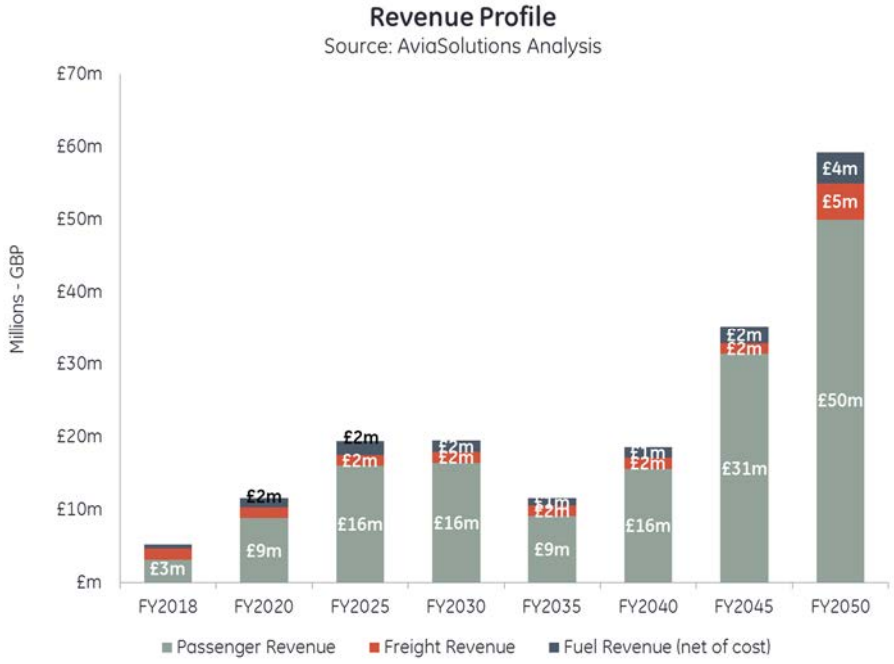
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Passenger Movements	350k	1,010k	1,700k	1,370k	760k	1,300k	2,240k	3,570k
Freight Tonnes	30k	30k	30k	30k	30k	30k	30k	100k
Total ATMs	1,100	2,900	6,400	9,600	5,300	9,200	15,800	28,000



7.3.2. Revenue Profile

Airport revenue is forecast to grow at CAGR 12% between FY2018 and FY2030, driving revenues to about £20m by FY2030, and at CAGR 8% between FY2018 and FY2050 to reach total annual revenues of around 0m by FY2050.

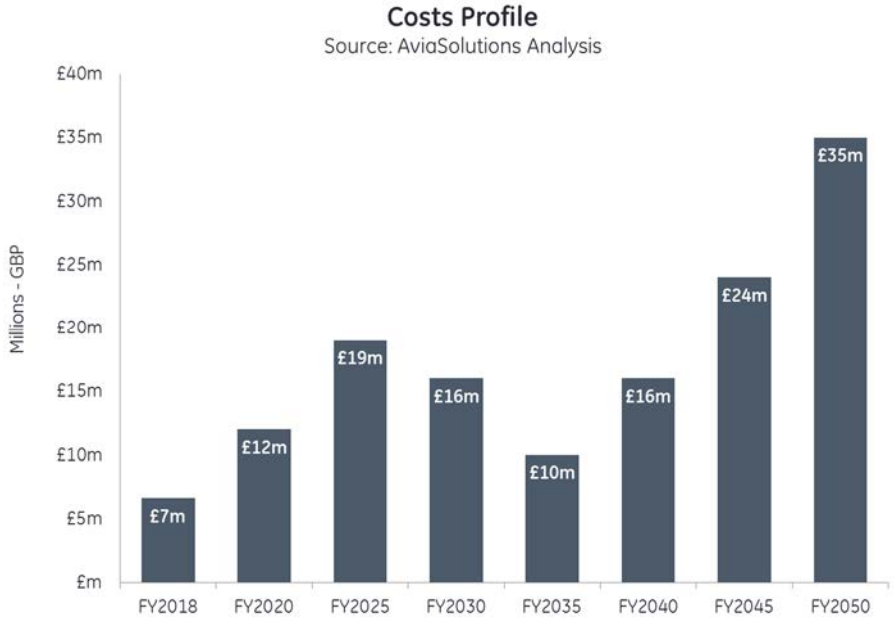
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Revenue	£5m	£12m	£19m	£19m	£12m	£19m	£35m	£59m

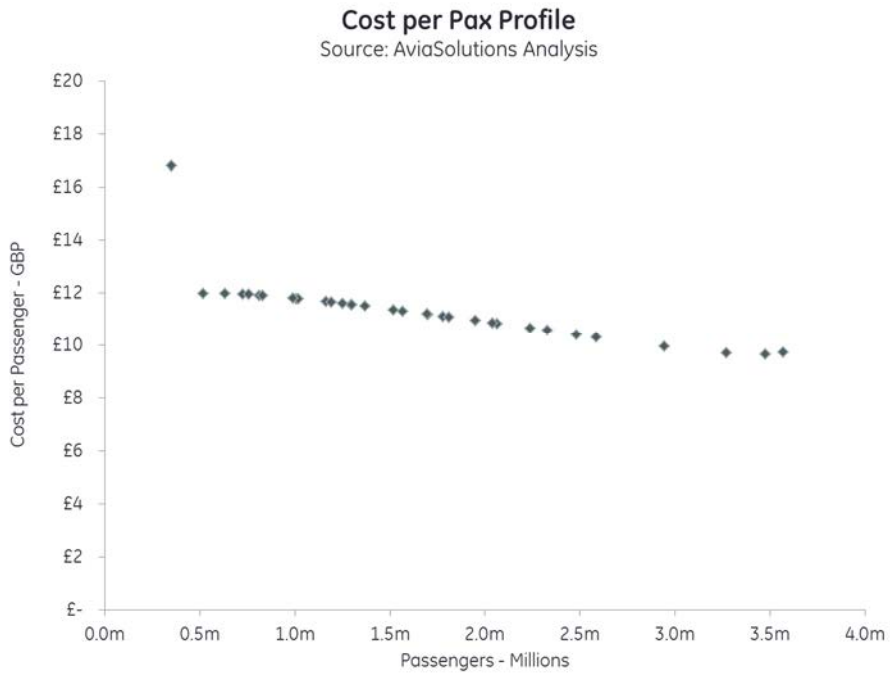


7.3.3. Cost Profile

Total Costs are forecast to grow at 8% per annum on average between FY2018 and FY2030, resulting in total costs of about £15m by FY2030, and at 5% per annum between FY2018 and FY2050 to produce total annual costs of £35m by FY2050.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Cost	£7m	£12m	£19m	£16m	£10m	£16m	£24m	£35m

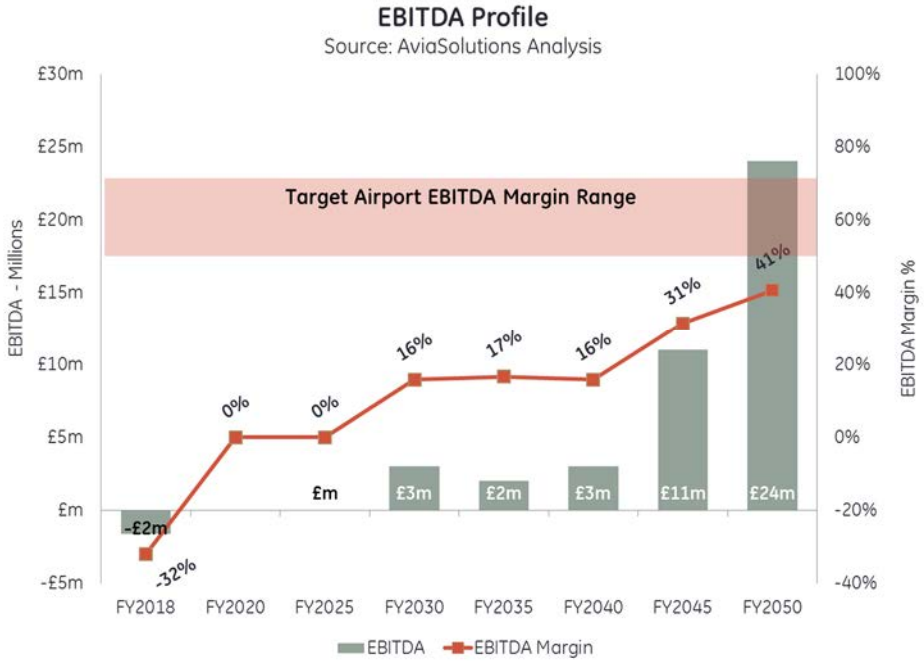




7.3.4. EBITDA Profile

EBITDA is initially forecast to be negative, indicating that the airport would be loss making in the early years at an operational level. It first returns an operating profit in FY2030, generating £9m of operating income and an EBITDA margin of 16%. As the third Heathrow runway comes on-stream, EBITDA at Manston would stagnate due to the lack of available volumes. The EBITDA margin in the long term is forecast to reach 41%, with an EBITDA of £24m in FY2050. This level of EBITDA is significantly below that which we would typically expect for an airport to be attractive to the investment community.

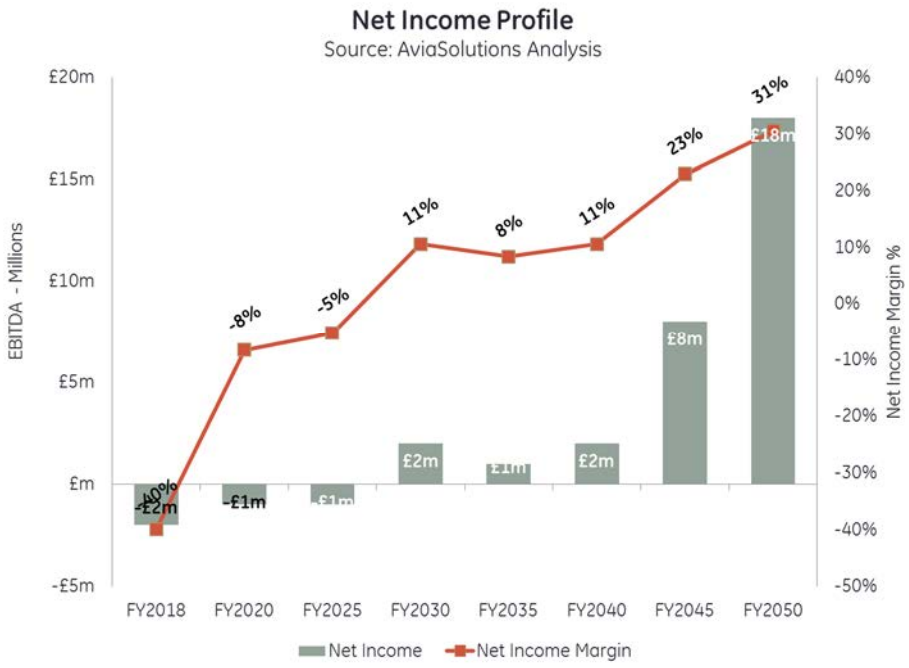
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
EBITDA	-£2m	£m	£m	£3m	£2m	£3m	£11m	£24m
EBITDA Margin	-32%	0%	0%	16%	17%	16%	31%	41%



7.3.5. Net Income Profile

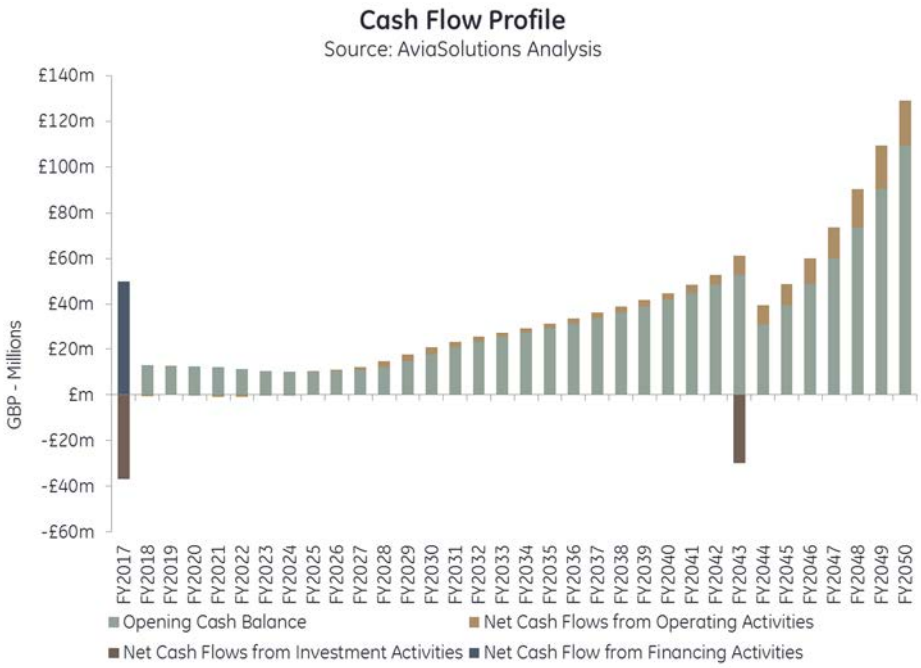
Net income, the profit after deductions, is forecast to be negative until FY2025. The first positive results are generated around FY2030 when the airport is expected to generate net income of £2m. The income stream remains constant for the following 15 years before increasing as capacity becomes constrained once more in the London system. It reaches £18m in FY2050.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Net Income	-£2m	-£1m	-£1m	£2m	£1m	£2m	£8m	£18m
Net Income Margin	-40%	-8%	-5%	11%	8%	11%	23%	31%



7.3.6. Cash Flow

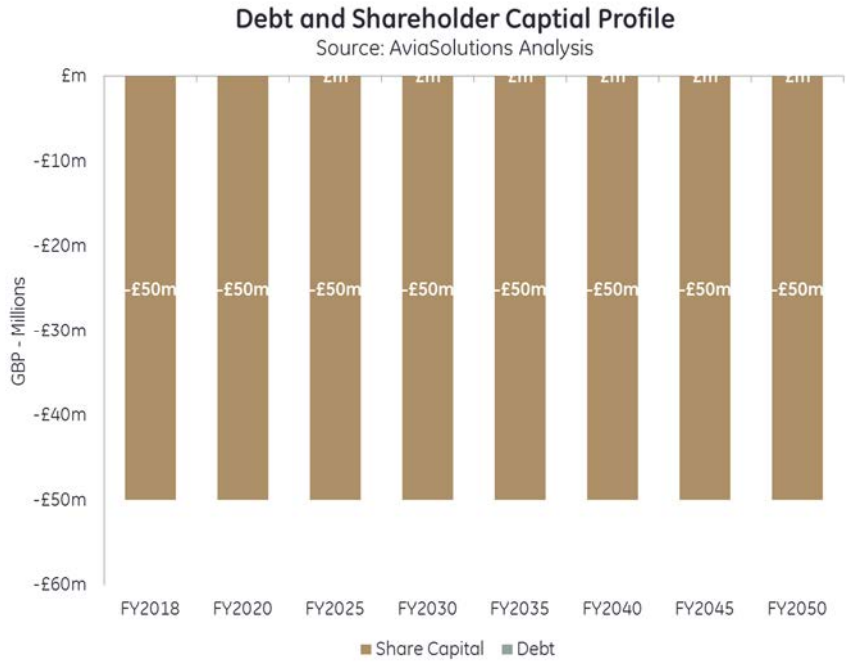
The airport is forecast to develop its cash position with limited additional capital requirements until FY2042 when there would be a requirement to expand the terminal. We have assumed that although demand would exceed terminal capacity in the late 2020s, new terminal capacity would not be provided in anticipation of the loss of traffic following the commissioning of the third runway on 2030. The position shown below excludes any dividend payments that the owner may wish to extract from the asset: such payments would reduce its cash position.



7.3.7. Debt and Shareholder Capital

Whilst the exact nature and mixture of debt and shareholder capital would be subject to complex financial optimisation, we have illustrated below a simple capital structure used in the analysis to illustrate the need for additional capital throughout the period. To maintain the business no further financing would be required. Whilst the business does not generate significant revenues or income, there is little requirement for significant CAPEX investments, thereby eliminating the requirements for additional financing

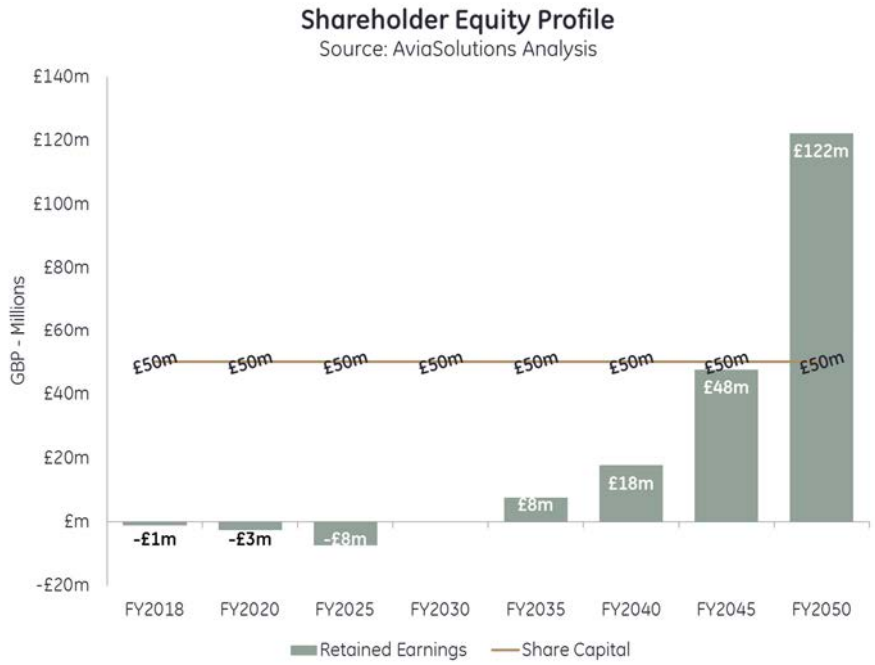
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Debt	£m	£m	£m	£m	£m	£m	£m	£m
Share Capital	£50m	£50m	£50m	£50m	£50m	£50m	£50m	£50m



7.3.8. Shareholder Equity

Considering the effects of earnings on shareholder equity, the business does not post positive retained earnings until nearly FY2035. This in effect limits the business's ability to pay dividends to shareholders until this point at the earliest.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Retained Earnings	-£1m	-£3m	-£8m	£m	£8m	£18m	£48m	£122m
Share Capital	£50m	£50m	£50m	£50m	£50m	£50m	£50m	£50m



7.3.9. Conclusion

The asset would require significant long term investment but would only generate a marginal return on the capital invested. These returns are also predicated on a large number of external variables over which the owner of Manston Airport has limited influence. It is AviaSolutions' view that based on this scenario there is no viable long term prospect of an economically viable airport being established at Manston. It should also be noted that the scenario outlined above excludes any return to the investor, and we have therefore effectively weighted the cost of equity at zero in our model. Investors will always be seeking to maximise the return on their investment in a manner appropriate to the risk they bear in the asset. Given the risks involved with Manston, it would be right to consider that any investor would be seeking the potential for above average returns, which, according to the analyses, may not materialise.

7.3.10. Non-Technical Summary

AviaSolutions' analysis indicates that the airport, operating as a standalone trading entity and in the scenario where a third runway is built at Heathrow, is unlikely to be a financially viable proposition. Airport operations are not anticipated to generate material profit until FY2040.

This is due to the relatively low level of revenue that can be generated and the high level of fixed costs required to operate the airport. This in turn means that the airport would not be able to distribute profits to investors in the airport for many years.

Generally, investors seek to achieve a return on their capital with an expected return commensurate with the risk of the investment. As the risks of investing in Manston are significant there would need to be reasonable prospects of a high return, which does not appear likely based on our analysis.

7.4. Summary of Other Scenarios

We have presented in this main body of text the scenario deemed most likely to occur e.g. LHR3. This is the current recommendation of the Davies Commission and therefore, at the time of writing, believed to be the Government's current preferred option. Details of the three other capacity development scenarios are given in Appendix C.

7.5. Comparison of Scenarios

We compare some key aspects of the four scenarios below.

Measure	LHR R3	LGW R2	Both	Neither
First year retained earnings positive	2031	2032	N/A	2029
Retained Earnings at 2050	£122m	109m	-£20m	£516m
Refinancing				
When?	None	None	None	2028, 2029
Why?	n/a	n/a	n/a	Capex
How much?	n/a	n/a	n/a	£40m
EBITDA Margin				
Year first greater than 50%	n/a	n/a	n/a	2043
or in 2050	41%	40%	34%	60%
Probability	40%	40%	10%	10%

8. Conclusions

8.1. Introduction

In this chapter we draw together the conclusions of our research and analysis to form our conclusions, specifically to opine on whether there is a realistic prospect of a financially viable airport operating on the Manston Site.

8.2. Summary

It is AviaSolutions view that having considered the stakeholder interviews and independent research and analysis into historic accounts and 'reasonable' adjustments for one-off costs that there is little prospect of a financially viable airport on the site.

The only circumstances in which we believe the airport may be viable is that in which no new runway were developed in the South East of England. However, this scenario presents extreme risk to the investor, as a decision to increase runway capacity at those not physically constrained (e.g. legally constrained LHR and STN) could be made at any time, or a new runway may be authorised at any time in the future.

8.3. Stakeholder Interviews

Our stakeholder interviews were split between those focused upon passenger development and those focused upon freight development. The range of interviews provided an understanding from the industry as to their position on the airport.

Our passenger service interviews suggested that overall there is little interest in serving the airport, in particular from airlines that had previously served the airport such as Flybe. There was some limited interest from airlines such as Ryanair and KLM, who would consider the airport as part of their standard UK market review, however they were not actively seeking to serve the airport. It is our view that we must consider this in light of its context; for an airline that bears no risk in an airport's reinstatement and for whom its reinstatement may present upside risk, it would be illogical to rule out the possibility of serving it. Overall, our interviews suggested there was very limited interest in the airport for passenger services thus suggesting a long term viable passenger service may be difficult to sustain.

Our freight interviews indicated that the demand to use the airport for freight was very limited. This, in large parts, is due to two factors; the infrastructure investments that have already been made by the industry around Heathrow and Stansted, and the geographical location of the airport. Infrastructure, and the associated knowledge, skill and supporting industry at airports such as Heathrow and Stansted, as well as the major European hubs such as Frankfurt, and Paris, would be almost impossible for Manston to replicate. The geographic location of the airport, tucked into the corner of the UK, cannot compete with airports such as East Midlands for Integrator services that are sold as fast delivery, due to the increases in surface transportation times. The interviews did however indicate that charter services and ad-hoc freighter flights would certainly return, providing some revenue income for the airport. In summary, we conclude that freight would return to the airport in limited quantities, not dissimilar to the tonnage previously processed at the airport.

8.4. Simulations

AviaSolutions' models provided simulations of the financial performance of an airport on the site under different demand scenarios. These scenarios were developed with a positive view of the potential demand profile, unit revenue and unit cost and investment costs. Two simulations (LHR3 and LGW3) suggested that the airport was unlikely to generate profits at an operational level (EBITDA) until circa FY2025, and that these profits would remain muted through until FY2040. The EBITDA profile suggests that, based on recent industry exit multiples, it would not be possible to recover the initial equity through a sales process as this point. Furthermore, these scenarios suggest that retained earnings would not turn positive for 15 to 20 years, thus limiting the ability of an investor to recover their costs of equity. In summation, these scenarios present very large risks with small returns over a long time horizon.

Our 'Both' runway scenario, naturally, provides an even less favourable result for Manston airport. If this runway scenario were to materialise there would be no prospect of Manston operating on a sustainable basis.

Our 'No Runway' scenario presents some opportunity for the airport. As demand through the London System increases and capacity remains muted, this demand will be spill to alternative airports. Manston, located within reasonable distance to London could be an airport to benefit from this spill, along with airports such as Southampton and Birmingham who are well connected by train to London. In our simulation, this scenario generated sufficient operational income (EBITDA) to support itself, and only required additional financing to expand. However, we must caution that this scenario is balanced in a careful equilibrium, should this be disturbed through the introduction of additional capacity via a new runway or loosening of regulation, the prospects of Manston could be severely diminished.

9. Appendix A: Stakeholder Interviews

Throughout the study, AviaSolutions spoke to many companies and individuals to gather their feedback. Given that these companies operate in a competitive commercial environment, it is not unsurprising that many of those spoke on the condition of anonymity. This is not unusual, particularly given the particular sensitivities around the project. In the following section detailing our interviews, and summarising the comments made, any company or individual that spoke on the basis of anonymity has been identified by only their sector and seniority.

AviaSolutions spoke to the follow stakeholders and / or their representatives:

- Discovery Park / Stone Hill Park
- RiverOak Investment Corporation
- Ryanair Ltd
- Flybe
- KLM
- Mr. Stanley G. Wraight
- Sir Roger Gale MP

Anonymous Sources

- Major European LCC
- Freighter Operator at Stansted
- Air Cargo Charter Broker – UK
- Ex-Director of Network Planning – Major European LCC
- Manager, Flight Operations, Major UK Carrier
- Ex-Senior Executive DHL

Disclaimer: The following Stakeholder Interview notes are representative of the views and opinions of the stakeholders only and not that of AviaSolutions. The notes represent, in AviaSolutions view, an accurate account of the interview but are not a verbatim account of our interview.

Mr. Paul Barber, Managing Director, Discovery Park
Mr. Paul Barber is the Managing Director or Discovery Park, and represents the current owners of the airport site.

- Mr. Barber outlined the ownership structure of the airport site. The airport is owned by Lothian Shelf 718 which is ultimately owned by Chris Musgrave, Trevor Cartner and Ann Gloag.
- Paul Barber is Managing Director and responsible for the day-to-day running of Discovery Park which is the *de facto* administrator of the site.
- The current owners, Mr. Cartner and Mr. Musgrave, are specialists in the redevelopment of the brownfield sites; they have redeveloped Discovery Park and a second site in the north of England.
- Mr. Barber gave a frank view as to the difficulties PricewaterhouseCoopers had when attempting to dispose of the site. After two years the only offer made on the site was from Ann Gloag for £1. Thus, in the view of the current owners, demonstrating the lack of financial interest in the site as an airport.
- During the period of ownership by both Manston Skyport, and under Lothian Shelf 718, Mr. Alistair Welch was heavily involved in the airport. Whilst under Manston Skyport, Mr Welch was chairman of the airport. Later in his career Mr. Welch became Managing Director of Southend Airport and was responsible for introducing EasyJet to Southend.
- Throughout the period of ownership whilst the airport was open Mr. Welch made high-level contact with every reputable airline and not a single airline was interested in operating from Manston, even with aeronautical charges at zero. The only airline that even considered operations was Ryanair, but the option was declined within 48 hours.
- Whilst the airport was open for operations freight was the main source of income. This freight was predominantly import driven from Africa. Whilst the site was able to offer quick access from aircraft to road there was little value-add to clients.

- Thanet Parkway Railway Station will add little value. It is not certain if or when it will be operational, and costs appear to be overrunning already. There is a funding gap and it does not improve journey time to London by more than 10-12 minutes.
- Due to the lack of airlines operating from the airport, Mr. Barber stated that the airport losses were running at close to £5.0m per annum.
- Mr. Cartner and Mr. Musgrave bought into the airport site after the airport had closed. They had no stake in the business whilst it ran as an airport. The business men approached Ms. Gloag given their proximity to the airport and specialisms in the development of brown field sites.
- Stone Hill Park Ltd was formed with Ms. Gloag, Mr. Cartner and Mr. Musgrave. The company believe that Thanet District Council require an additional 15,600 homes. The development will offer around 2,500 of these homes, mixed between starter homes up to five bed executive homes. The planning application includes a provision for social infrastructure such as schools.
- At present there are some small costs associated with the site, but these are mainly the single employee and the security of the site, and utilities. The current owners are not fundamentally against the concept of an airport being run, however they see no credible business plan to evidence its possibility, nor do they believe it is best economical use of the site.
- When pressed on RiverOak's desire to reopen the airport, Discovery Park "don't know where RiverOak are coming from stating an airport is viable". Discovery Park has not had sight of any business plan from RiverOak and RiverOak have not made any credible offers for the site.

RiverOak Investment

AviaSolutions met with RiverOak Investment and its representatives:

- *Mr. Tony Freudmann*
- *Ms. Sally Dixon*
- *Mr. Richard Connelly*
- *Ms. Angela Schembri*

- RiverOak Investment (RiverOak) became interested in Manson airport due to a previous project in the U.S.A. A RiverOak Partner (Nial Oldman) had organised a bond for a U.S airport that was freight driven and found excellent returns on the investment, thus sought an investment of similar characteristics.
- With regards to the asses itself, RiverOak believes the airport is geographically well positioned to capture freight, being in the South East and near the Channel Tunnel. It acknowledges that considerable investment will be required to return the airport to an operational state. However, they are confident through their initial plans that this is feasible and the asset can quickly be returned to a state in which is can handle in excess of 10,000 freighter movements per annum.
- The total investment that RiverOak would seek to make is in the region of £300m over the course of a 12 year period. This would ensure the airport site delivers a high level product and service. Further to this investment, the group would need to sink costs in the DCO process, the DCO purchase cost (circa. £4m in RiverOak's view) and finally in compensation to the current owners (although RiverOak have a value in mind, they are unable to disclose). RiverOak believe the minimum investment needed to bring the airport back to viability is circa £20m, excluding DPO, site purchase and compensation.
- The driving force behind the business plan is air freight and is the vital link to secure a NSIP designation.
- The absence of a national freight strategy is an opportunity which RiverOak seek to influence and develop.
- When probed as to the previous failures at the airport, the RiverOak team held strong views as to the causes of this, and what could be done to overcome this situation in the future. The team had strong views that whilst the airport offered excellent service, the previous owners had done nothing to exploit the asset, or its niches, or to improve its market position. In particular, the team felt strongly that the airport had not made any efforts to promote the airport to Freight Forwarders.
- It is RiverOak's understanding that the airport should be heavily involved in the sale of capacity on board freighters. They believe the previous owners were satisfied to allow freighters to depart with unutilised capacity, and this is an area they would seek to address as owners. ***(Note, AviaSolutions understand this to be an irregular market position to take and pressed to clarify this point during our interview).***
- RiverOak have also considered the geographic location of Manston airport and how it feeds into the ATC systems. They believe Manston is ideally located for aircraft to plug in and out of the national ATC

network. Furthermore, they would expect to receive an EASA license and have had discussions with the CAA to understand the processes required to re-license the airport.
- Further to passenger and freight traffic, RiverOak believe the airport would offer additional services as a diversionary airport within the UK system. There may also be revenue streams from permitting the airport to be used for training purposes.

Traffic

The team talked to AviaSolutions briefly on their Traffic forecast, this area of the business plan has been developed by Ms. Sally Dixon.

- Initially, Ms. Dixon began by reviewing the currently available literature. York Aviation's report of January 2015 suggested that due to capacity constraints 2.1m tonnes of freight will be lost from the London system if no runway is built. RiverOak estimate that this is the equivalent to 100,000 truck movements across the Channel, should this freight all be lost to Europe.
- With regards to capacity type, RiverOak stated that capacity is 70/30 split in the UK with only 30% of capacity offered on Maindeck-freighter services. In Europe, it is stated that this is much closer to 60/40. It is RiverOak's belief that this is caused through a lack of slot availability for freighters in the UK, thus the demand is being constrained.
- The business plan forecast that Manston would achieve 10,000 freighter ATMs in the fifth year of service, these ATMs would be predominantly wide-body aircraft. This level of freighter movement is supported, in RiverOak's view by the wider industry.
- The airport would also seek to develop a passenger business and seek volume from several sources. RiverOak believe that KLM would be keen to return to the airport (despite low load factors). They also state that they are in advance discussions with Ryanair over the potential to base two to three aircraft at the airport. RiverOak are also in preliminary discussions with EasyJet. Finally they believe there is a potential to develop Charter traffic, in particular with the cruise markets and Dover port.
- Taking all these considerations together RiverOak state that they would 2m passengers per annum in the second year of operations.

Ms. Kate Sherry, Deputy Director of Route Development, Ryanair

- Ryanair have recently discussed with RiverOak potential future operations at Manston airport. These conversations have been on the same basis as Ryanair is open to discussions with any airport wishing to obtain services from the airline.
- Previous to these discussions, Ryanair held talks with the owners of Manston airport prior to its closure. These talks were halted when the airport closed and therefore not concluded.
- If Manston were to become an operational airport once again, it is not a foregone conclusion that Ryanair would serve the airport. The airline would look to base any decision on a multitude of factors, including the size and depth of the catchment area and also the commercial terms proposed. Securing a low cost base to the airline is a core aspect of the analysis; this includes the handling and airport charges, effects of APD, operating economics of the route, and in the case of the UK, FX rates to Euros.
- When considering the Catchment delivered from population size Ryanair would look to the airport to sell the benefits of their specific catchment. It is difficult to comment at present on the quality of the Catchment.
- When considering the effects of the London System, Ryanair are not currently concerned with spillage from the London System to periphery airports. The airline is comfortable that there is room for expansion at Stanstead.
- If Ryanair were to serve the airport, the depth of the network would permit the airline to serve it without necessarily basing aircraft at Manston. However, it is possible in the future that the airline could choose to base a single aircraft at the station.
- Once a decision to operate had been reached, generally a lead time is permitted to allow the sales and marketing processes to embed. This also ensures the airline can plan its schedule appropriately, working approximately six to nine months in advance.
- As has been recently stated in the media, BREXIT remains a concern for Ryanair and any effects of the UK's exit from Europe would be factored in to a decision to operate.
- In summary, Ryanair are constantly reviewing their network and remain open to approaches from any airport. If the airport became operational, the airline would review its potential and fit within the wider airline network in due course, and is available to discuss terms with the owners at any time.

Mr. Martin Pearce, Flybe

- Europe's largest regional airline, Flybe, operated several routes from Manston in the years' preceding its closure. The airline did not base aircraft at Manston. In their experience the service offered was excellent with no issues arising from handling or passenger services. The passengers traffic was were mainly leisure and VFR, with very few business passengers.
- Mainly outbound e.g. Manston to the destination, very little in terms of other end originating
- These routes closed predominantly due to poor load factors, there was insufficient demand for the service from the local catchment area and very little demand for inbound traffic to Manston. Furthermore, the yield profile of the traffic did not meet with the airlines expectations.
- In normal circumstances the airline would permit a two to three year ramp up period following a route opening, however given the operating conditions the airline ceased operations within 12 months.
- The reasons the route performed below expectations are varied, but these are believed to have been exacerbated by the relatively small local catchment, less favourable average economic development and poor public transport infrastructure links to London.
- The airlines have reservations as to whether the airport could serve the South East catchment, and do not believe that the airport could realistically serve spilled traffic from the London system.
- It is unlikely that, even if Manston should reopen, the airline would choose to serve the airport.

Major European LCC

- Manston is not an airport the airline is considering. The company focuses on core catchment areas with less than 60 minute travel to the airport, and at most 90 minutes.
- Manston has a weak demand and the local catchment area is not overtly wealthy.
- Alternative airports offer better options, Southend and Stansted tap the London catchment area and can be really cost-effective airports
- Manston would have to tap into Gatwick's catchment and price would need to be very low (no more than a few pounds per passenger.
- The airport is probably not for the LCC in question. If there was no runway capacity available in the South East, the LCC would opt for a larger aircraft type before selecting Manston and would probably consider alternatives such as Southampton and Bournemouth first.
- Other carriers without a footing in Gatwick might consider Manston, as might freighters.

Ex-Director of Network Route Development for Major European LCC

- Following the BREXIT vote many airlines will be considering their approach to the UK. During a period of uncertainty it will be difficult for Manston to convince carriers to open routes to the airport.
- LCC's would look to secure deals with minimal aeronautical charges. Without an extremely competitive rate there is no possibility an LCC would locate services at an airport. In some cases, LCC's have walked away from airports offering negative aero-charge deals due to poor volumes.

Manager, Flight Operations, Major UK Carrier

- The individual plays a key role in the Flight Operations team at a major UK carrier.
- It is the individual's view that Manston does not offer any safety or resilience benefits of a material nature to the UK system. The airport is located in close proximity to six London airports which offer excellent resilience already.
- The airline would also not consider using Manston airport as diversion airport except in an on-board Mayday emergency (which are extremely rare).
- When considering diversion airports the airline considers multiple factors such as; does the airline already offer services at the airport, the size of the airport, the facilities at the airport to handle passengers, the local facilities to provide hotel and accommodation, the equipment at the airport to handle all types of aircraft required e.g. GSE equipment, and other legal requirements such as the provision of sufficient Fire Cover. On these measures, it is considered unlikely that Manston would be selected as an alternative airport, when Gatwick, Heathrow and Stanstead can all provide superior services within London.
- In the individuals view, whilst Manston would be used in an absolute emergency, it would be very unlikely to receive regular diversions for routine operational reasons, such as weather or runway closures.

KLM Position

- We are evaluating our network to the UK on a yearly basis. We are constantly being approached by airports who would like us to operate to their airports. These opportunities that arise are being looked into and MSE could be one of them.
- It is not possible to say how likely the chance would be that this would materialize in a new operation in the next 5 years in case MSE airport would be operational again

Senior Executive in Cargo Division for Airline Operating Freighters at Stanstead

- Airlines base the decision on where to operate their freighters based on a multitude of factors. However, the overriding factor is based on where investments in infrastructure have been made by their clients, Freight Forwarders. These CAPEX investments by Freight Forwarders are required to ensure they maintain economies of scale through their transit facilities and distribution centres. In the UK, these investments are centred at Heathrow, and more recently Stanstead.
- The airlines first choice of destination was Heathrow, as the majority of Freight Forwarders have their major infrastructure in and around Heathrow. The airline was unable to access slots at Heathrow and so selected Stanstead due to runway length, a mature offering including infrastructure development and third party handlers
- Stanstead operates a world class facility and has the competencies to handle freighters. It is questionable whether this would be possible, at least initially, at Manston.
- The airline would be extremely unlikely to consider moving services to Manston, even if they were no longer able to serve Stanstead, regardless of the commercial terms offered. If the airline had to move services they would consider East Midland and Manchester or other centrally located airports over Manston.
- The individual also believes that there is virtually no chance that a Freight Forwarder would choose to relocate services to Manston.
- Furthermore, as air cargo is a commodity virtually all operators offer the same service and compete on prices. Therefore, most operators implement similar strategies and business models. The result of this is that, in the individual's opinion, other freighter operators would also take a similar stance.

Air Cargo Charter Broker – UK

- The company had made use of Manston Airport in the past (circa. Up to 2 x flights per week) and found it to be a reliable and efficient airport that was well placed for access to the South East of England. The airport had the facilities to handle many aircraft gauges, from small freighters right through to B747F operations. The airport provided good access and the company had no difficulty in obtaining slots. The cost of operating from Manston was more effective than at Stansted, this included the aeronautical landing fees and associated handling costs.
- The company's over riding view was that Manston was an easy airport to use, it provided a good service and gave priority to freight.
- The airport provided all services on the ground, including ramp handling for freight.
- The company was aware that many of its competitors also used the airport along with scheduled operators such as Cargolux and ANA.
- The company was cognizant that, whilst the inbound demand for freight existed, there was little demand for outbound freight, which resulted in aircraft departing with unutilised capacity. The inbound demand was largely from West Africa, with strong volumes of fresh flowers and produce imported. Manston was particularly efficient at handling this cargo and permitted road feeder services to access the apron which resulted in quick access to the UK road network.
- Alongside produce, the airport had a reputation as being able to handle outsized freight such as engines and turbines.
- The airport's location prohibited its use for more northern destinations, East Midlands and Doncaster were favourable in these instances
- The Air Cargo Charter Broker confirmed that they would certainly be interested in using the airport again if it re-opened but in order to do so they would be looking to secure competitive rates for landing, parking and screening charges.

Ex-DHL Aviation Senior Sales Executive

The individual has held senior positions in the cargo industry for over 15 years.

- Whilst Manston may offer an opportunity for some it is unlikely that DHL would relocate its operations. The setup at East Midlands is tuned to its needs. Further, East Midlands is geographically well located for quick access to the UK road network which is exceptionally important for the courier business model.
- In their experience, they believe it unlikely that any integrator would be interested in moving their operations to Manston.
- Generally, more and more freight is being shipped as General Cargo from Heathrow. Given the six hour close out period, it is reasonable to assume carriers could then use road feeder services to distribute this via Manston.
- Regarding other freight uses, Charter operators and scheduled all cargo operators may wish to locate services at Manston but this is highly dependent on the commercial offer. The sole purpose of utilising Manston would be to reduce cost, either through reduced flight operations or lower airport charges.
- One point of note is that the UK is a lot cheaper to export form at present. Thus, a lot of freight originates in continental Europe and moves via belly hold.
- Overall the individual's view was that whilst Manston would undoubtedly attract some business it is unlikely to be significant volumes.

Mr. Stanley G. Wraight – Senior Executive Director Strategic Aviation Solutions Limited

Mr. Wraight is an industry veteran with over 40 years' experience in the air cargo industry. Previously, Mr. Wraight held the positon of CEO at AirBridgeCargo, and Senior Executive roles at Atlas Air and KLM.

- The airport offered a good location for freight being imported from Africa; this was the predominant origin market. Generally, the freight that was imported was pre-packed shop-ready fruit and vegetables that could be transported directly into the supply chain.
- When the airport closed, Doncaster and Stanstead tried to win the business from Manston, whilst some gains were made, the majority of the business relocated to European hubs as they are more closely located to the final destination, thus reducing overall cost.
- There are few all-cargo operators who would consider locating operations at the airport. Operators will be tied into their networks, in part due to their clients locating their facilities at the main airports (Heathrow and Stanstead). One opportunity could be Cargo Logistics, an off chute of AirBridgeCargo.
- In order to secure freighters movements at the airport, it will be necessary to demonstrate a cost advantage over competitors. This could be through a reduction in the overall Flight Hours required for operations, however the ability to do this is limited given much of the freight is destined for Europe. The ideal origin market for freight, on minimum Flight Hours basis is the USA.
- With regards to Integrators basing operations at Manston, the probability of this is viewed as slim. The Integrators have committed large capital expenses to existing operations at Stanstead and East Midlands, these barriers to exit are substantial and would be difficult to overcome, in particular given Manston's inferior geographical positon within the UK.
- It would be difficult for Manston to compete with East Midland or Stanstead. EMA in particular offers 24/7 cargo operations with customs available 24/7. They have developed economies of scale in both service and cost.
- Further to this, the saturation of regional airports in the UK and Scotland in conjunction with additional wide-body passenger aircraft create difficult trading conditions for a new regional airport.
- Finally, the centre of power within the industry is held by Freight Forwarders, the majority of whom are based at LHR. As the industry is ever increasingly commoditised, Forwarders refuse to divert their business from Heathrow, instead choosing to truck cargo in from the regions to feed the facilities and consolidation business centred there and achieve the necessary economies of scale required to compete.
- The conclusion being that there is virtually no incentive for operators to move operations to Manston, there are alternative UK airports that offer competitive services on reasonable terms. The UK doesn't need another airport for freight that has no USP. If Manston were to be developed it would be essential for it gain a niche market such as becoming an Amazon or Alibaba e-commerce base.

AviaSolutions Meeting with Sir Roger Gale MP – 13th Sept 2016

As part of the stakeholder engagement process AviaSolutions has, at his request, interviewed Sir Roger Gale (MP for North Thanet) to seek his perspective on the commercial viability of and political support for, Manston Airport. The following comments are intended to reflect the substance of the meeting, rather than a verbatim transcript.

- Sir Roger Gale MP ("SRG") stated that Manston Airport and its associated runway are national assets of strategic importance to UK PLC.
- SRG noted that he does not support any particular group wishing to use the asset as an airport and that his interest is in solely in keeping the airport open. He notes, however, that to date RiverOak offers the only sustained and viable interest in operating Manston as an airport. SRG noted that he had seen the outline River Oak business plan which in his view was credible. SRG was not surprised that River Oak did not disclose the plan to AviaSolutions, and was not willing to divulge any of the details for reasons of commercial confidentiality. However, SRG also added that all of RiverOak`s case would be made public when the company submitted its` application for a Development Consent Order to a Planning Inspectorate that was qualified to subject the submission to detailed public scrutiny and inquiry.
- SRG said that it was clear that the intentions of those currently in control of the site were to develop the land for residential and commercial purposes, rather than invest in the airport facilities and expand the air service network.
- SRG provided a brief summary of the historical evolution of the airport, including services by Silver City to Jersey and Clive Bourne, a logistics operator.
- With regards to the development of a railway service to the airport SRG noted the scope to develop the railway is limited by the physical constraints of laying the line and precludes a link directly into the airport. The practical alternative is a Thanet Parkway station, which would initially be linked by a shuttle bus service, and ultimately could be linked by a Gatwick-style monorail.
- SRG is of the view that the primary reason that the airport has not been financially sustainable in the past is the nature of the business model that has been pursued. Previous operators have focussed on developing the passenger business, rather than the freight capacity of the airport, which is the reverse of the model that SRG believes, would be more sustainable.
- SRG noted that UK PLC is losing business to Europe already, with freight being switched from the UK to other European hubs (Frankfurt, Amsterdam, and Paris). SRG also noted that a major courier has expressed an interest in relocating to Manston. He was of the view that the UK has reached maximum capacity for London originating freight services and that excess demand was being lost to other hubs.
- SRG observed that post-Brexit it was going to be vital that the UK develops additional and alternative markets outside the European Union. These greater distances will inevitably mean an increase in the demand for air freight capacity between Britain and the rest of the world if the country is not to lose still more aviation business to mainland Europe.
- In terms of runway capacity, SRG suggested that freighter traffic currently using Heathrow could be relocated to Manston, freeing these slots to facilitate additional passenger services to the Far East. SRG also noted that operators that were forced to re-locate following the closure of Manston were waiting for the airport to reopen and would be keen to return.
- SRG stated that Low Cost Carriers are very interested in operating from the airport, and that if the airport were to re-open, would be very likely to start services at the appropriate time in the airport`s re-development. However, SRG was not willing, for reasons of commercial confidentiality, to disclose the source of this information nor the airline in question.
- SRG was keen to stress the importance of ancillary businesses to the airport's viability, which included aircraft dismantling and engineering firms. SRG also noted the Search & Rescue operations which had recently been permanently located at Lydd. Further options for the airport would include General Aviation (GA) which would be able to access London via Battersea Heliport.
- SRG noted the widespread political support for Manston Airport, including Sir Patrick McLoughlin, the former Transport Minister, The Minister of State for Aviation, John Hayes and David Cameron when Prime Minister. He indicated that that political support at national and local levels was, particularly in the light of the Brexit decision, on-going. SRG also noted that there would not be any need for financial support from Central Government and that the airport should be able to attract sufficient private capital to exist as a standalone business.
- SRG spoke at length on the alternative proposal by Stone Hill Park for the site, noting that that the ability to develop the site for residential and commercial purposes was questionable, with several potential challenges including the likely presence of a war grave, buried low level radio-active waste,

archaeological interests, and issues with the effect upon Thanet`s aquifers all needing to be addressed prior to any redevelopment. He indicated that any alternative development would, prior to change of use, require the same intensive Environmental Impact Assessment as that currently being undertaken by RiverOak for airport purposes. Furthermore, SRG noted that there is limited demand for additional industrial space in the area, that there is already a more than adequate supply of industrial land available in East Kent and that the number of new jobs generated at Discovery Park is, contrary to the claims made by the Leader of Kent County Council, low.

- With regard to a new runway in the South East, Sir Roger indicated that he believed that a runway decision would be made fairly soon but that any actual new runway would not be operational for at least 15 years. It is his belief that, even with a new runway in the London airport system, the Manston Airport remains a viable facility with freight as its primary purpose supported by passenger traffic.

Non-Reply

- The following airlines were sent a request for their positon on Manston airport but chose not to submit a response.
    - Monarch
    - Thomas Cook
    - Tui

10. Appendix B: Condition Report Manston Airport

Introduction

The following section contains our report on the condition of the airport assets, it should not be read as a definitive summary of the asset condition. Our report is based on a visual inspection of the airport on 3 August 2016 under the supervision of the current airport owner's representative.

Terminal Building

Summary

The current facility has an approximate footprint of 1,900m^2 and in general would have been suitable for single and dual aircraft operations simultaneously. On balance we would suggest that the building in its current configuration could be re-instated but that the cost of such modifications may make it more economically viable to demolish it and erect a purpose built low cost facility. In general the basic fabric of the building was intact, although there is evidence of water entering the building via the roof at various locations.

General

We observed that the drop off/pickup area was located adjacent to the front of the terminal building. This is in contravention to current security requirements and would necessitate the offsetting of the drop off pickup area. In-turn, this would require the transforming some land currently allocated to parking. The current site could facilitate this change through lateral expansion of the parking area.

We note that the current configuration of the terminal building, along with the apron, limits lateral expansion. To accommodate significant traffic volume would require a significant change to the current layout.

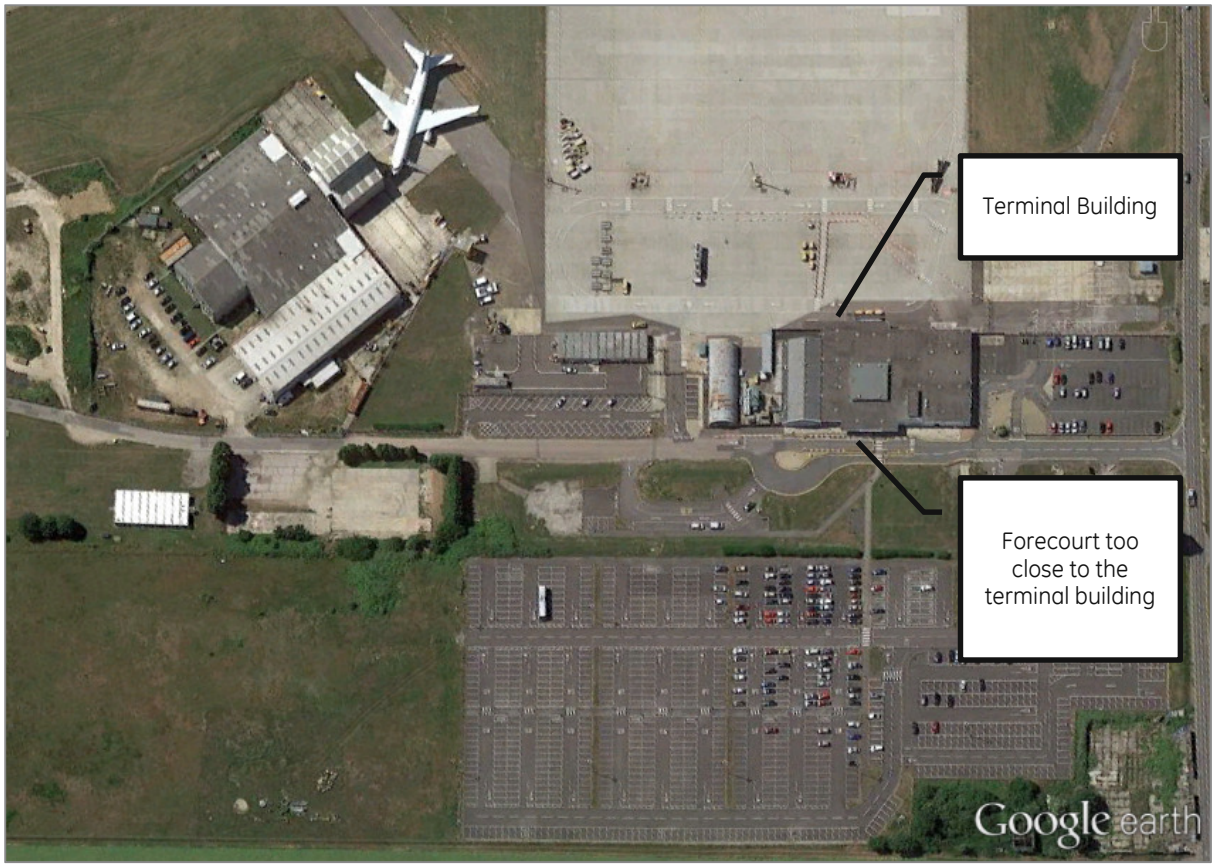


Figure 1: Google Earth image of aircraft maintenance hangar, terminal, parking area and apron (prior to the closure of the airport)

Figure 2: Evidence of water entering terminal building

Figure 3: Main foyer of terminal building from arrivals. Check-in area to the left of the image.

Figure 4: Evidence of water damage in may foyer.

Figure 5: Check in hall (desks removed)

Movement Areas

Apron

Summary

The fabric of the apron appeared to be in relatively good condition with space for up to four simultaneous Code C or two Code E operations.

General

Of note was the significant depth of the apron which accommodated a large GSE storage area at the head of the stand. To become compliant the apron marking would need to be re-established, which is relatively straight forward to accomplish.

Figure 6: Apron as viewed from terminal

Figure 7: Apron Drainage. Some growth of plants which will need to be addressed.

Taxiways

Summary

In general we observed that the taxiways were of relatively good condition with only minor spot repairs required. To re-stablish services appropriate lighting and marking would be required.

Runway

Summary

A visual inspection of the runway indicated that overall it is in very good condition. There is evidence of some vegetation appearing. Discussions with the current owner's representatives identified a surface friction issue. We note that there were plans to address this through surface treatment issues but to our knowledge this work was not carried out.

General

The runway approach and edge lighting has been removed and require re-installing to permit operations. Additionally, the runway has been painted to accommodate 'Operation Stack'. Considerable work is required to remove the current markings from the runway and repaint it with appropriate aviation markings. However, it is our understanding that this work will be completed as part of the current agreement with the Department for Transport.

Figure 8: Runway (Rwy) 29 Threshold

Figure: 9 Large aggregate used for wearing course may be impacting surface friction characteristics

Figure 10: Shoulders of runway are paved. Evidence of plants establishing a presence in cracks

Figure 11: Runway 27 and evidence of plants establishing presence in cracks

Systems

Navigation

Summary

It is our understanding that the Instrument Landing System and supporting systems were sold upon the airport's closure. These systems, including backup power supply, would need to be re-instated.

Figure 12: Radar tower with radar removed

Lighting

Summary

It is our understanding that the approach, runway, taxiway and apron lighting systems and supporting elements were sold upon the airport's closure. These systems including backup power supply would need to be re-instated.

Control Tower

Summary

No appreciable control tower facilities were available to inspect. To facilitate commercial operations it would be necessary to install a new control tower and associated support systems, including appropriate radar systems.

Rescue & Fire Fighting

Summary

The current Fire Station is unsuitable for use. We believe it would require demolishing and the construction of a new Fire and Rescue Station.

Figure 13: Dilapidated Rescue & Fire Fighting Facility

Ancillary Buildings

Maintenance Hangar

Summary

Adjacent to the primary apron is a large aircraft maintenance hangar with a unique addition allowing it to accommodate aircraft larger than what it was originally designed for. It is our understanding that this building is currently under lease by a maintenance company undertaking limited maintenance work. The building fabric appeared to be in reasonable condition.

Figure 14: Maintenance hangar

Figure 15: Interior of maintenance hangar

Figure 16: Bespoke tail enclosure of hangar

Cargo Hangars

Summary

During the visit we undertook a preliminary inspection of several cargo facilities on the airport site. The location of the facilities was ideal for this type of operation, having access to the local road network and the taxiway system. In general the buildings appeared to be in reasonably good condition. We foresee no reason as to why they could not be re-instated as cargo facilities.

Figure 17: First cargo hangar exterior

Figure 18: First cargo hangar interior

Figure 19: Second cargo hangar exterior

Figure 20: Second cargo hangar interior

Re-Establishment Cost Estimate

The following is an estimate of costs associated with re-establishing the required infrastructure to operate commercial services from the airport.

For the avoidance of doubt, these costs do not include the costs associated with any acquisition of the airport site.

Element	Cost Estimate £	Note
Old Terminal Demolition	400,000	Demolition of existing terminal building
Terminal Building	7,500,000	Construction of new modular single story terminal
Approach Road	750,000	Relocation of approach road to accommodate security requirements
Apron Repairs	200,000	Repairs to apron surface
Airport Lighting	3,000,000	Complete airport navigation lighting system
Navigation Systems	2,500,000	ILS/DME/DVOR
Radar	3,500,000	Secondary Radar System
Runway Treatment	1,500,000	Grooving of runway to address low friction characteristics
Cargo Building Repair	400,000	Minor repair to cargo buildings
Power System	2,500,000	Complete power back up system to accommodate CATI ILS approaches
Mobilisation	1,200,000	Ancillary mobilisation costs of re-instating airport operations
Contingency	3,517,500	15% contingency
	£ 26,967,500	

11. Appendix C

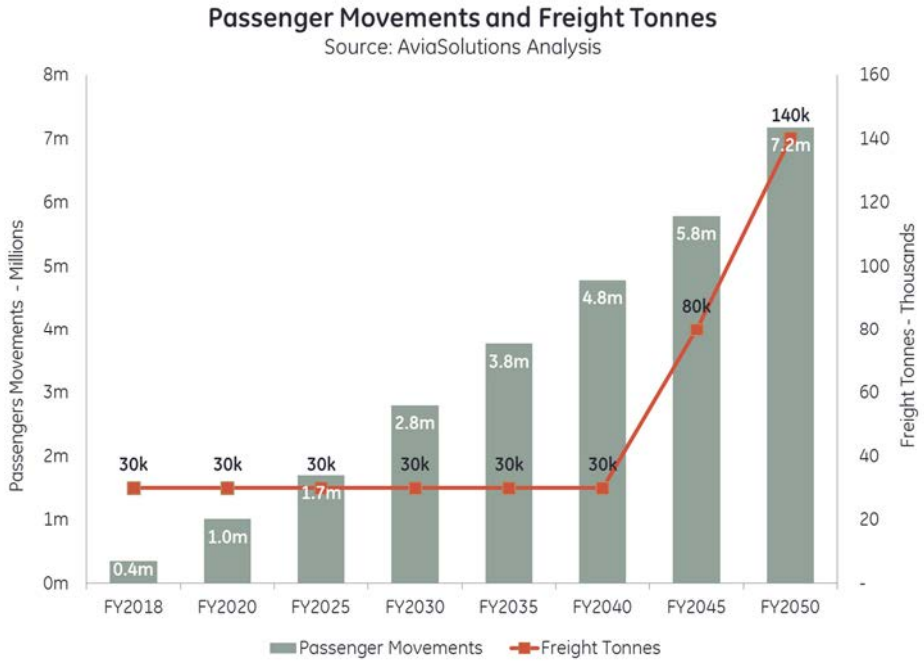
11.1. Outputs for No Runway Development Scenario

In the following paragraphs, we explore the financial viability of the airport based upon there being no new runway in the South East. This scenario takes spill from the London system in addition to a base level of activity generated from the presumed small LCC operation and freighters. Whilst this scenario is the most favourable for Manston airport, as it generates the largest number of passengers and freight, it is perhaps the least likely.

11.1.1. Volume Profile

Passenger movements are forecast to grow at CAGR 19% between FY2018 and FY2030, totalling circa 2.8m passengers by the close of FY2030, growth FY2018 to FY2050 is estimated to be at CAGR of 10%. Freight is not forecast to grow beyond the 30,000 tonnes of the core freighter operations until FY2040, but at that point, freight is assumed to spill from the London Area taking it to some 140,000 tonnes by FY2050.

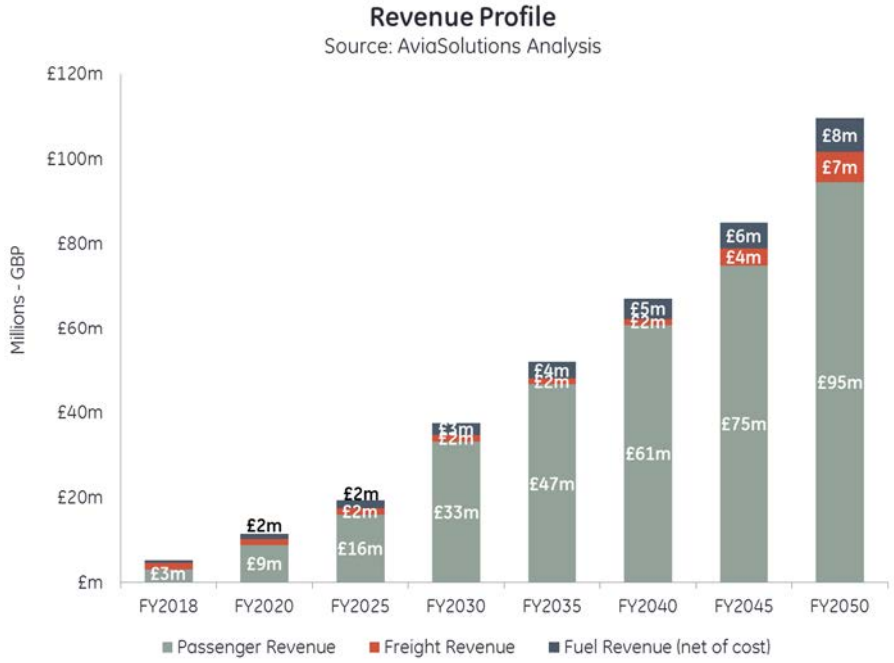
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Passenger Movements	350k	1,010k	1,700k	2,800k	3,770k	4,780k	5,790k	7,180k
Freight Tonnes	30k	30k	30k	30k	30k	30k	80k	140k
Total ATMs	1,100	2,900	6,400	14,100	20,900	28,100	37,200	49,500



11.1.2. Revenue Profile

Revenue generation is forecast to grow at a CAGR of 18% between FY2018 and FY2030, driving revenues to £38m by FY2030, and at a CAGR of 10% between FY2018 and FY2050 to reach total annual revenues of £110m by FY2050. The revenue profile is exponential in nature due to the increasingly constrained London System environment permitting increasing spill to Manston.

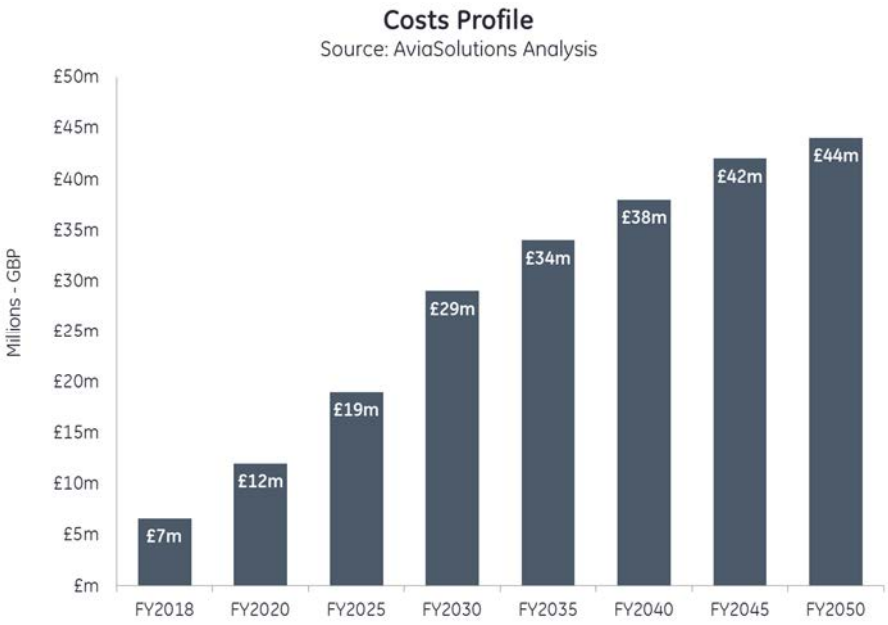
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Revenue	£5m	£12m	£19m	£38m	£52m	£67m	£85m	£110m

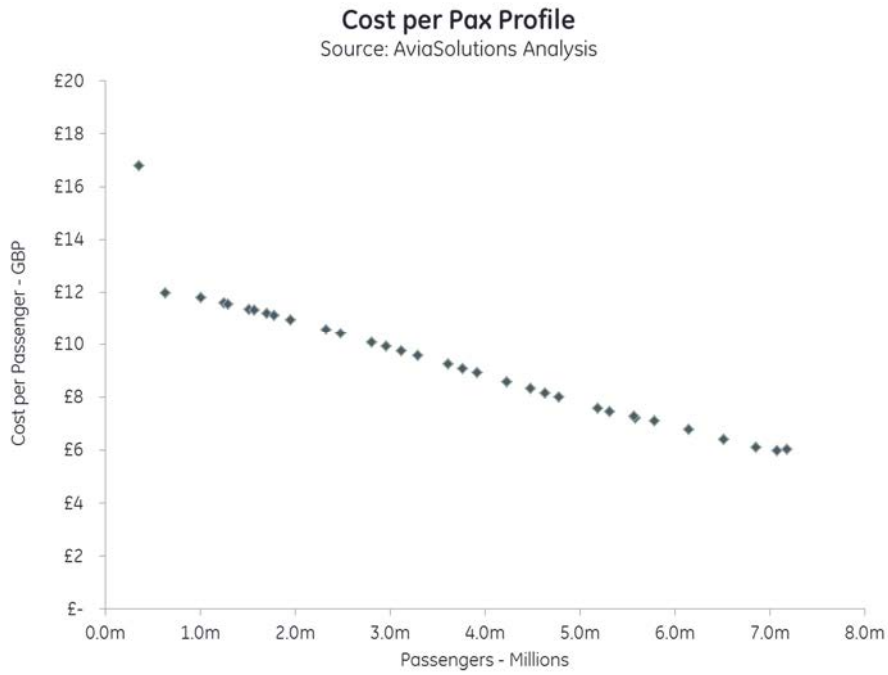


11.1.3. Cost Profile

Total Costs are forecast to grow at 13% per annum on average between FY2018 and FY2030, resulting in total costs of £29m by FY2030, and at 6% per annum between FY2018 and FY2050 to produce total annual costs of £44m by FY2050. Costs are increasing more slowly than revenue, leading to greater margin generation. We consider that as the airport generates increased volumes of traffic, it is able to achieve increasing economies of scale, in particular within its passenger operation. Furthermore, as the passenger volume increases, the non-unit driven costs are distributed over an increased base, thereby reducing the average cost per passenger to the airport, an essential element in increasing margin.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Cost	£7m	£12m	£19m	£29m	£34m	£38m	£42m	£44m

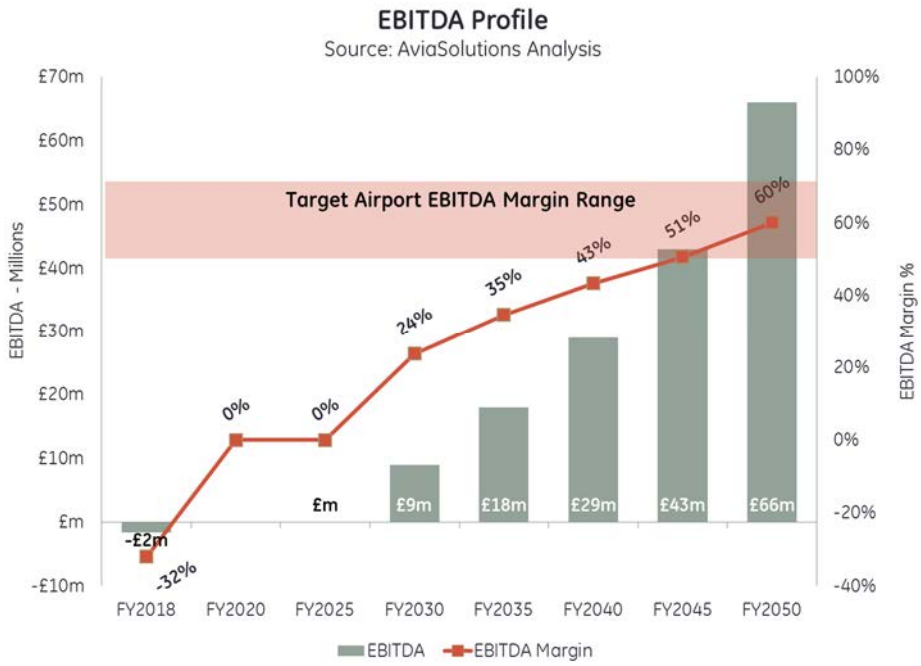




11.1.4. EBITDA Profile

EBITDA is initially forecast to be negative, indicating that the airport would be loss making in the early years at an operational level. It first turns an operating profit in FY2030, generating £9m of operating income and an EBITDA margin of 24%. The EBITDA margin in the long term is forecast to reach 60%, generating £66m of EBITDA in FY2050. This level of EBITDA is much more akin to a typical airport which requires sufficiently high EBITDA margins to cover the ongoing costs and CAPEX of a large asset base.

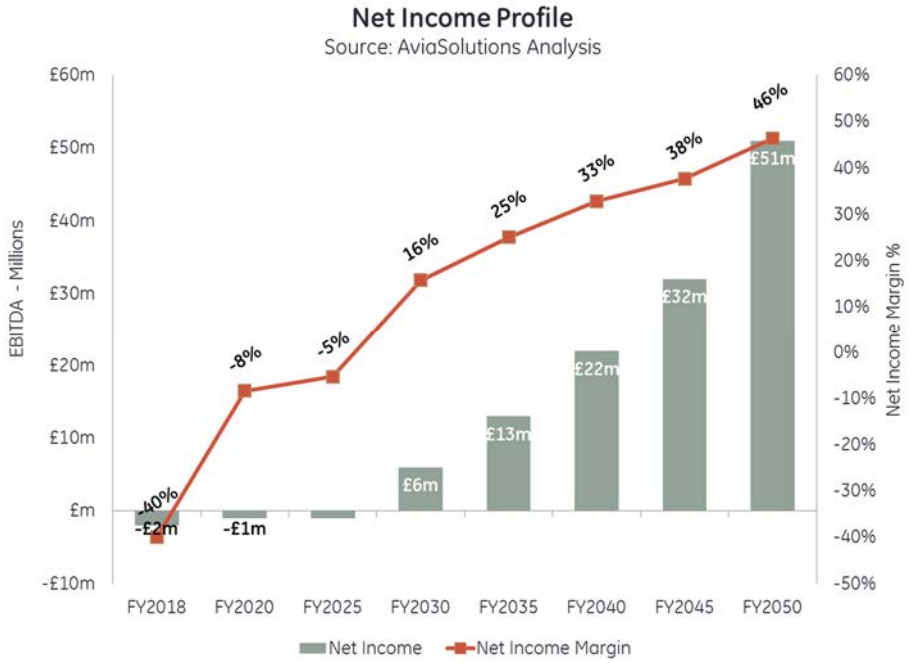
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
EBITDA	-£2m	£m	£m	£9m	£18m	£29m	£43m	£66m
EBITDA Margin	-32%	0%	0%	24%	35%	43%	51%	60%



11.1.5. Net Income Profile

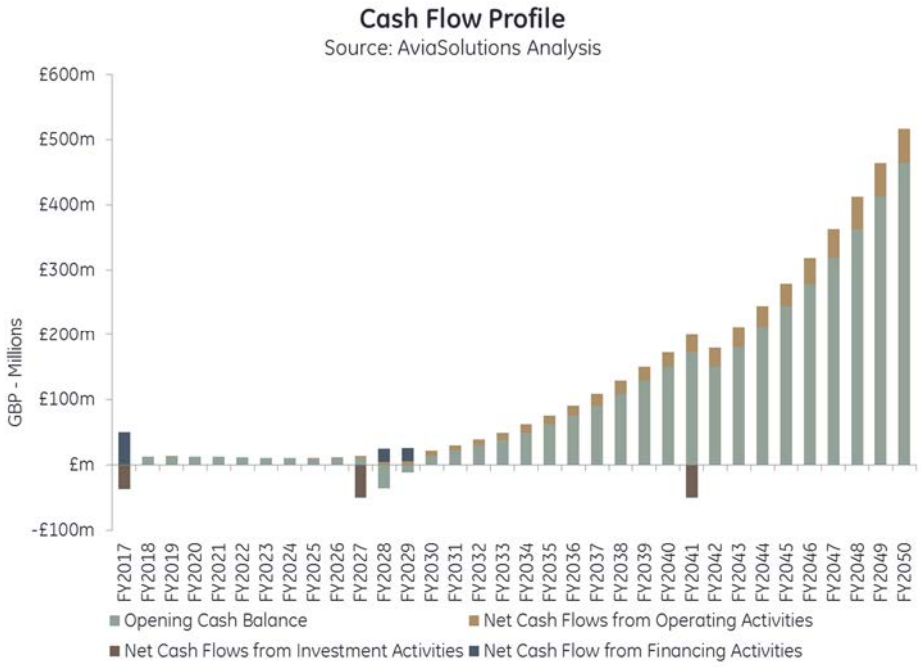
Net income, the profit left after all deductions, is forecast to be negative until FY2025. The first positive results fall circa FY2030 when the airport is expected to generate net income of £6m. This income stream steadily increases through to FY2050 at which point it is expected to be circa £51m per annum.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Net Income	-£2m	-£1m	-£1m	£6m	£13m	£22m	£32m	£51m
Net Income Margin	-40%	-8%	-5%	16%	25%	33%	38%	46%



11.1.6. Cash Flow

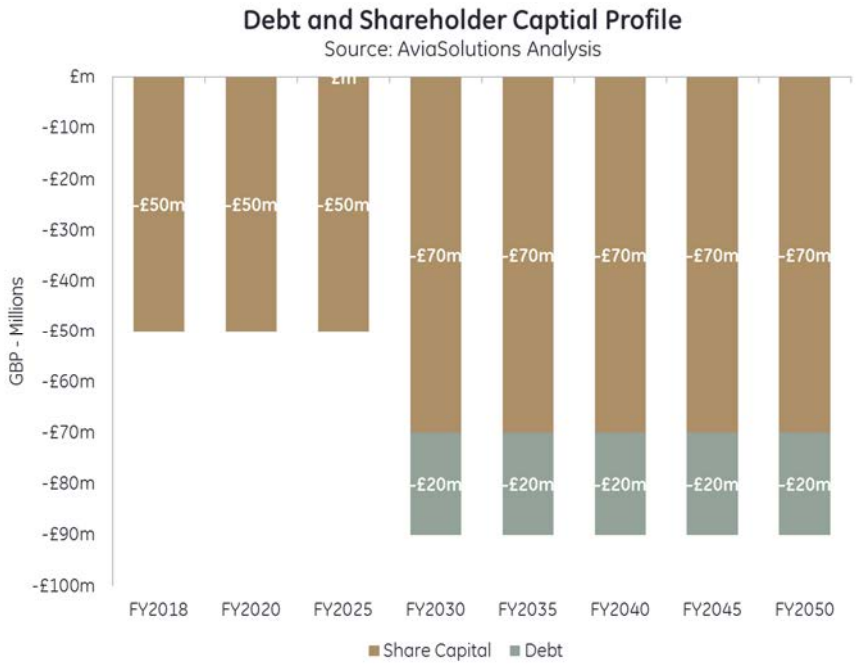
The airport is forecast to develop its cash position with limited additional capital requirements except those required to expand the terminal in FY2027. The position shown below is excludes any dividend payments that the owner may wish to extract from the asset: such payments would reduce its cash position.



11.1.7. Debt and Shareholder Capital

Whilst the exact nature and mixture of debt and shareholder capital would be subject to complex financial optimisation, we have illustrated below a simple capital structure used in the analysis to illustrate the need for additional capital throughout the period. To maintain the business it would be necessary to acquire circa £40m in additional capital around FY2027. For the purposes of modelling this additional capital has been split between debt and equity.

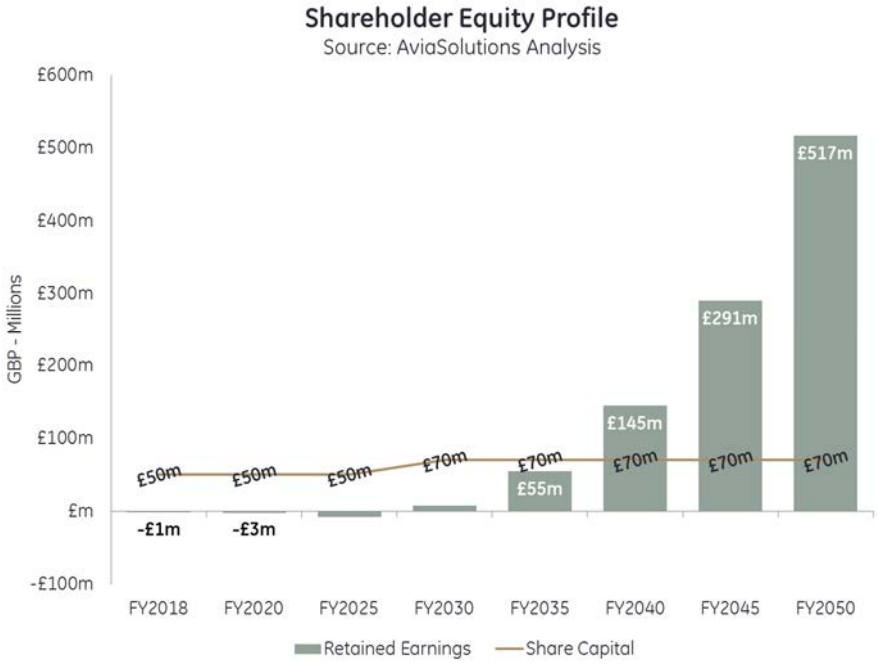
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Debt	£m	£m	£m	£20m	£20m	£20m	£20m	£20m
Share Capital	£50m	£50m	£50m	£70m	£70m	£70m	£70m	£70m



11.1.8. Shareholder Equity

Considering the effects of earnings on shareholder equity, the business does not post positive retained earnings until circa FY2030. This in effect limits the business's ability to pay dividends to shareholders until this point at the earliest.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Retained Earnings	-£1m	-£3m	-£8m	£8m	£55m	£145m	£291m	£517m
Share Capital	£50m	£50m	£50m	£70m	£70m	£70m	£70m	£70m



11.1.9. Conclusion

Given the parameters of this specific scenario it could be feasible to operate a commercially viable airport on the site. However, the risks in doing so are high and many of the elements that cause the proposal to payback can be reversed (such as a new runway being authorised) and are out of the control of the asset manager.

Whilst we believe an airport on the site may be feasible in this scenario, the probability of there being no new runway in the South East is very low, even if a decision is delayed, it is still expected that a new runway will be required at some point. If Manston were to become an established airport it would need many years to reach a point of maturity where it would be able to withstand a new runway becoming operational. The probability of this occurring, given the Government's current position on runway capacity, is uncertain at best. Therefore we conclude that whilst potentially feasible, this scenario is improbable.

11.2. Outputs for LGW Second Runway Scenario

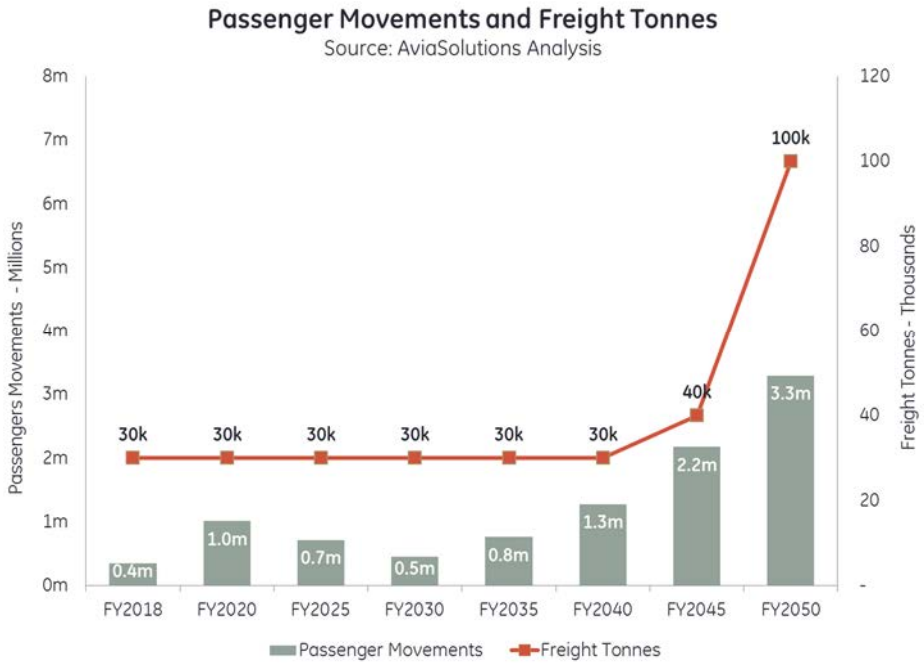
In the following paragraphs, we explore the financial viability of Manston Airport based upon there being a second runway at Gatwick. This was an option short-listed by the Davies Commission and while not finally recommend has a body of support based on its lower environmental impacts and the consequent ability to be delivered earlier (assumed here to be 2025). Manston may have a short initial boost to traffic before the second runway becomes available but then traffic falls before growing again. This scenario takes spill from the London system in addition to a base level of activity generated from the presumed small LCC operation and freighters. This scenario is less favourable for Manston Airport than would be a development at Heathrow.

11.2.1. Volume Profile

Passenger numbers are forecast to grow to more than 1.5 million in 2024, the year before the assumed opening of the second runway, but immediately fall back starting in 2025 and declines to a low of 0.5 million in 2033. From this low point, it grows as a result of the resumption of overflow, reaching 3.5 million passengers in 2050. Overall growth between FY2018 and FY2050 averages 7% per annum.

Freight is not forecast to grow beyond the 30,000 tonnes of the core freighter operations until FY2040, but at that point, freight is assumed to spill from the London Area taking it to some 100,000 tonnes by FY2050.

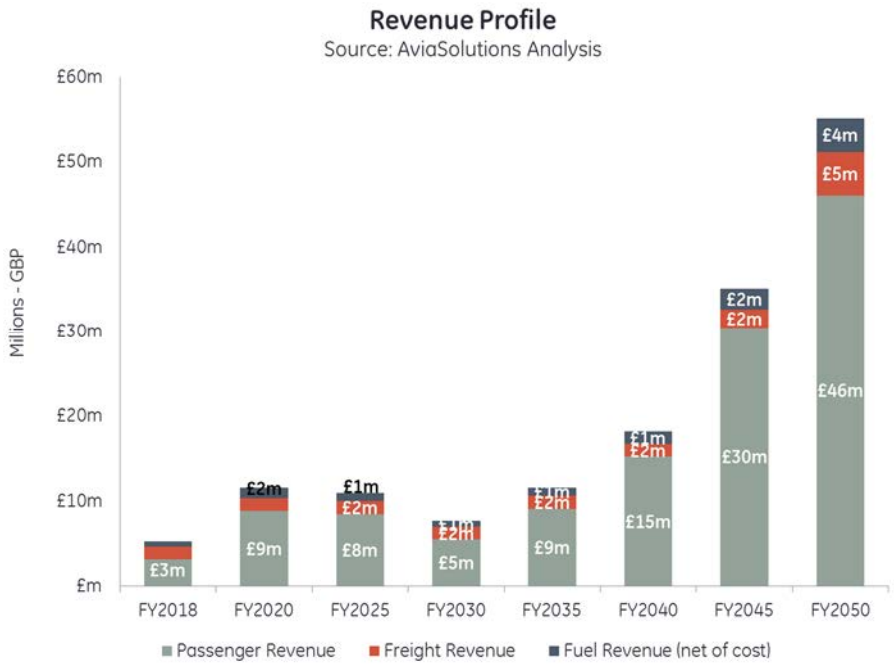
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Passenger Movements	350k	1,010k	710k	450k	760k	1,270k	2,170k	3,290k
Freight Tonnes	30k	30k	30k	30k	30k	30k	40k	100k
Total ATMs	1,100	2,900	5,000	3,200	5,300	8,900	15,900	26,000



11.2.2. Revenue Profile

Revenue generation is forecast to grow at a CAGR of 4% between FY2018 and FY2030, driving revenues to £8m by FY2030, and at a CAGR of 8% between FY2018 and FY2050 to reach total annual revenues of some £55m by FY2050.

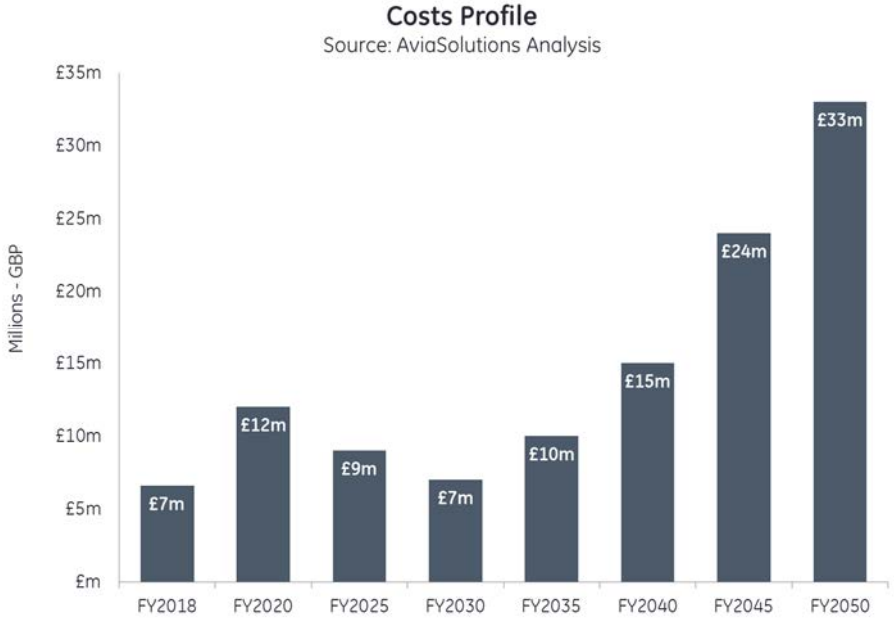
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Revenue	£5m	£12m	£11m	£8m	£12m	£18m	£35m	£55m

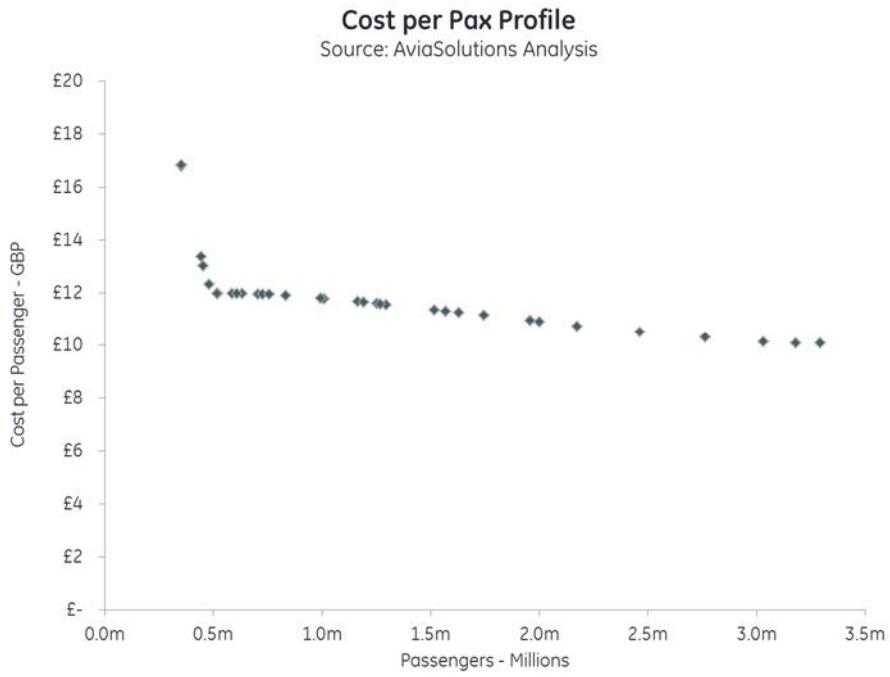


11.2.3. Cost Profile

Total Costs rise prior to the opening of the second runway, but then fall back to £7 million in FY 2030. Thereafter, they increase to nearly £35 million in 2050, representing an average increase between FY2018 and FY2050 of 5% per annum. Cost per passenger falls over the period of the projections.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Cost	£7m	£12m	£9m	£7m	£10m	£15m	£24m	£33m

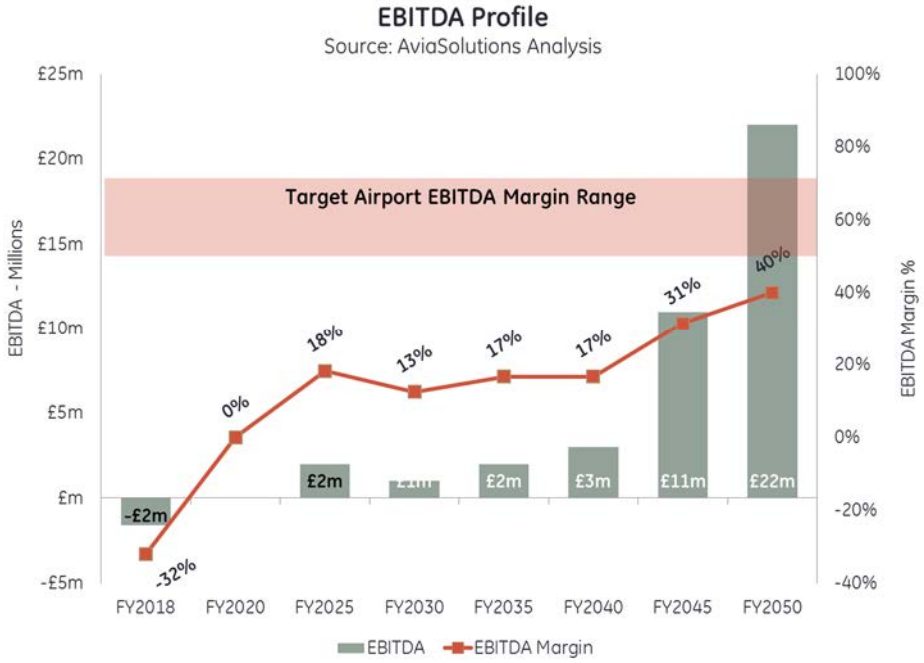




11.2.4. EBITDA Profile

EBITDA is initially forecast to be negative, indicating that the airport would be loss making in the early years at an operational level. It first returns an operating profit in FY2025, generating £2m of operating income and an EBITDA margin of 18%. As the second runway at Gatwick comes on-stream, EBITDA at Manston would stagnate due to the lack of available traffic volumes. The EBITDA margin in the long term is forecast to reach 40%, with an EBITDA of £22m in FY2050. This level of EBITDA is significantly below that which we would typically expect for an airport to be attractive to the investment community.

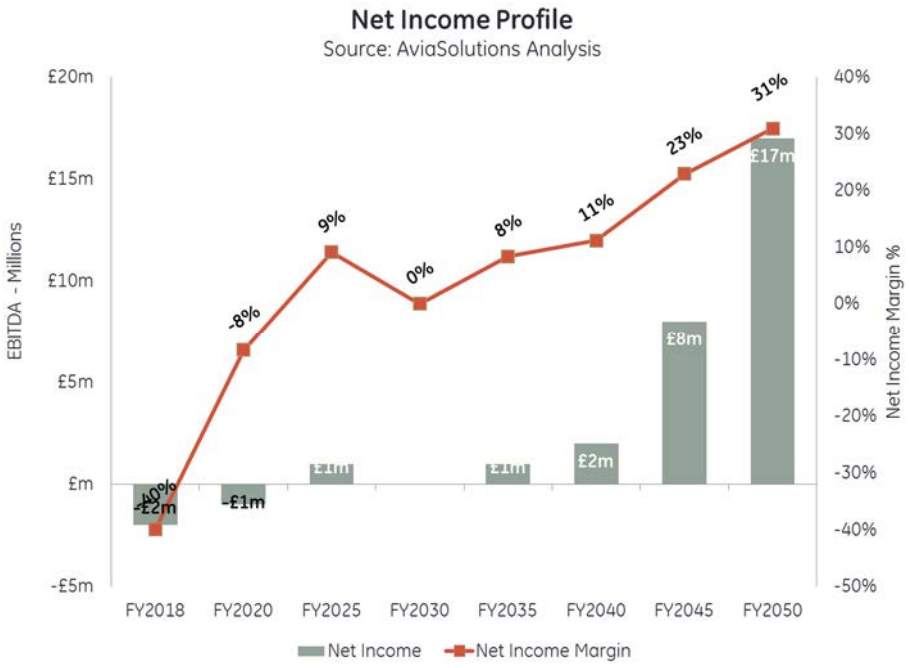
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
EBITDA	-£2m	£m	£2m	£1m	£2m	£3m	£11m	£22m
EBITDA Margin	-32%	0%	18%	13%	17%	17%	31%	40%



11.2.5. Net Income Profile

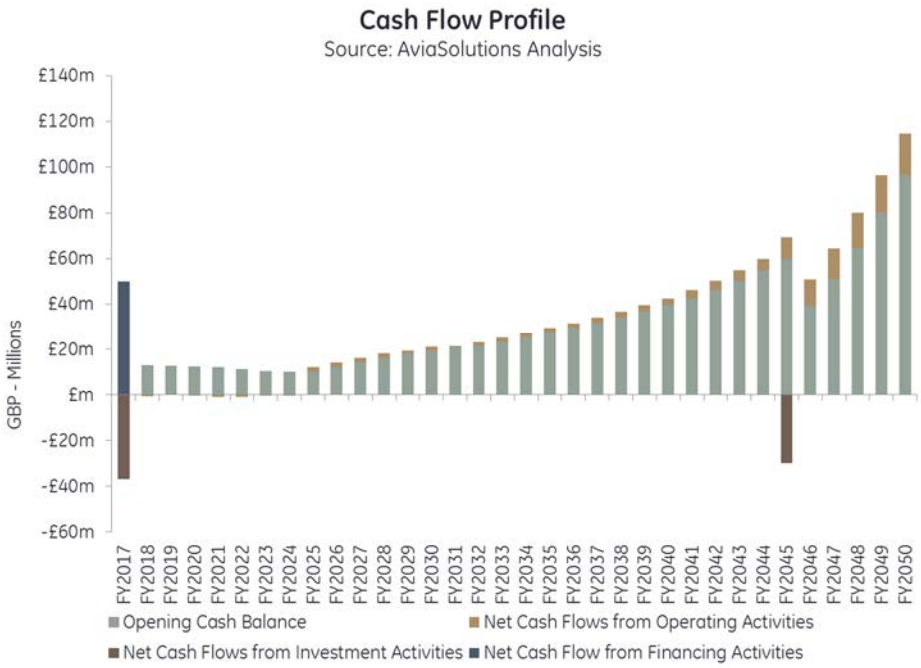
Net income, the profit left after all deductions, is forecast to be negative until after FY2020. The first positive results are generated around FY2025 when the airport is expected to generate net income of £2m, although it falls slightly thereafter as Gatwick's new runway absorbs traffic. The income stream then remains broadly constant for the following 15 years before increasing as capacity becomes constrained once more in the London system. It reaches £17m in FY2050.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Net Income	-£2m	-£1m	£1m	£m	£1m	£2m	£8m	£17m
Net Income Margin	-40%	-8%	9%	0%	8%	11%	23%	31%



11.2.6. Cash Flow

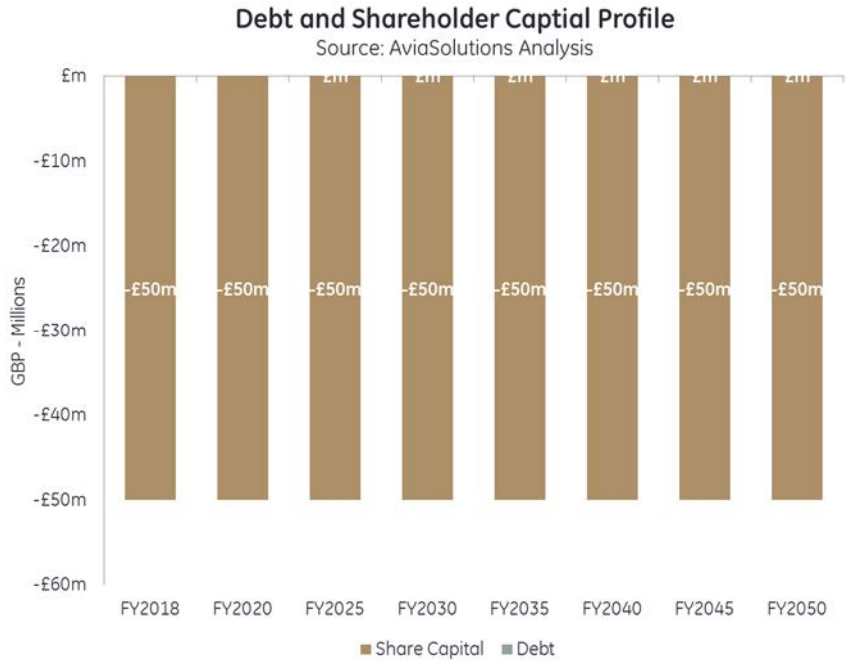
The airport is forecast to develop its cash position with limited additional capital requirements until FY2045 when there would be a requirement to expand the terminal, by which time the company could have built up sufficient cash to be able to finance the CAPEX from reserves. The position shown below excludes any dividend payments that the owner may wish to extract from the asset: such payments would reduce its cash position.



11.2.7. Debt and Shareholder Capital

Whilst the exact nature and mixture of debt and shareholder capital would be subject to complex financial optimisation, we have illustrated below a simple capital structure used in the analysis to illustrate the need for additional capital throughout the period. To maintain the business no further financing would be required. Whilst the business does not generate significant revenues or income, there is little requirement for significant CAPEX investments, thereby eliminating the requirements for additional financing

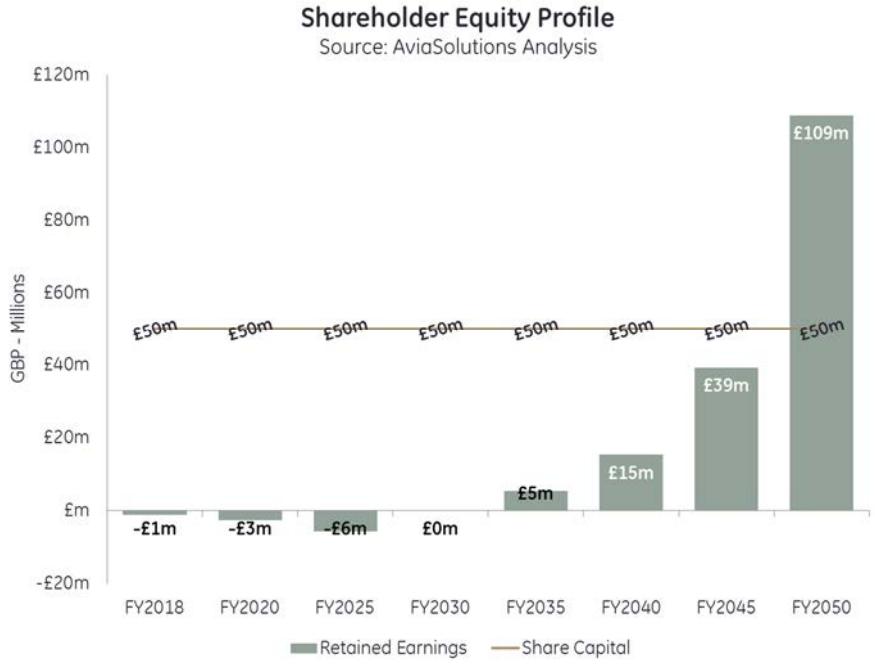
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Debt	£m	£m	£m	£m	£m	£m	£m	£m
Share Capital	£50m	£50m	£50m	£50m	£50m	£50m	£50m	£50m



11.2.8. Shareholder Equity

Considering the effects of earnings on shareholder equity, the business does not post positive retained earnings until nearly FY2035. This in effect limits the business's ability to pay dividends to shareholders until this point at the earliest.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Retained Earnings	-£1m	-£3m	-£6m	£m	£5m	£15m	£39m	£109m
Share Capital	£50m	£50m	£50m	£50m	£50m	£50m	£50m	£50m



11.2.9. Conclusion

The asset would require significant long term investment but would only generate a marginal return. These returns are also predicated on a large number of external variables over which the owner of Manston Airport has very little influence. It is AviaSolutions' view that based on this scenario there is no viable long term prospect of an economically viable airport being established on the site.

11.3. Outputs for Both Runways Scenario

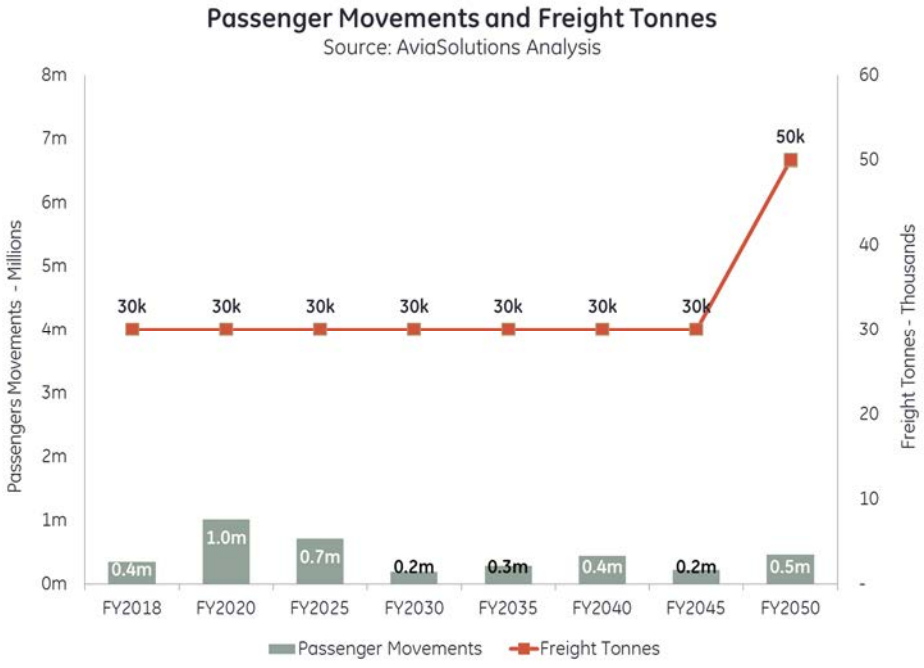
In the following paragraphs, we explore the financial viability of Manston Airport based upon there being two runways constructed in the South East, one at Gatwick and the other at Heathrow. It is clear from this assessment that in the longer term there is forecast to be sufficient demand to require two additional runways. In our assessment, we have assumed that the runway at Gatwick would be opened first, followed later by that at Heathrow. It is though possible that Gatwick might decide to postpone its second runway given its likely loss of traffic Manston would have a short initial boost to traffic before the first of the runways becomes available but then traffic falls and only resumes growth towards the end of the forecasting period. This scenario is the least favourable for Manston Airport.

11.3.1. Volume Profile

Passenger numbers are forecast to grow to more than 1.5 million in 2024, the year before the assumed opening of the first of the runways, but immediately fall back starting in 2025. Passenger traffic remains minimal for the remainder of the forecasting period.

Freight is not forecast to grow beyond the 30,000 tonnes of the core freighter operations until after FY2045, but might reach some 50,000 tonnes by FY2050.

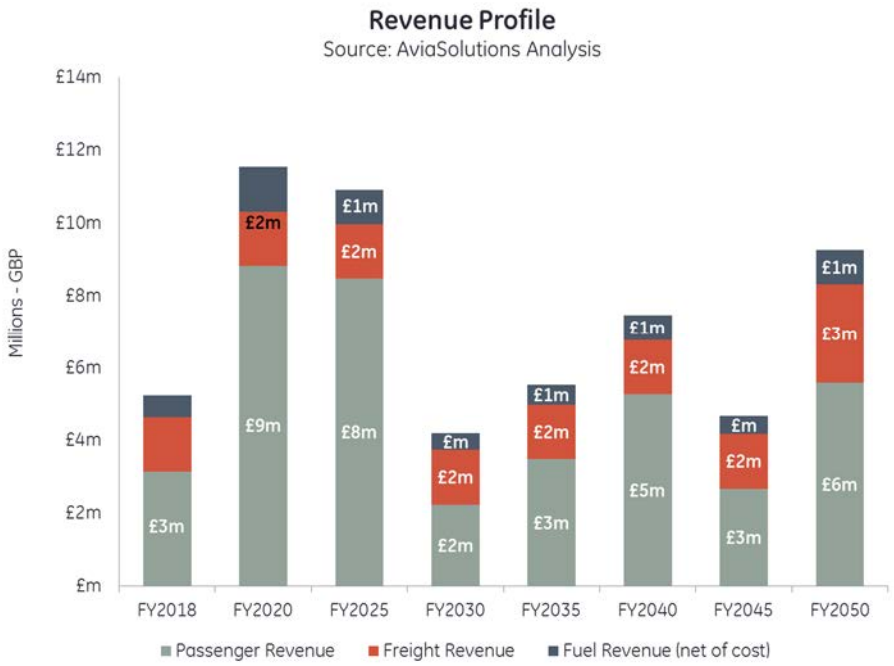
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Passenger Movements	350k	1,010k	710k	190k	290k	440k	220k	460k
Freight Tonnes	30k	30k	30k	30k	30k	30k	30k	50k
Total ATMs	1,100	2,900	5,000	1,300	2,000	3,100	1,600	4,300



11.3.2. Revenue Profile

Revenue generation reflects the lack of traffic volume and peaks in the period up to FY2025.

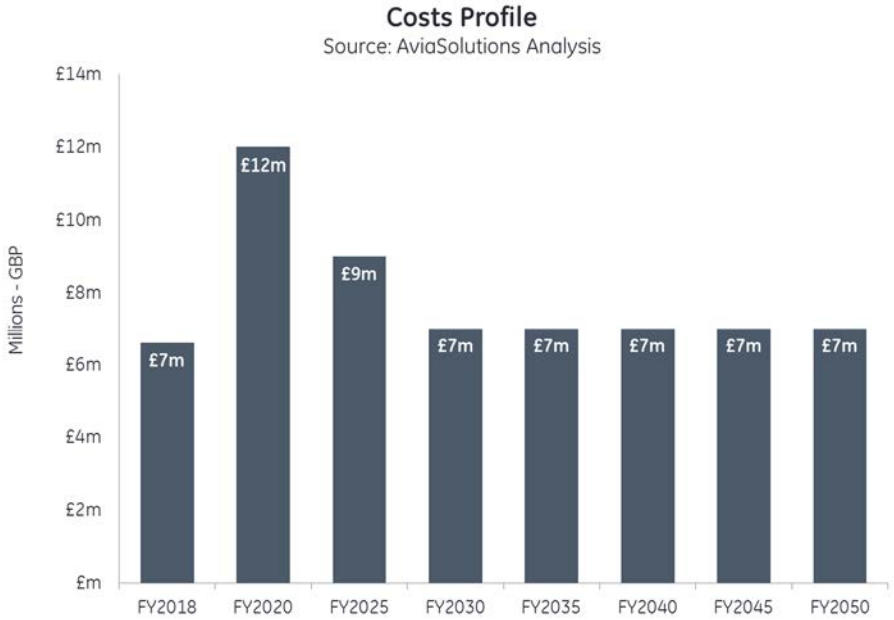
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Revenue	£5m	£12m	£11m	£4m	£6m	£7m	£5m	£9m

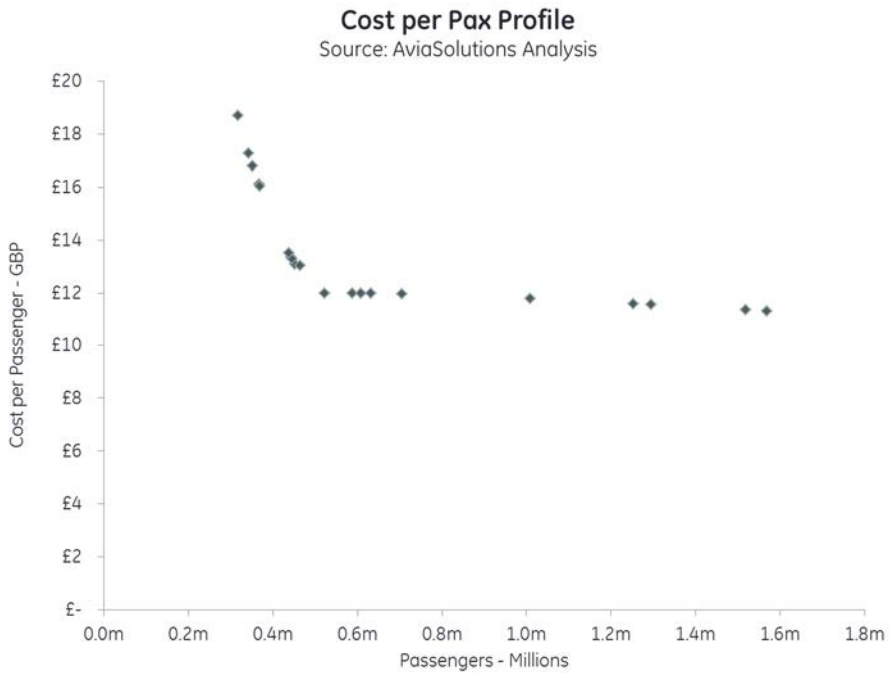


11.3.3. Cost Profile

Total Costs rise a little before the opening of the first of the runways, but then fall back to the core essential fixed costs associated with having the airport open

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Total Cost	£7m	£12m	£9m	£7m	£7m	£7m	£7m	£7m

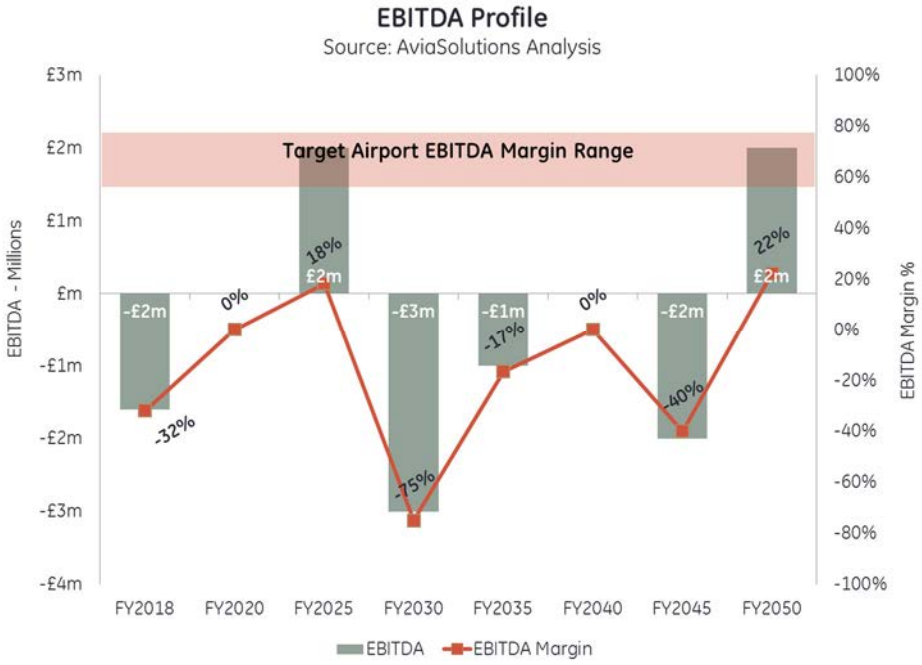




11.3.4. EBITDA Profile

EBITDA is forecast to be negative for the majority of the forecast period, except for the period up to FY2025 and at the very end

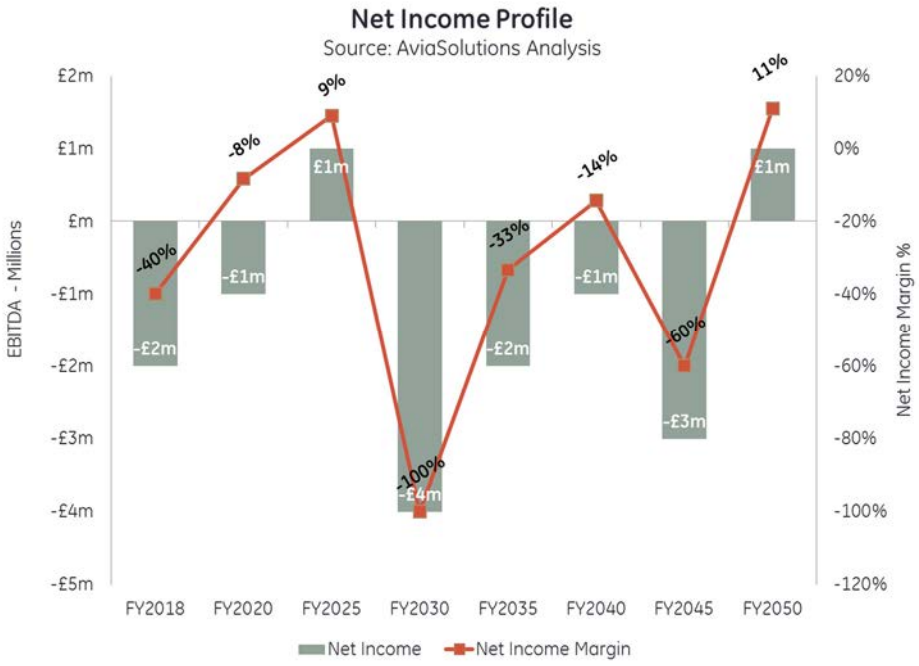
	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
EBITDA	-£2m	£m	£2m	-£3m	-£1m	£m	-£2m	£2m
EBITDA Margin	-32%	0%	18%	-75%	-17%	0%	-40%	22%



11.3.5. Net Income Profile

Net income, the profit left after all deductions, is forecast to be negative for almost the entire period.

	FY2018	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2050
Net Income	-£2m	-£1m	£1m	-£4m	-£2m	-£1m	-£3m	£1m
Net Income Margin	-40%	-8%	9%	-100%	-33%	-14%	-60%	11%



11.3.6. Conclusion

If two runways were to be constructed in the South East, then it is clear that there is no realistic prospect of long term viability for a re-opened Manton Airport. The potential profits in the period to FY2025 would not be adequate to justify the costs of acquiring and re-commissioning the airport, and prospects thereafter would be exceptionally poor.

York Aviation

Manston Airport

Note of Oral Evidence given by York Aviation for Stone Hill Park at the Socio-Economic Hearing 5th June 2019

1. This note sets out the key points made in oral evidence to the Socio-economic Hearing and responds to a number of additional points made by the Applicant during the Hearing.

2. These comments are made without prejudice to our view that the 'forecasts' upon which the socio-economic assessment is made are not robust. Discussions at the Need Hearing and subsequent Hearings have revealed the 'forecasts' are nothing more than a wishlist of RSP would like to attract to Manston before taking into account the relevant factors that would determine if they could viably do so. If, as we strongly believe to be the case (see our Reports of November 2017 and February 2019 that were attached as Appendix 4 to SHP's Written Representations [REP3-025]), the forecasts are not capable of being realised then the claimed economic benefits will simply not arise regardless of the errors that we go onto identify in this note.

3. Furthermore, it could also be argued that investing in an airport that is unlikely to succeed is inefficient investment leading to economic harm, not least when there are alternative uses of the site and alternative means of handling the freight using facilities at existing airports. This was made clear at para. 7.4 of our November 2017 Report.

4. Even if the 'forecasts' were right, which they are not, then the socio-economic assessment contains the following errors of assessment:

Employment Density

5. At the hearing, the Applicant continued to assert that is was reasonable to use the overall employment density (direct jobs per mppa or per million workload units (WLU)) from East Midlands Airport of 887 jobs per million WLU as the basis for assessing the direct jobs that would arise at Manston, despite this including non-airport related employment on the Pegasus Business Park. What Dr Dixon may not be aware of is that York Aviation undertakes the economic impact assessment work for MAG Airports, including East Midlands, so the quoted employment density derives from our work. In fact, Dr Dixon appears to have derived her direct employment density by taking the on-site employment in 2013 of 6,730 divided by 2014's passengers and freight WLUs of 7.59 million to derive an employment density of 887 employees per workload unit (see pages 4 and 5 of East Midlands Airport Sustainable Development Plan – Economy and Surface Access[1]). It is made clear on page 5 of that document that this includes employment on the Pegasus Business Park that is not direct airport related employment.

   "There are also a wide range of jobs in the airport's support activity – cargo, hotels and also a range of professions and occupations in companies that are based at Pegasus Business Park." (emphasis added)

[1] https://live-webadmin-media.s3.amazonaws.com/media/2931/ema-sdp-2015-economy-and-surface-access.pdf

6. Hence, it was clear from the source material used by Dr Dixon that not all of the 6,730 jobs were strictly airport related. As we note at para 3.54 of our February 2019 Report and in our Deadline 7 comment on the Applicant's response to ExA's second written questions SE.2.4 [REP7-014]), if non-aviation uses in the vicinity of East Midlands Airport (Pegasus Business Park) are stripped out, the true airport related employment density is virtually identical to Prestwick Airport at c.650 jobs per mppa or million WLUs, which we consider remains the best estimate of likely on-site direct employment density at Manston. Azimuth's dismissal of Prestwick as a relevant comparator is all the more perverse given it has formed the basis of the Applicant's assessment of likely staff and operational costs within its business model.

7. Furthermore, the fact that East Midlands Airport has proportionately more passengers than expected at Manston would tend to suggest that the direct on-site employment density should be lower still at Manston as freight activity tends to have lower employment than passenger handling.

8. At the hearing, Dr Dixon attempted to argue that use of an employment density of 887 was inherently conservative by reference to work undertaken by York Aviation for ACI EUROPE in 2003, which estimated an average employment density across all of Europe's airports in 2002 of 950 jobs per million WLU. We append the summary from this report, which makes clear that this employment density applied to the totality of Europe's airports in 2002. It also makes clear that the employment density varies across different types of airports according to the type of activity at the airport so it is not appropriate to simply use the European average employment density for an individual airport. Furthermore, James Brass of York Aviation did alert Dr Dixon to this report being out of date and inappropriate for current use in an e-mail exchange of October 2017 also appended.

Airport Company Employment

9. In any event, we note that the RSP has sought to justify the use of a high employment density by referring to a 4 shift system for staff in its recent responses (see York Aviation's Deadline 7 comments on the Applicant's response to the ExA's second questions SE.2.7 [REP7-014]). There is no reason for this as most airports operate with a 3 shift system for 24 hour operations and we know that Manston will not operate at night so, in practice, a 2 shift system would be sufficient. Although it was claimed at the hearing that the employment had been worked out in terms of hours of work required, it remains unclear the basis upon which this has been undertaken.

10. Whilst we recognise that the Applicant intends to carry out some element of cargo handling itself leading to relatively higher levels of staff employed directly by the Airport Company than elsewhere, this is irrelevant to the question of the overall direct employment at the Airport, which relates to the totality of employment on-site directly related to airport operations regardless of the employer. To the extent that the new integrator takes freight straight off-site for processing elsewhere (see Applicant's answer to ExA's third written questions ND.3.4 [REP7a-002] that acknowledges that some freight would be taken straight off-site to fulfilment centres necessarily elsewhere closer to the main centres of population), this would tend to reduce the level of on-site employment rather than increase it. Coupled with the effects of automation, this presents a further reason why even the adoption of an on-site direct employment density based on Prestwick may optimistic.

MRO/Aircraft Tear Down

11. In terms of the justification for high levels of on-site employment, the Applicant has also claimed that there would be 600 jobs related to MRO/Aircraft Tear Down (see York Aviation's Deadline 7 comment on response to ExA's second written questions SE.2.7 [REP7-014]). At the Hearing, the Applicant attempted to justify this figure by reference to a) Ryanair's maintenance hangars at Prestwick and b) the activities of Tarmac Aerosave at Tarbes in France. Taking each in turn:

12. Ryanair Prestwick

Ryanair has a 5 bay hangar at Prestwick[2], operated on its behalf by Prestwick Aircraft Maintenance Ltd. Its latest report and accounts showed that it employed 400 people in total (see attached extract from PAML accounts). With 3 bays at Manston, this would suggest a realistic comparable employment figure of 240 jobs.

13. Tarmac Aerosave

Tarmac Aerosave has aircraft teardown facilities across 3 sites in Europe. In 2017 (the 10th anniversary of its operation at Tarbes in France, the company was reported as having 200 employees (see press statement attached). The Tarbes site appears to have 2 hangars capable of accommodating widebodied aircraft, i.e. substantially larger than the hangars proposed at Manston and parking for around 24 aircraft[3], including a substantial number of widebodied aircraft, which again could not be accommodated at Manston, other than by occupying some of the freighter Code E stands so reducing the capability for freight. Hence, it appears highly unlikely that as many as 200 jobs could be sustained in aircraft tear down at Manston with the proposed 3 Code C bay hangar and associated Code C aircraft apron.

14. In overall terms, these examples would suggest that the number of jobs that might be sustained if MRO or aircraft tear down activity could be attracted to the proposed 3 bay hangar at Manston would be of the order of around 200 jobs. We do not take a view here on the likelihood of such activities being attracted to Manston but note that there is intense competition between airports across the UK to attract such activities.

Study Area and Indirect/Induced Employment Multipliers

15. The study area for assessing economic effects was never properly defined in the Azimuth Report, although paragraphs 5.3.3 and 5.3.4 of Vol IV do discuss the potential location where job impacts might be felt, with direct jobs assumed to be local, the indirect and induced effects assumed to be mostly in Kent but extending to neighbouring districts in the Thames Estuary and catalytic effects assumed to be realised mostly in the South East of England.

16. Leaving aside whether the correct multipliers have been used to derive the indirect and induced employment, Section 3.8 of the ES (Chapter 13) [APP-034] takes the figures produced by Dr Dixon and applies them at three levels of assessment:

Local – Thanet

Regional – Kent

UK

17. The ES assesses both the direct on-site job creation and the indirect/induced employment for their significance at both the Local and Regional levels, making no distinction as to the different number of jobs that might be created at these two assessment levels. This is neither correct nor consistent with Dr Dixon's own statements regarding where the jobs might arise. Whilst the on-airport jobs will clearly be located within Thanet, the distribution of employee residence will be wider, so even for direct employment, assessment at the Local level will overstate the significance. Dr Dixon then defines her view as to the relevant area for the indirect and induced effects to be realised, including *"In addition to East Kent, these include Shepway, Swale, Medway and potentially Dartford and South East London"* (Azimuth Reports, Vol IV, para. 5.3.4). It is clear that in assessing the employment benefits of the claimed indirect and induced employment, the ES has been inconsistent with Dr Dixon's work, which forms the entire basis for the assessment of the expected employment and economic benefits.

[2] http://www.prestwickaerospace.com/aerospace-capability/ryanair/
[3] http://www.tarmacaerosave.aero/about-us

18. More fundamentally, it is important to make sure that the multipliers used in deriving indirect/induced employment are relevant to the study areas being considered and these study areas need to be clearly defined in the first instance before estimating the relevant multipliers to be used, typically by reference to the expected supply chain effects, taking into account location specific input output tables. Azimuth did not do this and relied on UK level multipliers from other studies regardless of their applicability to Manston. Despite the clear use by Dr Dixon of a UK level multiplier (Azimuth Reports, Vol IV, para. 5.3.3), the Application Documents treat this employment as local/regional so overstating the significance of the potential employment gain.

19. As stated by the Applicant in response to the ExA's question SE.1.5 [REP3-195], it has adopted an indirect/induced employment multiplier based on work carried out for Stansted and Luton. At the Hearing Dr Dixon relied on the multiplier of 1.8, which she said derived from Oxford Economics work for Luton referenced in Azimuth's Vol IV (which is indeed the multiplier used for induced/indirect effects in the Azimuth Report and ES). This work was published in 2015 and referred to the year 2013. As discussed at the Hearing, this report is appended to this note. We would draw the ExA's attention to the Executive Summary where it is clearly stated that a multiplier of 1.9 is a national UK level multiplier, which will include the entire supply chain of all of the companies operational at the Airport, including aircraft component purchases, vehicles, specialist airport equipment etc:

    "For every direct job the airport supports, another 1.9 are supported elsewhere in the UK economy."[4]

20. The report goes on to set out the impact at the 3 Counties level (Bedfordshire, Buckinghamshire and Hertfordshire), which is wider than Kent as an equivalent for Manston. Although the multiplier is not explicitly stated, it is evident from Table AB2 on page 78 that the indirect multiplier at the 3 Counties level is 0.7 (6,446/9,437) and for Bedfordshire, the equivalent multiplier would be 0.4 (3,724/9,437). For the local district of Luton in which the airport is located, the indirect/induced employment multiplier is 0.25 (2,349/9,437). These figures are in fact set out in Table 7 of Vol IV of the Azimuth Reports. Despite this, Dr Dixon continued to claim at the Hearing that 1.8 was an appropriate multiplier to use for the Local/Regional impacts of Manston. This is simply not correct and, as stated at para. 5.12 of our November 2017 Report, a more appropriate local multiplier for Thanet would be of the order of 0.4, even if 0.7 might be applicable to the wider area of Kent and the Thames Estuary.

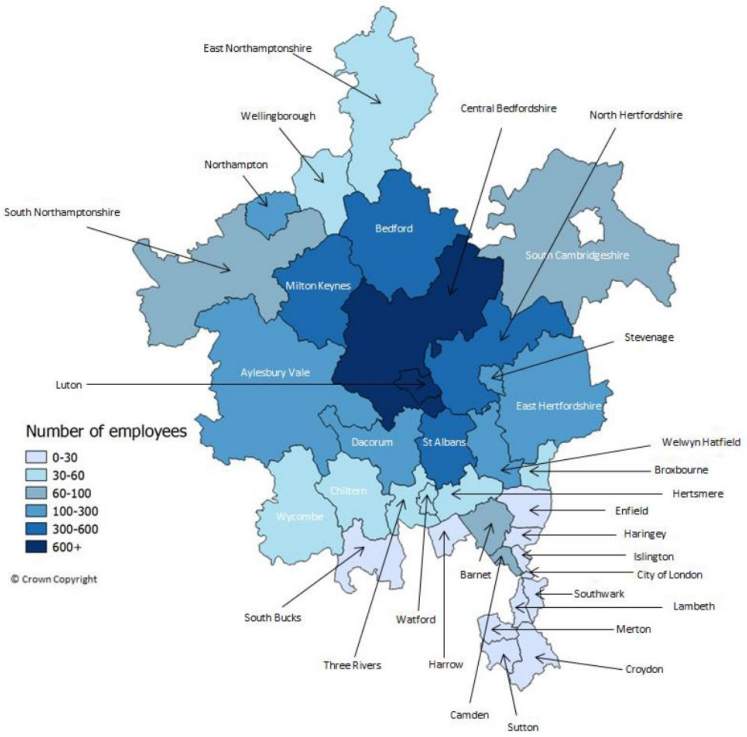
21. On a corrected basis, leaving aside the issues relating to the underlying demand forecasts upon which these employment estimates are based, the local and regional impacts of the development would be far less than claimed by the Applicant.

Employee Residence

22. As well as in relation to multiplier, Azimuth also misinterpreted Oxford Economics work on Luton in terms of employee residence. It is important to note that the Oxford Economics work records jobs by place of employment - not residence. Information on the residence of direct employees is given on page 20 of Oxford Economics' work and reproduced below.

[4] Oxford Economics, Economic Impact of Luton Airport, November 2015, page 8.

Figure 2.2: Estimated place of residence of London Luton Airport employees, 2013



23. In practice, direct airport employees reside over a wide area, certainly far wider than the immediate environs of Manston. We understand, based on the information provided at Table 6.32 of the Applicant's Transport Assessment that it has been assumed that 79% of on-site employees would reside in Thanet and the remainder in neighbouring parts of Dover district. The assumption that all employment would be local will have led to an overstatement of the extent to which bussing is a viable mode for employee transport and this will have implications for the wider traffic assessment of the impact on the highway network.

Catalytic Jobs

24. As pointed out at para. 5.8 of our November 2017 report [Appendix 4 of REP3-025), multipliers are not normally used for estimating the catalytic employment impacts of an airport development project, which are more normally assessed by specifically considering the wider benefits to the economy from connectivity, usually by reference to reliable forecasts of business passenger numbers and freight expected at an individual airport. As we pointed out, Azimuth adopted a wholly inappropriate ICAO multiplier relating to the global impact of the aviation sector. Given that the forecasts for Manston now suggest that its usage will mostly be for outbound tourism purposes and, as we now know, import of e-commerce integrator freight then the catalytic effects on the economy are likely to be much less than would be expected elsewhere.

Displacement

25. Given the way in which the employment estimates have been built up, based on national/global multipliers for indirect/induced and catalytic effects, consideration needs to be given to displacement effects from other airports and even other modes such as trucking. Displacement will apply in an number of ways:

- *RSP has made clear that Manston seeks to intercept flows of trucked freight and this will be a form of displacement of activity. Although Dr Dixon attempted to claim at the Hearing that this would not matter as most of the truck drivers would be foreign based, this seems*

inconsistent with the notion that Manston might intercept flows of outbound freight being trucked from the UK to Europe.

- *Secondly, given the scale of the overall UK market for pure freighter aircraft, if Manston were to achieve its forecasts, this would imply substantial diversion of movements from other airports. Given the evidence that, with a third runway at Heathrow and developments elsewhere, there will be no shortage of capacity for air freight to and from the UK for the foreseeable future, any freight traffic captured by Manston, necessarily must be displaced from elsewhere. In particular, as we highlighted in our Deadline 7 comment on the Applicant's written answer to the ExA's question ND.2.25, the e-commerce activity now being cited by RSP as the primary role of Manston would be direct displacement from activity already present at East Midlands Airport. The Applicant itself has acknowledged that is seeks to divert niche freighter operations from Doncaster Sheffield Airport.*

These displacement effects need to be accounted for in the socio-economic assessment, given that the quantified effects have been assessed at a national level. They have not been and this is another area where the net impacts have been overstated even at a national level.

26. Another displacement consideration is in relation to the effect of the PSZ on other economic activities in the vicinity of the Airport. Although the Applicant's answer and appendices at OP.2.7 to the ExA's second questions does give some consideration to the effect of a PSZ in future on other developments in the vicinity of the Airport, the effects have not be quantified but would, nonetheless, constitute another form of displacement in terms of opportunities foregone. Furthermore, the Applicant does not seem to realise that the PSZ would need to be put in place as a forward looking restriction on other development, which SHP has estimated would need to be put in place by Year 4, acting as a barrier to growth of economic activity within the area from that point onwards. It should be noted that it is likely that any PSZ for Manston would be materially larger than other airports with the same number of aircraft movements due to the pre-ponderance of cargo and general aviation aircraft that have a higher propensity to crash than commercial passenger aircraft and this has not been factored into the analysis submitted by the Applicant.

Tourism

27. The Applicant seeks to claim significant beneficial effects in terms of tourism benefits to Kent and Thanet. In answer to ExA's question SE.2.15, RSP seeks to imply that 20% of passengers using MSE would be inbound tourists. In the first instance, as we pointed out in our Deadline 7 comment on this answer, RSP has extraordinarily used data for Gatwick, Stansted and Luton as representative of small airports. This is not generally representative at all, as we point out.

28. When considering the scope for airports to support tourism within the local economy, it is important to recognise the role that these named airports play in serving London. When you strip out the passengers travelling further afield from these airports, principally to London, and those visiting friends and relatives, for which tourism spending will be significantly lower, the actual proportions of passengers at these airports that are foreign visitors staying locally (including those staying the night before flying) is 1% at Gatwick, 1.5% at Luton and 0.5% at Stansted from detailed CAA Survey data[5] (see table below).

[5] CAA survey data is available to purchase from the CAA. York Aviation holds all survey data from 2003 and does not rely on published Survey Reports only. This enables more detailed analysis of the performance of individual airports.

Surface Origin / Destination of Inbound Foreign Visitors

Foreign Passengers' Surface Origin / Destination at Select London Airports

Airport	Foreign Passenger % of Total Passengers	Of which: % Surface Origin/Destination in London	Of which: % Surface Origin/Destination within 30 Minutes of Airport	% of Total Passengers who were Foreign and Stayed within 30 Minutes	% of Total Passengers who were Foreign and Stayed with 30 Minutes (excl. VFR)
London Gatwick 2018	29.6%	49.9%	5.2%	1.6%	1.0%
London Luton 2018	30.1%	50.8%	18.5%	5.6%	1.5%
London Stansted 2018	34.6%	59.7%	3.8%	1.3%	0.5%
London Southend 2019 Q1	22.3%	54.8%	19.2%	4.3%	0.8%

Source: CAA Passenger Survey (2018) and (2019 Q1 – Southend Only)

29. At the Hearing, the Applicant cited Southend Airport as a more relevant comparator. Southend has not previously been included in the CAA Survey but is being surveyed in 2019. The provisional issue of the results for the first quarter (Q1) has just been released by the CAA and the results are included in the table above. Whilst these results are provisional, due to the small sample size, it would strongly suggest that the impact of the Airport on tourism in Southend has been negligible as only 0.8% of passengers appear to be foreign visitors staying locally for reasons other than visiting friends and relatives.

12th June 2019

ACI EUROPE
AIRPORTS COUNCIL INTERNATIONAL

York Aviation

The social and economic impact of airports in Europe

www.aci-europe.org

January 2004

Preface

John Burke, President, ACI EUROPE and Chief Executive, Aer Rianta

To assess properly the many challenges facing Europe's airports - one must fully grasp the scale and reach of a civil aviation industry that comprises more than 130 airlines, a network of over 450 airports and some 60 air navigation service providers. This complex set-up forms a unique global network linking people, countries and cultures - and plays a vital role in the further integration and development of Europe. Airports play an essential role in realising this economic growth and delivering immense social benefits to the citizens of Europe.

In 1998, ACI EUROPE commissioned a study on the social and economic impact of Europe's airports from York Consulting. York Aviation, its sister company, was appointed to update the 1998 study. Using the most recent data collected from a wide range of ACI EUROPE member airports, 'The social and economic impact of airports in Europe' provides an invaluable insight to role played by European airports in boosting regional accessibility and social expansion, driving tourism development, and serving as national and regional economic motors.

In order to navigate the future as a stronger, more robust and more confident industry, policy makers must better acknowledge the social benefits provided by airports in terms of the freedom to fly. Airports enable remote and island communities to participate more fully in Europe, thus promoting social inclusion, with the social and economic importance of access to Europe's airports to grow further with enlargement of the European Union. This study also highlights the many key economic benefits accompanying airport development. European airports not only have massive economic impacts in terms of direct, indirect and induced employment, but serve as strategic catalysts, enhancing business efficiency and productivity by providing easy access to suppliers and customers.

ACI EUROPE has been striving to help both national and local legislators recognise the social and economic benefits delivered by Europe's air transport industry, and to give these benefits their rightful weight in the debate on sustainable growth. Sustainability is a three-legged stool; while environmental concerns are certainly important, the very significant social and economic benefits of aviation are too easily forgotten. I sincerely hope that the detailed research provided in this study will help to facilitate a better understand the key role played by European airports and better serve to uphold the overall contribution of aviation to our daily lives.

Airports Council International (ACI) is the only worldwide professional association of airport operators. ACI EUROPE represents over 450 airports in 45 European countries. Member airports handle 90% of commercial air traffic in Europe, welcoming over a billion passengers each year.

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Summary

European airports are now widely recognised as having a considerable economic and social impact on their surrounding regions. These impacts go far beyond the direct effect of an airport's operation on its neighbours to the wider benefits that air service accessibility brings to regional business interests and to consumers. Airports provide essential infrastructure to support regional social and economic growth as well as being commercial entities in their own right, capable of generating returns on investment to the benefit of their shareholders, other stakeholders and to society as a whole.

The importance of transport to economic growth has been recognised by the European Commission in their Transport White Paper[1]: "*difficult to conceive of vigorous economic growth which can create jobs and wealth without an efficient transport system that allows full advantage to be taken of the internal market and globalised trade*."

With the enlargement of Europe and the greater travel distances involved, air transport will play an ever more important role in the integration of Europe. This report seeks to explain and expand on the specific **social and economic importance of Europe s airports**.

In 1992, ACI EUROPE published a study 'Airports – Partners in Vital Economies'. This study looked in general at the economic importance of Airports. York Aviation was appointed in December 2002 to update the 1998 report, using the most recent data collected from ACI EUROPE's member airports. We have collected information from 58 airports for this study, covering the largest hub airports to very small local airports. The airports covered accounted for 63% of the workload units at Europe's airports. We have used the broad methodology and definitions from the 2000 ACI EUROPE Study Kit as a basis for collating data for this study. In summary, we consider the overall economic impact of airports under the following headings:

direct - employment and income that is wholly or largely related to the operation of an airport;
indirect - employment and income generated in the economy of the study area in the chain of suppliers of goods and services;
induced - employment and income generated in the economy of the study area by the spending of incomes by the direct and indirect employees; and
catalytic - employment and income generated in the economy of the study area by the wider role of the airport in improving the productivity of business and in attracting economic activities, such as inward investment and inbound tourism.

We have also analysed the social impacts of airports and the effects of restricting capacity or otherwise limiting the growth in demand for air travel.

Air transport in a modern society

The most important contribution of airports is the connectivity they provide, which allows the European economy and society to flourish. Air transport provides the accessibility essential in a modern economy and society. Globalisation of the world economy is a key driver of air traffic growth. Cross-investment between European countries, as well as to and from the USA, Far East and the rest of the world is increasingly a feature of modern business, with mobility of labour a growing factor.

The air transport sector is evolving rapidly to meet the changing needs of society as a whole. It is predicted that, despite recent global events, overall air traffic growth rates are likely to return to previous levels (5-6% per annum) in the medium term, driven in part by the growth in low cost services.

Transport is seen as an important factor in the economic and social integration of Europe, and an important indicator of quality of life. Its importance will grow with the enlargement of the European Union (EU). The EU has recognised the importance of mobility to the social and economic development of nation states and also the integration and realisation of the Union. In addition, in remote regions, air transport fulfils an essential social function, often connecting communities to essential services, such as hospitals and further education.

Airports as national and regional economic motors

Airports constitute necessary infrastructure for a wide range of economic activities. This wider economic role is known as the catalytic impact, arising from the effect that air service accessibility can have on the region served by the airport.

Access to markets and external and international transport links are regarded as “absolutely essential2” to businesses making location decisions. The catalytic effect of an airport operates primarily through enhancing business efficiency and productivity by providing easy access to suppliers and customers, particularly over medium to long distances. Global accessibility is a key factor for business location and success in all regions of Europe.

Large airports are often seen as fundamental national economic motors, for example the role of **Amsterdam Schiphol Airport** as a ‘Mainport’ for the Netherlands economy. The importance of national connections is illustrated by the studies undertaken in Switzerland examining the impact of the loss of direct services from **Zurich Airport** to the Swiss economy following the demise of Swissair. Airports are increasingly developing as multi-modal interchange nodes. Their network positioning creates strategic advantage which enables them to ‘entice’ a broad range of economic activity, functioning as new development poles. This is evidenced by the development of **Amsterdam Schiphol** and **Paris Charles de Gaulle (CDG) Airports**.

Global accessibility can be important at a regional level as well as at a national level. For example, 31% of companies relocating to the area around **Munich Airport** cited the airport as the primary factor in their location decision. A survey of business in the **Hamburg** area found that 80% of manufacturing companies reported air service connections as important to getting customers to look at their products. In 1995, it was reported that 93% of the top Irish companies used **Dublin Airport** for business travel. There is no reason to believe this proportion will have declined.

Where airports have good connectivity, this can act as a powerful magnet for companies:
The Ile de France Region generates 30% of the French national GDP. Accessibility to **Paris CDG Airport** is a powerful factor in company location decisions, particularly for the large global companies headquartered in the Paris area, and to firms engaging in new high-tech, innovative, industries.

Connections to Eastern Europe offered by **Vienna Airport** have enabled Vienna to provide the location for the East European headquarters of several global companies.

The attractiveness of airports and their hinterlands is particularly strong for ‘high tech’ industries as evidenced by **Copenhagen** and **Nice Airports**.

It is possible to define the 'air intensive' sectors of business, namely those sectors of industry that are most dependent upon air service accessibility:

Insurance
Banking and Finance
Other Means of Transport
Printing and Publishing
Coke, Petroleum and Nuclear Fuel
Extraction
Transport
Communication
Other Business Activities
Research and Development
Basic Metals
Computer Activities
Precision and Optical Instruments

Often it is the **financial and business services** sectors which make the greatest use of air transport and for whom accessibility to air services will have the strongest influence on location decisions. For example, there are a high number of foreign owned companies located in the vicinity of **Brussels Airport**, many of whom are active in these air intensive sectors.

Airports with available land are developing **business parks** to capitalise on the attractiveness of air service connectivity to businesses. Often these business parks are used by firms with some connection to the airport or aerospace industries. Otherwise they are chosen as locations for companies making intensive use of air transport. Examples include **Cork, Hamburg, Nice** and the 'Aviapolis' development at **Helsinki Airport**.

The use of **air freight** as a means of transport is increasing, particularly for high value, low weight goods, or those requiring urgent transport. The Organisation for Economic Co-operation and Development (OECD) has estimated that up to a third in value of world trade in merchandise travels by air.

Airports driving tourism development

Tourism is the second main element of catalytic impact. For the EU as a whole, tourism accounts for 5% of total employment and of GDP, and as much as 30% of the total external trade in services.

Airports play a major role in making the development of inbound tourism possible. Many destinations would not be easily accessible without air services, such as the **Spanish** and **Greek Islands.** Good air service connections are vital to their success as tourist destinations.

Even for major European cities, air travel can account for a third or more of their foreign visitors. For example, almost 10 million visitors arrive in the Ile de France area by air via the **Paris Airports**, spending €3 billion. Equivalent spending in the Alpes-Maritime Region from visitors arriving via **Nice Airport** was almost €1.5 billion.

Traditionally, charter carriers have played a major role in facilitating the development of tourism in Europe. Low cost, no-frills carriers are now opening up new markets to tourism and accelerating the growth in tourism, even in traditional markets, such as UK-Ireland.

Airports vital to regional accessibility and social development

Air transport for passengers and freight is an essential component of the modern global economy. The social benefits contribute to the quality of life in Europe. The importance of air transport access has led many European countries, such as **France** and **Norway**, to introduce Public Service Obligations to ensure that essential services are maintained.

The social and economic importance of air transport in Europe will grow with enlargement of the EU. Air transport provides accessibility to the global economy and enables remote and island communities to participate more fully in Europe, thus promoting social inclusion.

Availability of air services can be an important indicator of the quality of life - particularly for remote areas. These social and regional accessibility benefits are far more difficult to quantify. However, they are vital to the development of remote regions of the Europe. Quite simply, without air service access, many regions in Europe would be denied participation in the modern world. This would have profound 'quality of life' implications.

There are many examples of airports engaging in programmes to ensure that their positive social impact is maximised. Such programmes include initiatives in education and training, as well as local cultural and sporting programmes. Many airport operators, including **Paris, Lyon, BAA** and **London City**, take positive steps to ensure that local employment opportunities are maximised.

The direct and measurable impact of airport activities

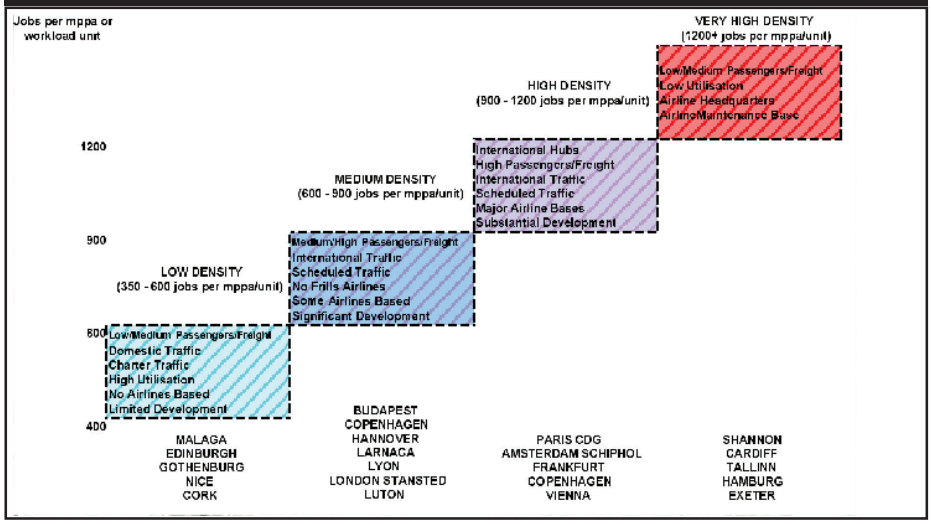
Airports support employment directly on-site and in the surrounding area but also indirectly in the chain of suppliers providing goods and services. In addition, the incomes earned in these direct and indirect activities generate demand for goods and services in the economy, which supports further employment.

In 2001, we estimate that **total on-site employment at airports reporting traffic to ACI EUROPE was around 1.2 million**. In addition, we estimate that there are a further 0.2 million direct airport-related jobs located off-site at Europe's airports.

Nearly two-thirds (64%) of employment comes from airlines, handling agents and aircraft maintenance, with the remainder split between airport operators (14%), in-flight catering, restaurants and bars and retailing (12%), air traffic control and control agencies (6%), freight (1%) and other activities such as fuel companies and ground transport operators (3%).

The evidence suggests that European airports currently support, on average, around **950 on-site jobs per million passengers (workload units) per annum**. This is lower than the number observed in the 1998 study (the 'typical' 1000 jobs per million passengers ratio), indicating the success of measures taken by airports to reduce costs and increase productivity, despite increases in security measures. Other factors include the development of no-frills carriers and the drive towards lower costs throughout the industry, particularly in the airline sector, resulting in productivity improvements across the board. The factors leading to different levels of on-site employment are illustrated in **Figure 1 overleaf**.

Figure 1:
Typology of on-site employment at European airports 2003



Based on the latest ACI worldwide air passenger and freight forecasts, we estimate that total on-site employment at airports reporting traffic to ACI Europe could rise to around 1.4 million by 2010, assuming a 2% per annum continuing growth in productivity. This is an increase of 17% in employment over 2001 levels.

On the basis of this evidence we estimate that, on average, for every 1,000 on-site jobs supported by European airports there are around 2,100 indirect/induced jobs supported nationally, 1,100 indirect/induced jobs supported regionally, and 500 indirect/induced jobs supported sub-regionally. Given that there are 950 on-site jobs created per million passengers - once we factor in the direct, indirect and induced jobs we conclude that f**or every million passengers (workload units), European airports support around:**

- **2,950 jobs nationally;**
- **2,000 jobs regionally; and**
- **1,425 jobs sub-regionally.**

Airports can make a substantial contribution to the overall economy of the areas that they serve, when the combined effect of their direct, indirect and induced impact is taken into account. Estimates vary in the range 1.4-2.5% excluding tourism impacts.

The effect of restricting airport capacity

Restricting airport capacity or pricing off air travel demand could have severe economic or social consequences. Studies suggest that failure to increase capacity to meet demand could **reduce GDP at a national or regional level by 2.5 to 3%**, although this will be heavily dependent upon the level of restriction applied.

Based on forecast growth in passenger and freight traffic at Europe's airports, direct employment at airports is expected to grow by almost 200,000 jobs between 2001 and 2010. However, restricting growth in demand, through limits on capacity or other means, would have the effect of reducing this growth in jobs and under more severe restrictions could result in a nett loss of direct jobs as productivity improvements negate the benefits of traffic growth.

On 6 Oct 2017, at 15:39, James Brass <James.Brass@yorkaviation.co.uk> wrote:

Dear Sally

Thank you for your email and apologies for the slow response. I need to tell you that York Aviation does now have a conflict of interest in this matter and hence I cannot engage further in relation to this. However, just as an observational point, I would highlight that the 2004 ACI EUROPE report is now substantially out of date and we would no longer consider it to be necessarily representative of a 2017 world.

Best regards
James

James Brass
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From: Sally Dixon [mailto:sally@azimuthassociates.co.uk]
Sent: 03 October 2017 15:35
To: James Brass <James.Brass@yorkaviation.co.uk>
Subject: Calculations for indirect/induced employment at airports

Dear James,

It has been some while since we have been in touch. I am still engaged on the Manston Airport project, which is progressing rapidly under the DCO process towards a submission to the Planning Inspectorate next month.

I have a query about York's 2004 report for ACI Europe (The Social and Economic Impact of Airports in Europe) and would be very grateful for your clarification. On page 9 there is a calculation of direct/induced employment at airports:

On the basis of the evidence we estimate that, on average, for every 1,000 on-site jobs supported by European airports there are around 2,100 indirect/induced jobs supported nationally, 1,100 indirect/induced jobs supported regionally, or 500 indirect/induced jobs supported sub-regionally. Given that there are 950 on-site jobs created per million passengers, once we factor in the direct, indirect and induced jobs, we conclude that **for every million passengers (workload units), European airports support around:**
• 2,950 jobs nationally;
• 2,000 jobs regionally; or • 1,425 jobs sub-regionally.
Can you tell me what the "or" means here?

I have used your 2,100 figure to calculate a indirect/induced job forecast but would like to be able to split this out geographically. I have assumed that 2,100 is the total across the country (i.e. 1,100 of 2,100 will be regional and of these 1,100, 500 will be sub-regional/local) but am concerned I may have misinterpreted your findings.

On closer inspection, the addition of 950 direct jobs to the 2,100 jobs derives 2,950 jobs nationally and this is where I question my interpretation.

I would be very grateful for your help on this James.
Many thanks and kind regards,
Sally

REGISTERED NUMBER: SC252985 (Scotland)

STRATEGIC REPORT,

REPORT OF THE DIRECTORS AND

FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 JULY 2018

FOR

PRESTWICK AIRCRAFT MAINTENANCE LTD

SATURDAY
S84ASHYX
SCT 27/04/2019 #176
COMPANIES HOUSE

4. EMPLOYEES AND DIRECTORS

	31/7/18	31/7/17
	£	£
Wages and salaries	13,388,197	10,184,031
Social security costs	1,361,679	1,016,994
Other pension costs	158,918	91,685
	14,908,794	11,292,710

The average number of employees during the year was as follows:

	31/7/18	31/7/17
Management / admin	18	13
Engineering	382	313
	400	326

	31/7/18	31/7/17
	£	£
Directors' remuneration	81,457	78,442

5. AUDITORS' REMUNERATION

	31/7/18	31/7/17
	£	£
Fees payable to the company's auditors for the audit of the company's financial statements	3,350	3,350

	31/07/17	31/07/16
Tax compliance services	7,850	6,850
Other services	25,480	20,405
	33,330	27,255

6. TAXATION

Analysis of the tax charge

The tax charge on the profit for the year was as follows:

	31/7/18	31/7/17
	£	£
Current tax:		
UK corporation tax	24,026	19,558
Tax on profit	24,026	19,558

UK corporation tax was charged at 19.67% in 2017.

continued...

Tarmac Aerosave, the European leader in aircraft dismantling services

Safran is one of the founding shareholders in Tarmac Aerosave, a specialist in aircraft storage and dismantling services, which has just celebrated its 10th anniversary. In these few short years, Tarmac has already become the European leader in its sector.

Founded in 2007, **Tarmac Aerosave** is based in Tarbes, southwest France. Today, it has become the European benchmark in the storage and dismantling of both military and commercial aircraft from leading manufacturers such as Airbus, Boeing, ATR, Bombardier and Embraer. Safran is one of the three main shareholders, alongside Airbus and Suez. Safran has been involved since the outset, reflecting its focus on **corporate social responsibility (CSR).** In addition to providing space to **park aircraft** not being used **(**500 capacity) and **store** various parts and subassemblies (50,000 for the moment), Tarmac Aerosave offers the largest capacity for dismantling aircraft at end-of-life in Europe, at two different facilities, in Tarbes and in Teruel, Spain.

"We have dismantled and recycled 125 aircraft to date, and we are capable of recycling more than 90 percent of each aircraft, by weight," explains CEO Philippe Fournadet.

Rémy Michelin / Tarmac Aerosave

Complementary maintenance operations

Over the last decade Tarmac Aerosave has also developed its **maintenance capabilities**, to carve out a position as an MRO provider for both aircraft and engines. For example, the company has set up a workshop to dismantle and service **CFM56 engines**, with the help of Safran. François Planaud, Vice President, Services & MRO at **Safran Aircraft Engines,** explains: "Since our engine MRO activities complement those of Tarmac Aerosave, we helped the company create a flexible engine maintenance shop, allowing them to carry out minor servicing jobs on CFM56 engines. Their workshop was certified to Part 145 in January 2017, proving the quality of their services and also underscoring the expertise developed by Tarmac Aerosave with our support."

About Tarmac Aerosave

Tarmac now has more than **200 employees** and over **15,000 square meters** of storage space. It has a **12% share of the global market for stored aircraft.** In addition to a planned expansion of its original site in Tarbes, Tarmac will shortly open a new facility at Toulouse Francazal airport.

OXFORD ECONOMICS

The economic impact of London Luton Airport

A report for London Luton Airport Operations Limited and London Luton Airport Limited

November 2015

OXFORD ECONOMICS

Foreword:

Nick Barton – CEO London Luton Airport
Councillor Andrew Malcolm – Acting Chairman LLAL

Nick Barton

Andrew Malcolm

This is the first aviation focussed report published in the post-2015 election environment and one that has been conducted on a wholly independent basis by Oxford Economics. London Luton Airport Operations Limited, the airport operator, and London Luton Airport Limited, the airport owner, commissioned this report to highlight the current and future economic benefit of London Luton Airport to both the local and national economies.

We believe that this report will make a significant contribution to the development of an integrated transport policy for the United Kingdom; one in particular that reconciles the rebalancing of the UK economy with the need for sustainable development. The Oxford Economics report sits alongside the vital strategic work undertaken by Sir Howard Davies and provides our new Government with additional corroboration of the importance of aviation to the UK economy.

In commissioning the report we were mindful of the depth of the Davies Commission's review of macro runway capacity requirements, but also of how broadening the analytical scope to micro or regional considerations could complete the roadmap of UK aviation needs.

Through this report, Oxford Economics has demonstrated how the presence of a strong regional airport can boost UK economic growth and deliver greater choice, value and service to aviation passengers.

Regional airports play a vital role in supporting aviation capacity growth in the UK. They will sustain the supply of slots for airlines and destinations for passengers throughout the period of new runway construction in London and enhance the reputation of the UK as a place to visit, invest or reside in. For its part, London Luton Airport has proven its role in meeting the aviation demands of the 21st century and this is demonstrated by the economic benefits that are created by its presence in Southern England.

It is imperative that London Luton Airport fulfils its potential to serve more passengers, deliver greater competition between carriers and achieves all of this on an environmentally sustainable basis. That is why we are proud of our airport and the contribution that it will make to the lives of business and leisure passengers alike in coming decades.

We urge all stakeholders with an interest in the future of UK aviation to take note of this report's conclusions and the potential that exists for London Luton to serve ever greater numbers of passengers and draw overseas investors into our economy.

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Executive Summary

In February 2015 London Luton Airport Operations Limited (LLAOL) and London Luton Airport Limited (LLAL) commissioned Oxford Economics to undertake an analysis of the nature and scale of the economic impact of London Luton Airport on the UK as a whole, and on the surrounding sub-regional and local economies.

The report sets out the results of that analysis, measuring the economic contribution of the airport in terms of jobs created, contribution to GDP and government tax receipts. We present results for the value of this impact in 2013 and forecast it out to 2030 under two scenarios for the future of the airport.[1,2] The report goes on to explore the value that London Luton Airport creates for its passengers by offering them low-cost and local air transport, and by relieving pressure on the air transport system elsewhere in the south east of England.

Measuring the impact of London Luton Airport

To quantify the contribution of London Luton Airport to the UK and local economy, we consider a range of potential impacts in turn, following a standard analytical technique known as an economic impact assessment. This approach considers three channels of economic impact arising from the airport's operations: direct, indirect and induced impacts.

- The direct impact is generated by the immediate activities of the airport itself.
- The indirect impact encapsulates the economic activity supported in the airport's UK supply chain as a result of its procurement of goods and services.
- The induced impact comprises the benefits arising as the workforce (including that in the supply chain) spends its wages generating further rounds of economic activity.

The impact through each channel is quantified using three metrics: Gross Value Added (GVA) contribution to GDP; employment, in terms of jobs sustained; and the exchequer impact, in terms of additional tax receipts accruing to the Treasury or local authorities.

Quantifying the wider 'catalytic' economic benefits that the airport offers to those who use its services involves other metrics. The benefits that proximity and low-cost air travel offer for millions of Luton passengers are quantified in terms of the equivalent cash value to those passengers each year.

[1] This report updates a previous exercise relating to 2011, undertaken by Halcrow. However, methodological differences mean the two reports are not directly comparable.

[2] We use the term 'London Luton Airport' to refer to all activities and businesses which are inherent to the operation of the airport, and including both direct onsite employment and direct offsite employment within firms located in close proximity to the airport whose activities form an integral part of the activities of the airport.

London Luton Airport's impact in 2013

In 2013, the economic activity created by London Luton Airport contributed some £1.3 billion to UK GDP.[3] For every pound London Luton Airport contributes to GDP itself, it creates another £2 elsewhere in the UK economy. In 2013 this impact comprised:

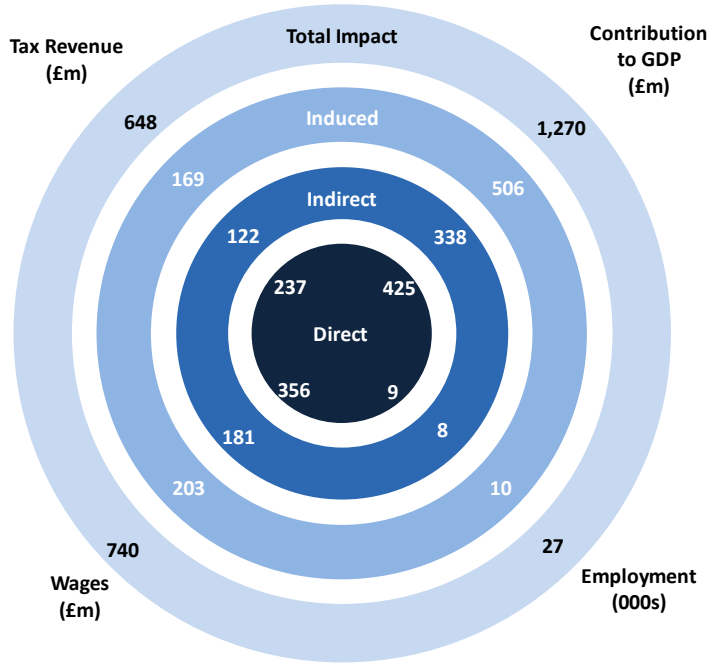
- £425 million in direct impact (which is equivalent to 10 per cent of the local Luton Borough economy);
- £338 million in indirect impact within the supply chain of the airport; and
- £506 million in induced impact as employees of the airport and its supply chain spent their wages.

The airport is estimated to have sustained 27,000 jobs in 2013, comprising:

- 9,400 direct jobs (10 per cent of all employment in Luton Borough);
- 7,700 indirect jobs within the supply chain of the airport;
- 10,000 induced jobs as employees of the airport and its supply chain spent their wages.

For every direct job the airport supports, another 1.9 are supported elsewhere in the UK economy. By sustaining this level of employment, London Luton Airport contributed £740 million in gross wages in 2013, and also produced tax receipts of £648 million for the Treasury, primarily in the form of employee and employer taxes, air passenger duty and corporation tax.

Total UK economic impact of London Luton Airport, 2013

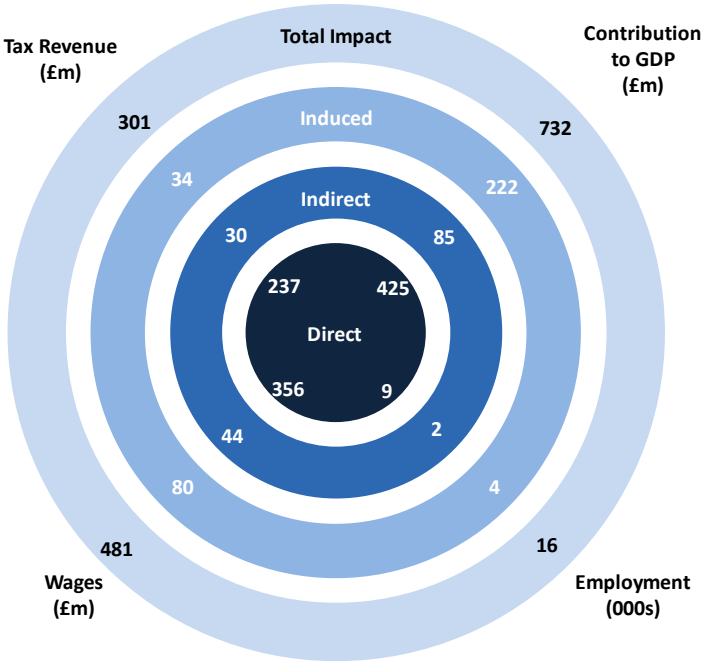


[3] Hereafter referred to as 'contribution to GDP'. Prices are constant 2013 throughout the document unless otherwise stated.

The sub-regional and local economic impact of London Luton Airport in 2013

London Luton Airport plays a pivotal role in economy of the local area and surrounding sub-regions. Within the Three Counties area, which includes Bedfordshire, Buckinghamshire and Hertfordshire, the airport supported a £732 million contribution to GDP and sustained 16,000 jobs in 2013. As would be expected, the greatest impact was felt in the immediate vicinity of the airport. The largest sub-regional impact therefore occurs within Bedfordshire, where the airport delivered a GDP contribution of £600 million. This reflects the direct economic impact of having the airport located within its boundaries, the corresponding strength of the airport's supply chain linkages within the local area, and the fact that 50 per cent of the direct workforce (and therefore much of the associated consumer spending) resides in Bedfordshire. Within the Borough of Luton alone, the airport supported a £533 million contribution to GDP and sustained almost 12,000 jobs.

Total economic impact of London Luton Airport within the Three Counties sub-region, 2013



The future economic impact of London Luton Airport under alternative scenarios

With substantial changes to the capacity of London Luton Airport planned, we are able to forecast how its economic impact is likely to evolve in the years to 2030. Our baseline scenario assumes no significant infrastructure development. Yet the airport's total GDP contribution, including multiplier impacts, is forecast to grow to £1.7 billion[4] by 2030. Productivity growth, however, means that the total number of jobs supported by London Luton Airport (including multiplier impacts) is likely to be 500 lower in 2030 than in 2013 under this scenario.

Under our development scenario - in which a range of infrastructure developments, including improvements to roads, parking and terminal enhancements, are implemented – the economic impact of Luton would be substantially higher.

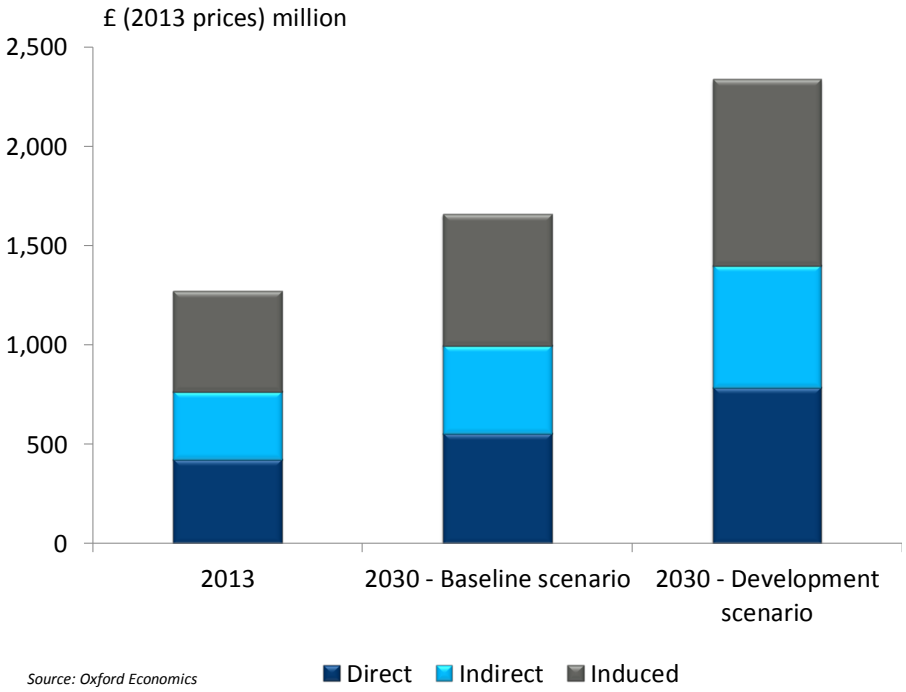
In the development scenario, we assume that infrastructure enhancement results in passenger numbers increasing from around 9.7 million in 2013 to 18 million in 2020, at which point the airport will have reached its new level of capacity. Under this scenario, the total GDP contribution of the airport would reach £2.3 billion in 2030, 41 per cent higher than under the baseline option. The airport and its associated activities would support 37,700 jobs in total.

Key indicators under the baseline and development scenarios, 2013 and 2030

		2013	2030 – Baseline scenario	2030 – Development scenario
Passengers		9.7m	12.6m	18.0m
GDP	Direct	£425m	£554m	£781m
	Total	£1.3bn	£1.7bn	£2.3bn
Employment	Direct	9,400	9,300	13,100
	Total	27,200	26,700	37,700
Wages	Direct	£356m	Not calculated for future years	
	Total	£740m		
Tax revenue	Direct	£237m		
	Total	£648m		

[4] In 2013 prices

Forecast total GDP contribution of London Luton Airport to the UK economy, 2013 to 2030



Source: Oxford Economics

Within the Three Countries sub-region, the total GDP contribution of London Luton Airport is estimated to reach £1 billion in 2030 under the baseline scenario. This increases to £1.4 billion under the development scenario. Under the baseline scenario the total number of jobs supported by London Luton Airport in the Three Counties sub-regional economy in 2030 increases from 15,900 in 2013 to 16,000 in 2030. Under the development scenario employment increases to 22,600.

Under the development scenario, London Luton Airport may need over 1,100 additional workers in the three highest-skilled occupational groups, which include roles such as aeronautical engineers, aircraft pilots and flight engineers. At the same time, over 2,500 additional workers will be needed for lower-skilled roles such as customer advisors, baggage handlers and storage workers.

We analyse the extent to which the airport's future demand for labour could be met by workers from Luton Borough. Our analysis suggests that while there is likely to be sufficient labour within Luton Borough to fill lower-skilled jobs, the airport will need to look further afield to recruit the people needed to fill the more specialised high-skill roles.

London Luton Airport's value to passengers

Ultimately London Luton Airport exists to serve its passengers, of whom there were 10.5 million in 2014 alone. For around 43 per cent, or 4.5 million, of these passengers Luton was the closest airport to their origin or destination in the UK. For these passengers, flying from an alternative airport would add between 20 and 68 minutes in travel time, and further associated travel costs, for each leg of their journey. Luton also offers among the cheapest available fares for the destinations it serves, with 75 percent of comparable fares cheaper than average among the seven major airports considered.

Taking account of the value of passengers' time, the surface transport costs they face, and the competitive fares offered by airlines at Luton, we estimate that the airport provided additional value for passengers of approximately £120 million in 2014 alone – an average of just over £37 per return trip.

As a result of the extra value offered by Luton more people were encouraged to take a trip than otherwise would have done. We estimate that last year over 900,000 Luton passengers took a flight who would not have flown at all had Luton not existed.

London area airport capacity

London Luton Airport will play an increasingly important role in providing much-needed capacity to the London airports system over the next 10 to 15 years, particularly if expansion plans are implemented.

In 2011 Luton accounted for 7 per cent of passengers at London airports. But based on official DfT forecasts it is expected to contribute 17 per cent of London passenger growth between 2011 and 2030. This demonstrates the degree to which the airport is set to become an even more crucial part of the air transport network of the UK.

1 Introduction

1.1 Purpose of the study

This report has been prepared for London Luton Airport Operations Limited (LLAOL) and London Luton Airport Limited (LLAL). It provides a detailed assessment of the current economic impact of London Luton Airport to its local area, surrounding sub-regions and the national economy. This impact has been estimated for 2013 and forecast for the period to 2030 under two scenarios. We also estimate the consumer value that London Luton Airport creates for its passengers by offering them cheap and local air transport, and by relieving pressure on the air transport system elsewhere in the south east of England.

This report provides a detailed assessment of the economic impact of London Luton Airport

1.2 Introducing economic impact analysis

The economic impact of London Luton Airport is measured using a standard means of analysis called an economic impact assessment. The three 'core' channels of impact that comprise the airport's 'economic footprint' are:

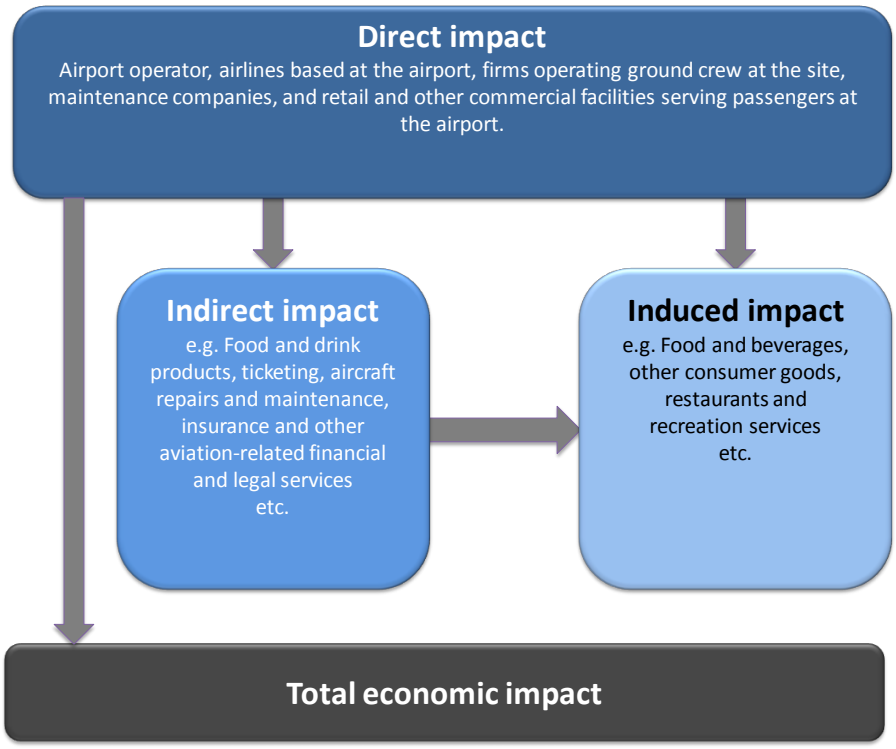
- **direct impact**, which relates to the economic activity generated by the airport itself;
- **indirect impact**, which encapsulates the activity and employment supported in London Luton Airport's UK supply chain as a result of its procurement of goods and services. Economic activity in this category could include, for example, food and drink products, ticketing, aircraft repairs and maintenance, insurance and other aviation-related financial and legal services; and
- **induced impact**, comprising economic benefits that arise when London Luton Airport employees and those in its supply chain spend their earnings, for example in retail establishments.

Using these pathways, a picture of London Luton Airport's economic footprint is presented using four metrics:

- **employment**, as the number of people employed, measured on a headcount basis;
- **GDP**, or more specifically, London Luton Airport's *gross value added (GVA) contribution to GDP*;
- **gross wages** paid to workers; and
- **tax revenue** flowing to the UK government.

Adding together the direct, indirect and induced impacts across the metrics above provides an estimate of the total economic impact of London Luton Airport, as shown in Figure 1.1, below.

Figure 1.1: Channels of economic impact



The main principles of the economic impact methodology are outlined in the respective sections of this report, and there is a full technical description at Appendix A.

In addition to the three core economic impacts identified above, the study considers wider **catalytic impacts** – benefits that accrue to passengers who use the airport's services. This part of the assessment focuses on the cash-equivalent value of the airport's location and low costs to passengers, and goes on to examine Luton's role in providing much-needed capacity to support passenger growth in the London airport system over the coming 10 to 15 years.

1.3 Geographical coverage

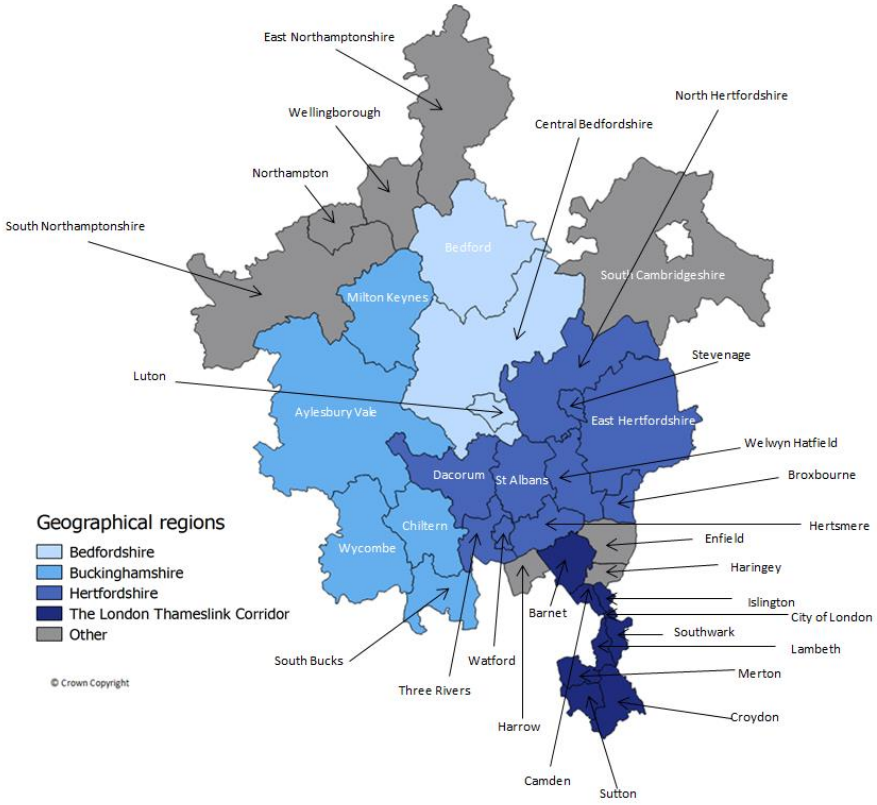
The study assesses the economic impact of London Luton Airport on the economy of the UK as a whole; in the nearby sub-regions that have strong linkages to the airport in terms of workers, supply chains and passengers; and in Luton and surrounding local authority areas (primarily those that fall within the sub-regions identified).

Based on consultation with LLAL and LLAOL, the following sub-regions have been identified for analysis:

- Bedfordshire (comprising Bedford, Central Bedfordshire and Luton)
- Buckinghamshire (comprising Aylesbury Vale, Chiltern, Milton Keynes, South Buckinghamshire and Wycombe)
- Hertfordshire (comprising Broxbourne, Dacorum, East Hertfordshire, Hertsmere, North Hertfordshire, St Albans, Stevenage, Three Rivers, Watford and Welwyn Hatfield)
- The 'Three Counties' area (Bedfordshire, Buckinghamshire and Hertfordshire combined)
- The London Thameslink Corridor, which comprises London boroughs with a direct rail route to London Luton Airport Parkway (Barnet, Camden, Islington, City of London, Southwark, Lambeth, Merton, Sutton, and Croydon).

The study also considers the individual local authority areas that fall within the sub-regions above, plus a small number of other nearby local authorities within which economic impacts were expected to accrue. The latter were, once again, identified through discussion with LLAL and LLAOL.

Figure 1.2: Geographical coverage of the study



1.4 Defining London Luton Airport

Within this study the term 'London Luton Airport' is used to refer to all activities and businesses which are inherent to the operation of the airport, and which are therefore included within the direct impact of the airport. Following the approach taken in the 2012 study by Halcrow,[5] the direct impact of the airport includes both *direct onsite* employment, which is located within the airport boundary, and *direct offsite* employment within firms located in close proximity to the airport whose activities form an integral part of the activities of the airport.

Activities included within the definition of London Luton Airport include the airport operator, airlines based at the airport, firms operating ground crew at the site, maintenance companies, and retail and other commercial facilities serving passengers at the airport.

1.5 Report Structure

The remainder of this report is structured as follows:

- **Chapter 2** presents a detailed analysis of the direct contribution of London Luton Airport;
- **Chapter 3** examines the indirect and induced contributions of London Luton Airport, and adds these to the direct impact to estimate the total economic impact of the airport on the national, sub-regional and local economies;
- **Chapter 4** assesses the potential future economic impact of London Luton Airport under two alternative scenarios; and
- **Chapter 5** considers the catalytic impacts generated by London Luton Airport.

The technical appendices at the end of the report provide a detailed explanation of the methodologies used in the various parts of the analysis, and tables of detailed findings to supplement the results presented throughout the report.

[5] http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

2 The direct impact of London Luton Airport

Key points

- It is estimated that London Luton Airport directly employed 9,400 people in 2013, which is 10 per cent of all employment in Luton Borough.
- It is estimated that 29 per cent of London Luton Airport employees live in the borough of Luton. A further 31 per cent live in the nearby local authority areas of Central Bedfordshire, North Hertfordshire, Bedford and St Albans. In total, 77 per cent of employees live within the Three Counties area, which comprises Bedfordshire, Buckinghamshire and Hertfordshire.
- The direct GDP contribution of London Luton Airport in 2013 was £425 million. This is equivalent to 10 per cent of the local economy.
- London Luton Airport also directly supported £356 million in gross wages for its workers and generated £237 million in tax revenues for the UK Exchequer.

2.1 Approach to estimating direct impacts

To estimate London Luton Airport's direct impact it is necessary to collect data that correspond as closely as possible to the definition of the airport and its associated businesses outlined in Section 1.4. To do this, the study draws on information provided by LLAL and LLAOL, businesses operating at the airport, and the 2012 employment and economic assessment of London Luton Airport by Halcrow.[6] Where data are not available from these sources results have been estimated using official government statistics and Oxford Economics' UK macroeconomic, regional and input-output models.

We are grateful for the contributions of the following businesses that provided data to inform the analysis:

- The Restaurant Group plc
- Lagardère Services Travel Retail UK & Ireland
- Easyjet
- SSP
- Landmark Aviation.

[6] http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

2.2 Direct contribution to employment

It is estimated that London Luton Airport directly employed 9,400 people in 2013

The most detailed previous work to estimate the direct impact of London Luton Airport was undertaken for the 2012 Halcrow study. This presented a central employment estimate for 2011 based on data from the Business Register and Employment Survey and Experian.[7] More recent estimates of employment at London Luton Airport are presented in the 2013 London Luton Airport Annual Monitoring Report.[8]

Following discussion with stakeholders it was decided to estimate employment in 2013 by growing forward the Halcrow estimate using the growth rates reported in the Annual Monitoring Report. This approach ensures that the direct employment estimate presented in this study is broadly comparable with the Halcrow study, but also incorporates the latest evidence on how employment at the airport has changed since 2011.

On this basis, it is estimated that London Luton Airport directly employed 9,400 people in 2013, which is an increase of 337 from the figure reported in the Halcrow study. This equivalent to ten per cent of all employment in Luton Borough.[9]

Box 2.1: Comparing the direct employment contribution to the 2013 Annual Monitoring Report

The 2013 London Luton Airport Annual Monitoring Report (AMR) suggests that direct employment at the airport was 8,400 in 2013, 1,000 less than the estimate produced for this study.

While this study has taken growth rates from the 2013 AMR, the estimated *level* of employment was obtained by growing forward the employment estimate from the Halcrow report. That study estimated that there were 7,400 full time and 1,700 part time workers in 2011.

The AMR and Halcrow estimates are based on different ONS datasets. The AMR figure is primarily based on the Inter Departmental Business Register, while the Halcrow study is based on the Business Register and Employment Survey. There is further discussion of the alternative approaches to estimating direct employment in Chapter 6 of the Halcrow report, available at: http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

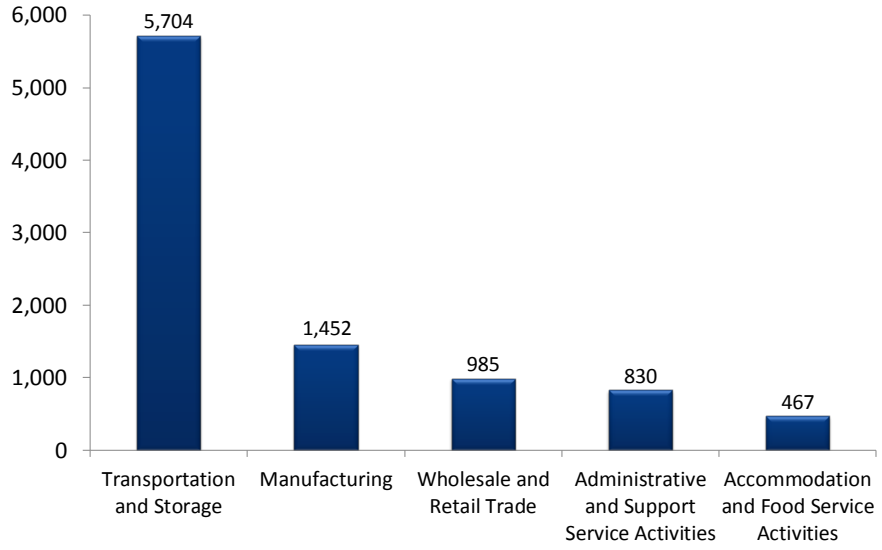
[7] Further details of the methodology used to develop the employment estimate are presented in Chapter 6 of the Halcrow report: http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

[8] http://www.london-luton.co.uk/en/content/8/243/annual-monitoring-report.html

[9] Based on Oxford Economics' regional model ,total employment in Luton Borough in 2013 was 94,000

Figure 2.1, below, shows the breakdown of London Luton Airport workers by sector. This suggests that 60 per cent of workers are employed in the transportation and storage sector; 15 per cent are involved in manufacturing; 10 per cent are employed in the retail trade and 9 per cent in administrative and supportive roles. The remaining 5 per cent work in accommodation and food service activities.[10]

Figure 2.1: London Luton Airport direct employment by broad sector, 2013



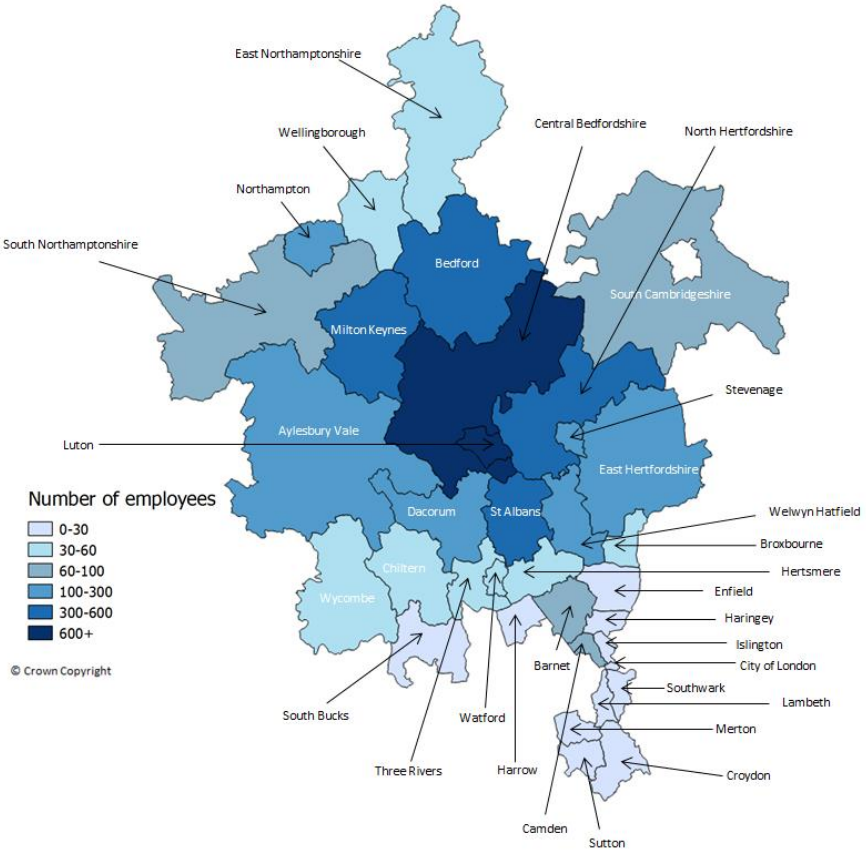
Source: Oxford Economics

To assess commuting patterns amongst those working at London Luton Airport, information on employees' post code of residence was obtained from LLAOL and a sample of airport employers. Using these data, which cover approximately 29 per cent of London Luton Airport employees, it is possible to estimate the number of employees that live in Luton and each of the surrounding local authorities.

[10] The sectoral split for employment was derived from the London Luton Airport employment sector breakdown presented in the Halcrow report. It was assumed that all sectors grew at the same rate between 2011 and 2013.

It is estimated that 29 per cent of London Luton Airport employees live in the borough of Luton (Figure 2.2). A further 31 per cent live in the nearby local authority areas of Central Bedfordshire, North Hertfordshire, Bedford and St Albans. In total, 77 per cent of employees live within the Three Counties sub-region, which comprises Bedfordshire, Buckinghamshire and Hertfordshire.

Figure 2.2: Estimated place of residence of London Luton Airport employees, 2013

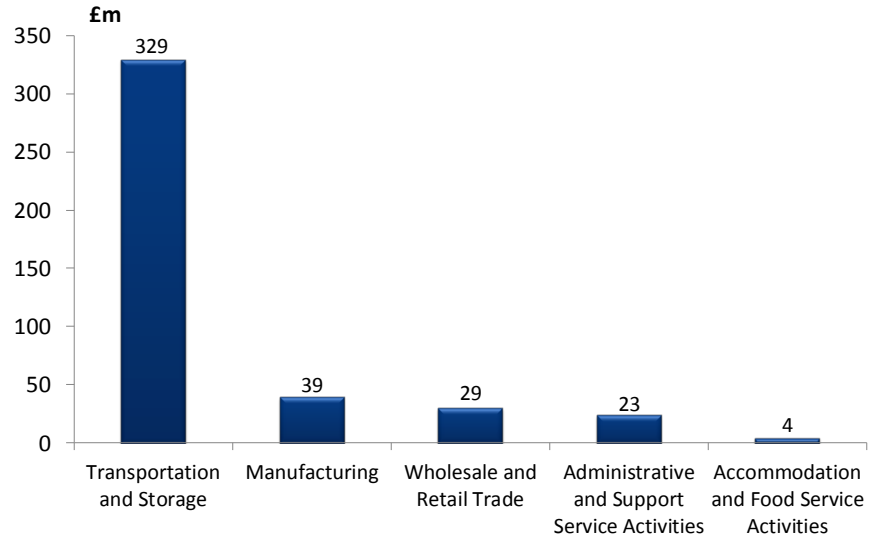


2.3 Direct contribution to GDP

The direct GDP impact of London Luton Airport comprises the total amount of income generated by the airport, either as wages for those employed at the airport, or as profits that accrue to firms at the airport. On this basis it is estimated that the direct GDP contribution of London Luton Airport in 2013 was £425 million. Just over three-quarters of this total came from the transport and storage sector (Figure 2.3). Further details of the methodology used to derive this estimate are set out at Appendix A.

The total direct GDP contribution of London Luton Airport in 2013 was £425 million

Figure 2.3: Direct GDP contribution of London Luton Airport by broad sector, 2013



Source: Oxford Economics

Box 2.2: Comparing the direct GDP contribution to the Halcrow estimates

The direct GDP contribution estimated for this study is not directly comparable to the "direct income injection" estimated in the 2012 Halcrow study. The Oxford Economics approach estimates the total amount of income (GDP) generated by the operation of the airport. In contrast, the Halcrow study focuses on the amount of income that flows from the airport to the local economy. The table below compares the components of the Halcrow and Oxford Economics estimates.

Table 2.1: Comparison between the Halcrow direct income injection and Oxford Economics direct contribution to GDP estimates

Halcrow direct income injection	Oxford Economics direct contribution to GDP
Wages and salaries of workers (excluding tax and NI)	Gross wages and salaries of workers
Direct profits accountable to local economy	All profits generated by firms at the airport are included
Direct business expenditure	Supply chain spending is accounted for within the estimates of indirect GDP impacts
Composite multiplier effect	Multiplier effects are accounted for within the estimates of indirect and induced GDP impacts

2.4 Direct contribution to gross wages

The gross wage bill of London Luton Airport workers was estimated by updating the previous results from the Halcrow study by growing the average wage per worker in line with wage growth from 2011 to 2013 for the Eastern region and then multiplying these wages by the new number of workers in each sector.[11] On this basis it is estimated that those employed at London Luton Airport received £356 million in gross wages in 2013.

It is estimated that the gross wage bill for London Luton Airport in 2013 was £356 million

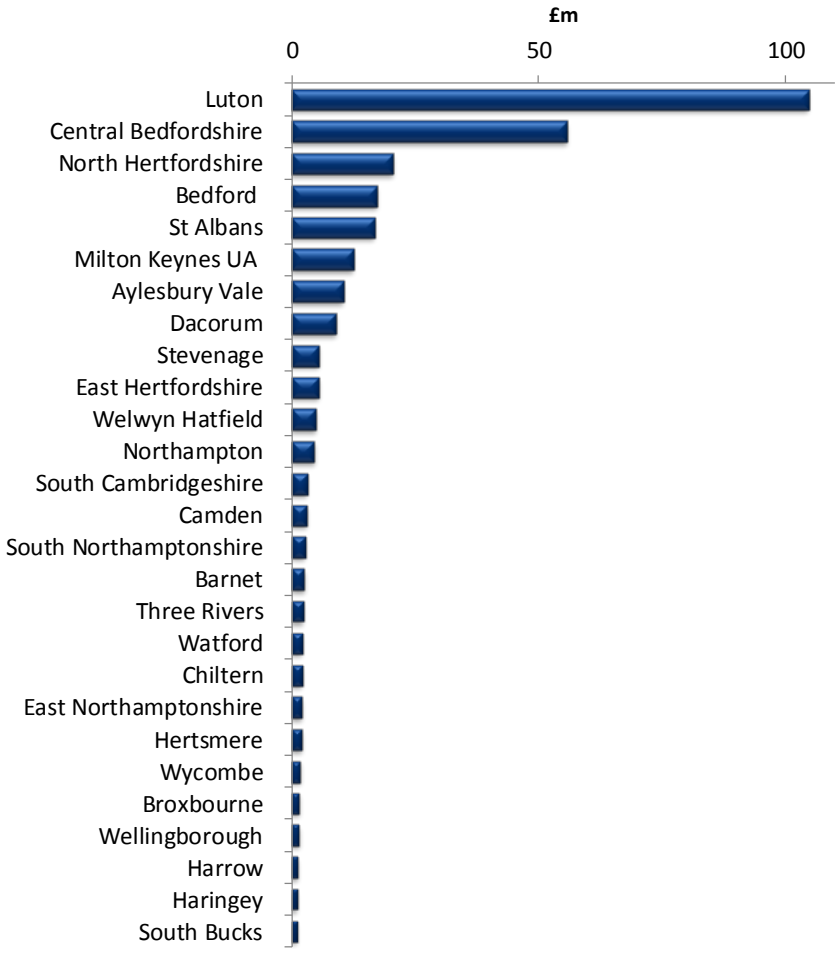
This suggests that the average gross wage at London Luton Airport is £38,000, compared to the national average of £27,000.

To robustly estimate the value of wages that accrue to workers residing in each of the surrounding local authority areas it would be necessary to gather information on average wage levels by district of residence for airport employees. However, information with this level of granularity was not available to the study team, and so it is not possible to assess any tendencies for higher or lower paid workers to live in particular areas.

[11] Wage growth data for the Eastern region was source from the ONS Annual Survey of Hours and Earnings.

Nonetheless, it is possible to obtain a broad indication of the value of wages that accrue to workers living in each local authority area by splitting the total wage bill using estimates for employees' place of residence. On this basis, employees who reside in Luton account for £105 million (or 29 per cent) of the gross wages supported by London Luton Airport. Central Bedfordshire residents account for a further 16 per cent, North Hertfordshire 6 per cent, and Bedford and St Albans account for 5 per cent each (Figure 2.4).

Figure 2.4: Indicative distribution of gross wages by employees' place of residence, 2013



Source: Oxford Economics

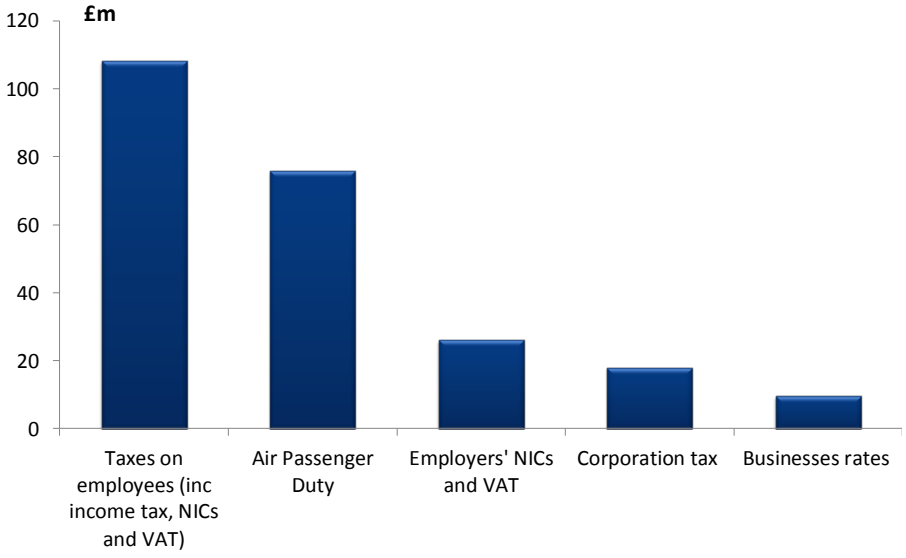
2.5 Direct contribution to tax revenue

London Luton Airport directly generated £237 million in tax revenue in 2013

This sub-section presents estimates of the value of tax revenues generated by businesses at London Luton Airport for the UK government in the form of employee and employer social security contributions; income tax levied on the earnings of the workforce; VAT paid by employees; employers' VAT and corporation tax; business rates; and Air Passenger Duty. Details of the techniques used to estimate the value of these revenues are described in Appendix A.

Overall, it is estimated that London Luton Airport directly generated £237 million in tax revenue in 2013. Taxes on employees account for £108 million, or 46 per cent, of this total. Air Passenger Duty accounts for £76 million, or just under one third.

Figure 2.5: Direct tax contribution of London Luton Airport, 2013



Source: Oxford Economics

3 Multiplier impacts and the total economic impact of London Luton Airport

Key points

UK impacts

- The indirect, or supply chain, contribution to UK GDP of London Luton Airport in 2013 was £338 million. This is estimated to have supported 7,700 jobs.
- The spending of London Luton Airport workers, and those in the airport's direct supply chain, is estimated to have supported a further £506 million contribution to UK GDP and 10,000 jobs.
- Adding these multiplier effects to the direct economic impact estimated in Section 2 suggests that the total UK economic impact of London Luton Airport in 2013 was a £1.3 billion contribution to GDP and 27,000 jobs.
- For every £1 London Luton Airport contributes to GDP itself, it creates another £2 elsewhere in the UK economy. The airport therefore has a GDP multiplier of 3.
- For every direct job the airport creates another 1.9 are created elsewhere in the UK economy. This means the airport's employment multiplier is 2.9.

Sub-regional impacts

- Within the Three Counties area, which includes Bedfordshire, Buckinghamshire and Hertfordshire, London Luton Airport supported a £732 million contribution to GDP and more than 16,000 jobs, including multiplier impacts.

Local impacts

- London Luton Airport supported a £533 million contribution to GDP and 12,000 jobs within the Borough of Luton in 2013, either directly, or through the impact of supply chain spending or the spending of workers. This is equivalent to 12 per cent of the local economy in terms of GDP and 13 per cent in terms of jobs.

3.1 Indirect and induced multiplier impacts

3.1.1 Multiplier impacts on the UK economy

The indirect, or supply chain, impacts of London Luton Airport are estimated using 'input-output' models which map the inputs required by firms at the airport to produce a unit of output. To illustrate this concept consider the following simple example: to provide aviation services that sell for £5 million, an aviation firm may need to purchase fuel for £1 million, airport services for £1 million and

The supply chain multiplier impact of London Luton Airport in 2013 is estimated to have been £338 million. This is estimated to have supported 7,700 jobs

professional and technical services for £0.5 million. In this example the aviation firm has generated a £2.5 million gross value added contribution to GDP (the value of its output less the cost of inputs), and £2.5 million in turnover for other firms in the supply chain. Input-output tables then enable us to estimate the size of the GDP contribution associated with the £2.5 million of supply chain expenditure.

Based on this approach, it is estimated that the indirect GDP contribution of London Luton Airport in 2013 was £338 million.

Induced impacts result from the spending of workers employed at London Luton Airport and in the airport's direct supply chain. Such impacts are mainly felt in sectors serving households such as hotels, restaurants and shops. The induced impact is again estimated using the input-output model, which provides ratios to estimate the value of wages generated by a given level of economic activity. From there it is possible to estimate consumer expenditure, and the induced contribution to GDP associated with that expenditure. Following this approach, it is estimated that the total induced contribution to UK GDP of London Luton Airport was £506 million in 2013.

The 'induced' impact of wage-financed spending by those working at the airport or in its supply chain was £506 million in 2013

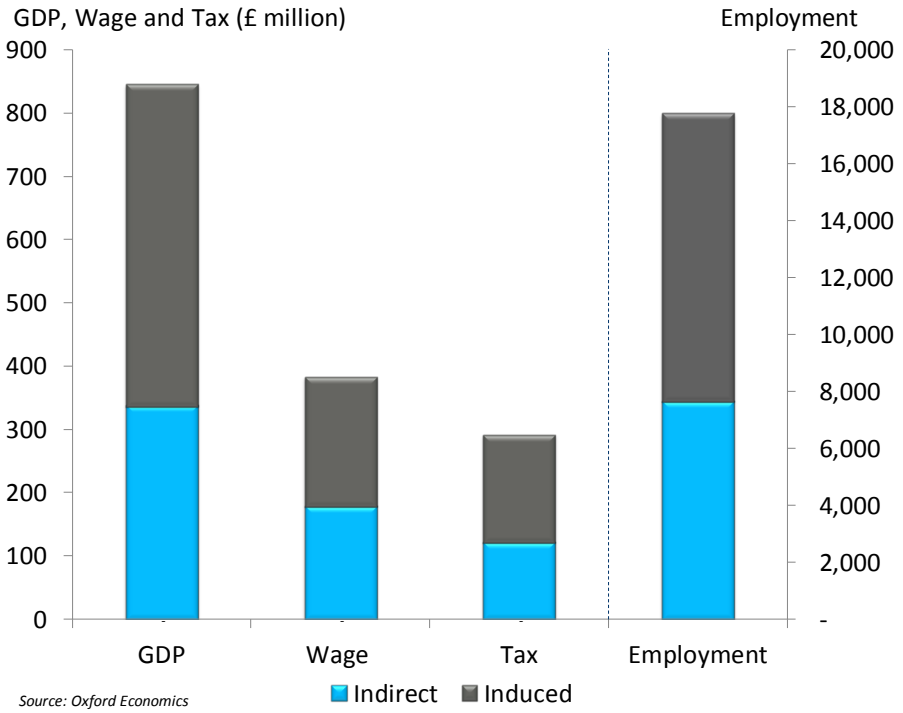
Applying productivity estimates to the indirect and induced GDP impacts enables the estimation of the number of jobs supported in the supply chain and in sectors where direct and indirect employees spend their wages. This suggests that London Luton Airport indirectly supported 7,700 jobs in 2013, while the spending of London Luton Airport workers and those in the supply chain supported a further 10,000 jobs.

These indirect and induced impacts are estimated to have supported gross wage payments of £181 million and £203 million, respectively, across the UK.

Finally, the indirect and induced activities generate further rounds of tax revenue for the UK government**.** The indirect and induced analysis has estimated revenues generated in the form of employee and employer social security contributions, income tax, employee VAT, and corporation tax. In 2013, the tax contributions from the indirect and induced impacts of London Luton Airport were £122 million and £169 million, respectively.

The indirect and induced impacts of London Luton Airport are summarised in Figure 3.1, below.

Figure 3.1: Indirect and induced impacts of London Luton Airport, 2013



Source: Oxford Economics

Box 3.1: Comparing the Oxford Economic approach to multiplier impacts to that used in the 2012 Halcrow study

The 2012 Halcrow study estimated the multiplier impacts of London Luton Airport using a single value of 1.33, taken from Department for Business Innovation and Skills (Oct 2009) *'Occasional Paper No 1 – Research to improve the assessment of additionality'*. That figure is primarily intended for use in the assessment physical infrastructure regeneration projects.

In contrast, the input-output modelling approach applied by Oxford Economics enables economic linkages to be traced between specific sectors of the economy and provides an analysis of multiplier effects that is tailored to reflect the specific circumstances of London Luton Airport and its supply chain. This approach also makes it possible to make a richer set of inferences about how multiplier impacts from the airport affect surrounding areas and sub-regions.

The Oxford Economics approach is based on the very latest 2010 ONS input-output tables, published in February 2014 (see Appendix A for more details).

3.1.2 Approach to estimating sub-regional and local multiplier impacts

The analysis above presented the indirect and induced impacts at the UK level. An important element of this study, though, is to consider the geographical distribution of these multiplier effects to understand how London Luton Airport affects levels of economic activity in surrounding sub-regions and local areas.

Information on the geographical distribution of supply chain expenditure has been gathered from major firms based at London Luton Airport. In total, this information covers around eight per cent of London Luton Airport's estimated supply chain purchases and for this portion of spending it is possible to develop a very accurate picture of the distribution of supply chain impacts. Oxford Economics has estimated the remaining 92 per cent of supply chain spending using inter-regional input-output models developed by Oxford Economics based on established academic techniques.[12] Further details of this approach are set out at Appendix A.

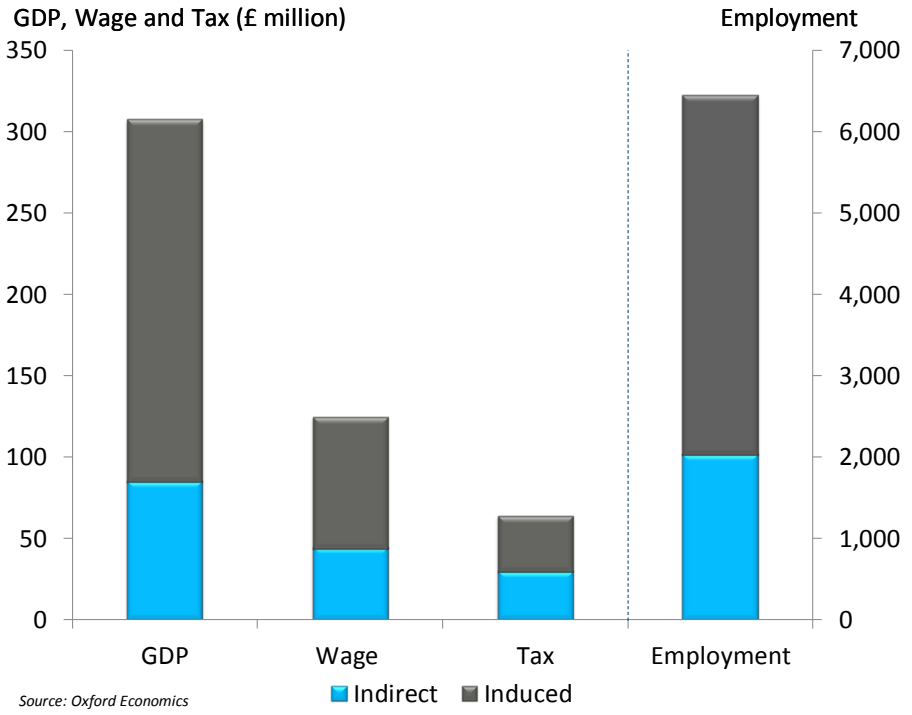
In the case of induced effects, no 'real' data are available to identify where London Luton Airport workers actually spend their wages. Nonetheless, it seems reasonable to assume that most spending is likely to take place close to workers' place of residence, and will therefore support GDP and employment in those areas. This is the starting point for our analysis of induced impacts, but in cases where this results in an unrealistically large injection to the local economy (given the economic structure and average spending per head in that local area), induced impacts are assumed to spill over into neighbouring areas. Again, further details of the methodology are presented in Appendix A.

[12] Flegg A. T. and Webber C. D. (1997) On the appropriate use of location quotients in generating regional input-output tables: reply, Reg. Studies 31, 795−805.

3.1.3 Sub-regional multiplier impacts

Across the Three Counties (which comprises Bedfordshire, Buckinghamshire and Hertfordshire) we estimate that the supply chain and induced wage spending impacts of London Luton Airport support a £308 million contribution to GDP and almost 6,000 jobs. Gross wage payments to workers supported by this indirect and induced activity are estimated to total £125 million, and £64 million of tax is generated for the UK Exchequer (Figure 3.2).

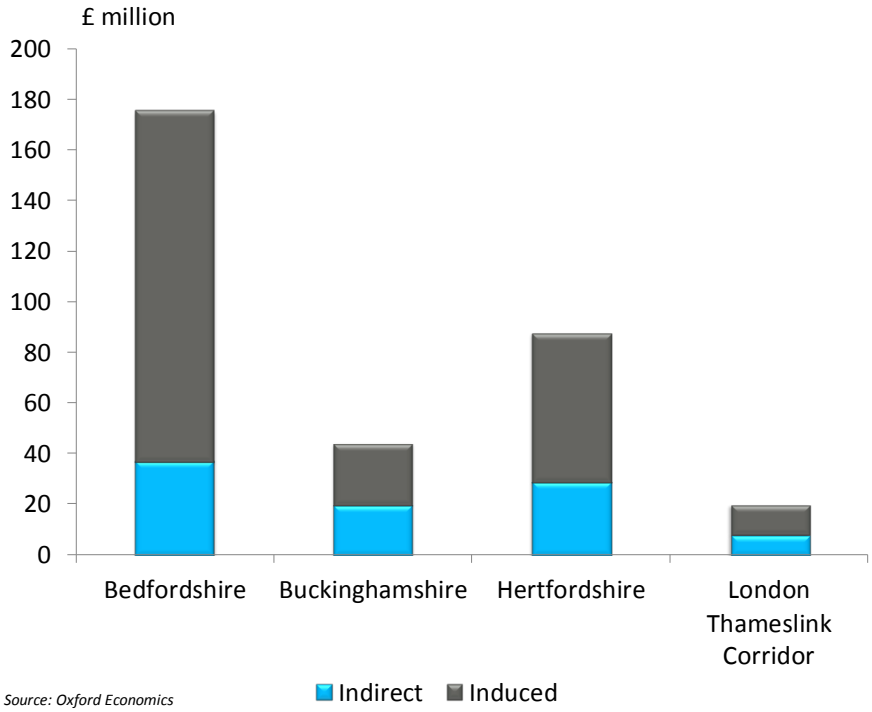
Figure 3.2: Indirect and induced impacts of London Luton Airport in the Three Counties sub-region



It is also possible to view these results for the individual counties within the Three Counties area, and for the London Thameslink Corridor (Figure 3.3, below). This reveals that the largest multiplier impacts occur within Bedfordshire, where the airport supports an indirect GDP contribution of £37 million and an induced GDP contribution of £138 million. The concentration of multiplier impacts within Bedfordshire reflects the strength of the airport's supply chain linkages with the immediately surrounding area, and the fact that 50 per cent of direct workers (and therefore much of their spending) reside in Bedfordshire.

In contrast, relatively fewer workers live in the boroughs of the London Thameslink corridor and so the induced GDP impact of London Luton Airport is smaller in that sub-region. When supply-chain impacts are also taken into account, it is estimated that London Luton Airport supports a £20 million contribution to GDP in the Thameslink Corridor.

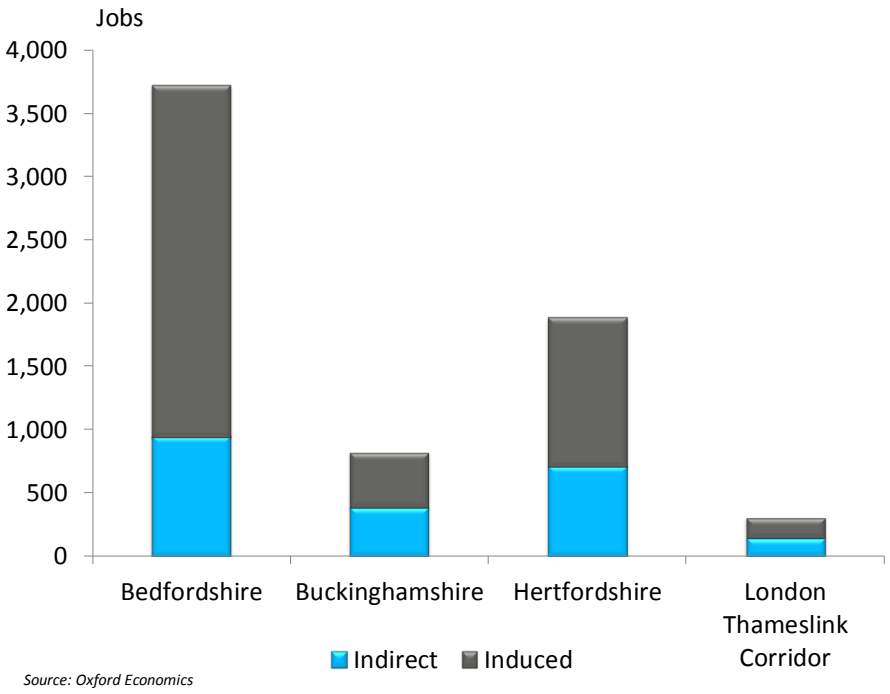
Figure 3.3: Indirect and induced GDP impact of London Luton Airport within surrounding counties and the Thameslink Corridor, 2013



Source: Oxford Economics

Using productivity data in conjunction with the GDP estimates above provides an estimate of the number of jobs supported by the multiplier impacts of London Luton Airport. This suggests that the indirect and induced impacts of London Luton Airport support around 3,700 jobs in Bedfordshire, 1,900 in Hertfordshire, 800 in Buckinghamshire, and 300 in the Thameslink Corridor (Figure 3.4).

Figure 3.4: Indirect and induced employment impacts of London Luton Airport within surrounding counties and the Thameslink Corridor, 2013

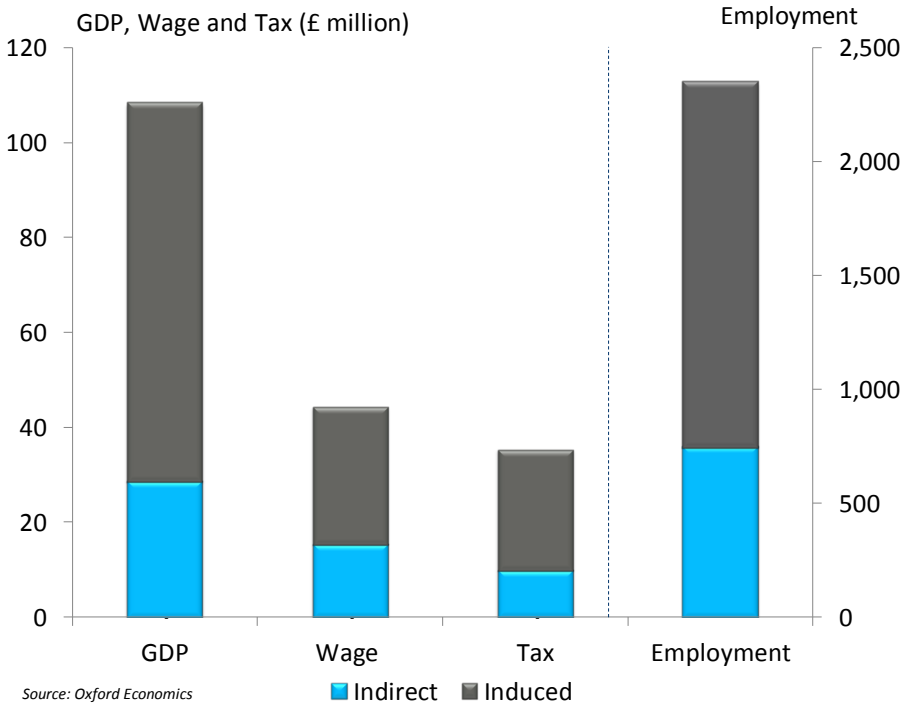


Source: Oxford Economics

3.1.4 Local multiplier impacts

At a local level, and consistent with the findings above for Bedfordshire, the greatest multiplier impacts are estimated to occur in the immediate vicinity of the airport. Our analysis suggests that the indirect and induced impact of London Luton Airport generated an £108 million contribution to the GDP of Luton Borough in 2013. This activity supported £44 million in gross wages, 2,300 jobs, and £35 million in taxes for the UK Exchequer.

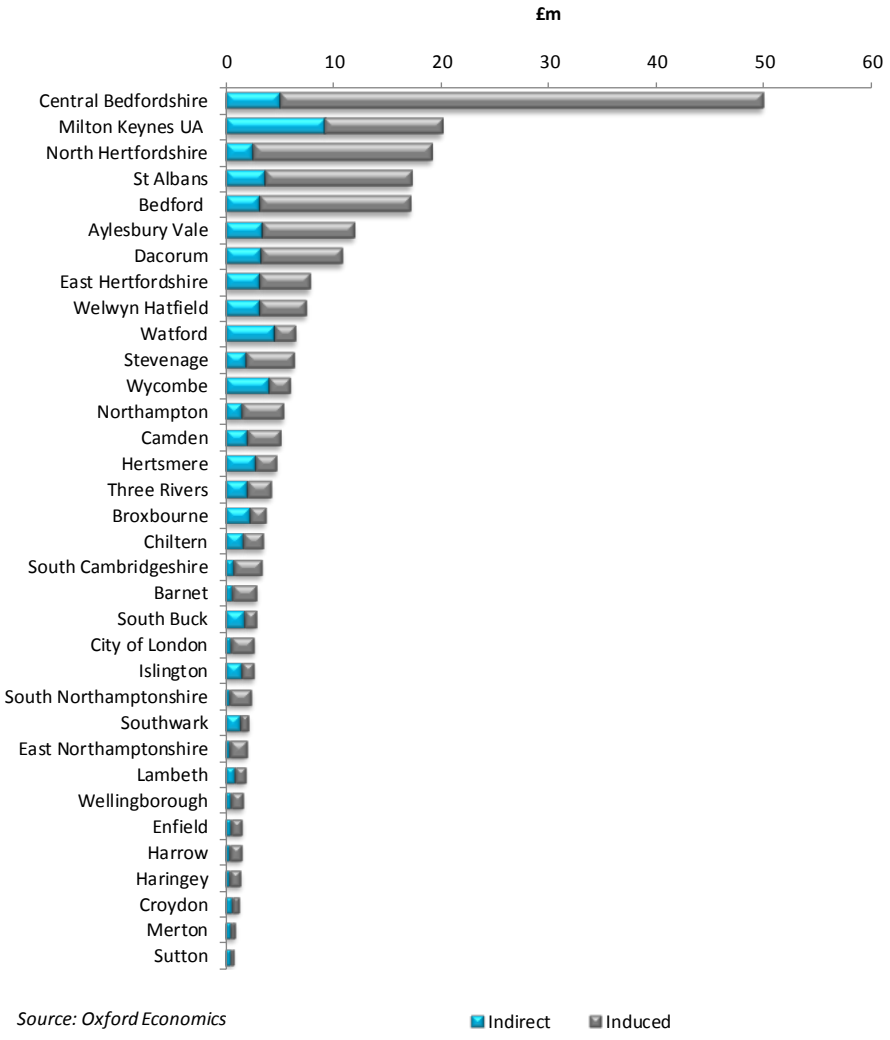
Figure 3.5: Indirect and induced impacts of London Luton Airport in Luton Borough, 2013



Source: Oxford Economics

Figure 3.6, below, extends the analysis to other local authority areas considered in the study. Of particular note is the large induced GDP impact in Central Bedfordshire, where 16 per cent of London Luton Airport workers are estimated to reside.

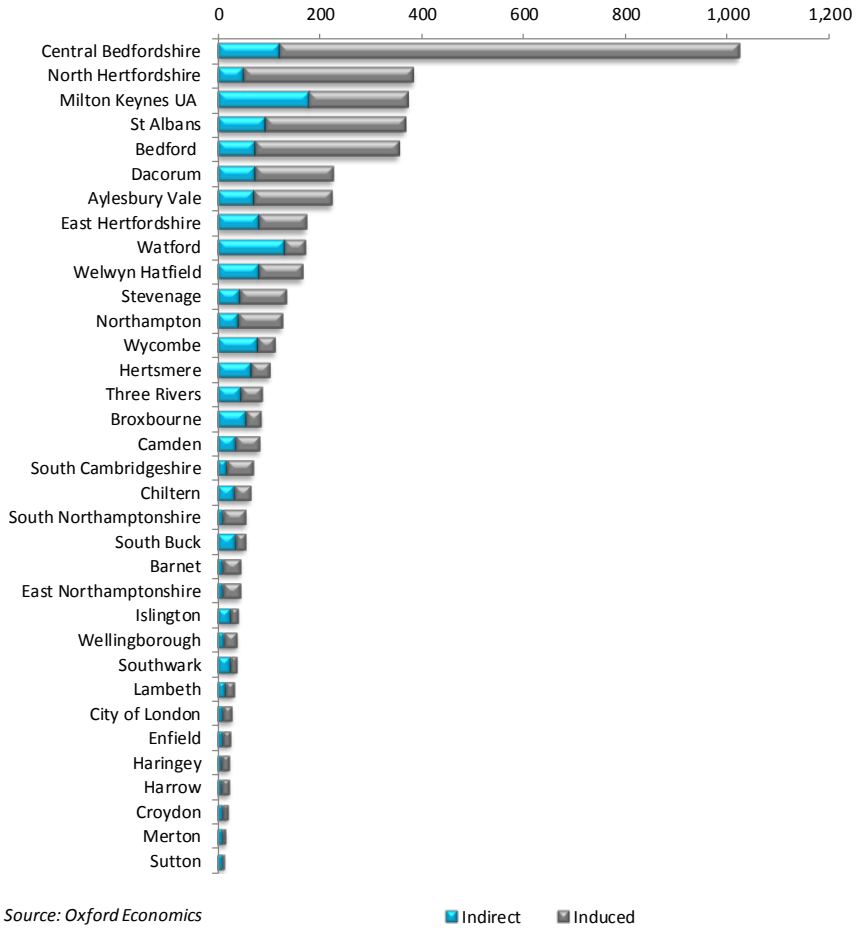
Figure 3.6: Indirect and induced GDP impacts of London Luton Airport by local authority area, 2013



Source: Oxford Economics

As with the sub-regional analysis, productivity data can be used to estimate the number of jobs supported by the airport's multiplier impacts in each local authority area. Once again, the largest impact outside of Luton Borough is estimated to occur in Central Bedfordshire, where just over 1,000 jobs are supported.

Figure 3.7: Indirect and induced employment impact of London Luton Airport by local authority area, 2013



Source: Oxford Economics

3.2 Total economic impact

3.2.5 UK total economic impact

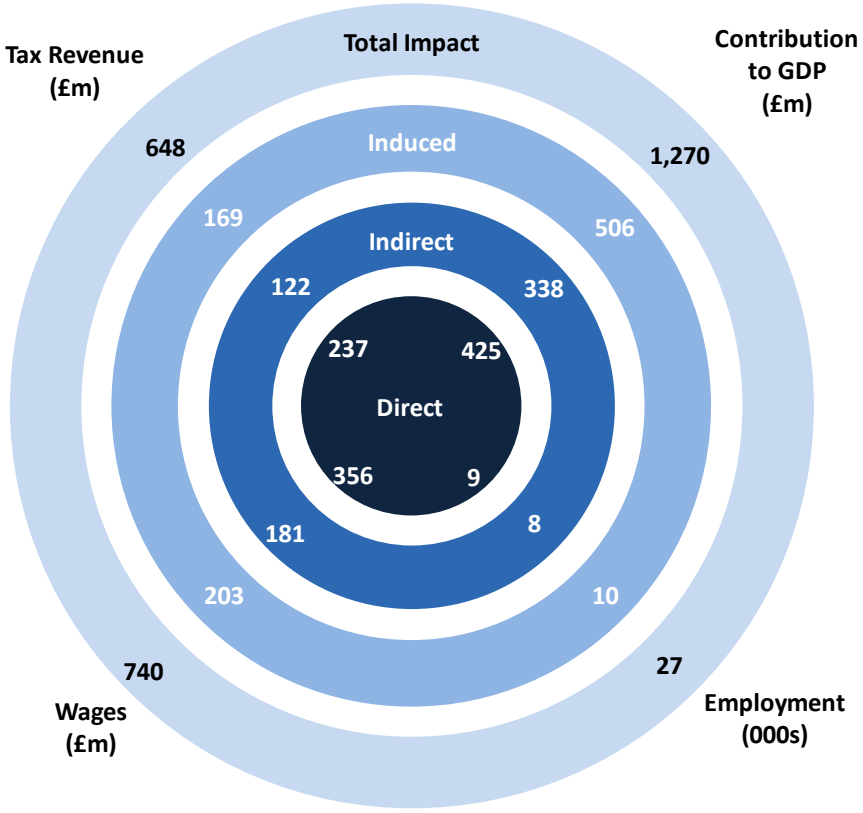
Adding the direct economic impact discussed in Section 2 to the multiplier effects above gives the total economic impact of London Luton Airport. On this basis the airport's total contribution to UK GDP is estimated to have been £1.3 billion in 2013. This means that for every £1 London Luton Airport contributes to GDP itself, it creates another £2 elsewhere in the UK economy. The airport therefore has a GDP multiplier of 3.[13]

The total GDP contribution of London Luton Airport in 2013 is estimated to have been £1.3 billion

London Luton Airport is estimated to have supported a total of over 27,000 jobs in 2013, either directly through the airport's own activities, through its supply-chain, or through the induced expenditure of employees. For every direct job the airport creates another 1.9 are created elsewhere in the UK economy. This means the airport's employment multiplier is 2.9.

London Luton Airport is also estimated to support a total of £740 million in gross wage payments and £648 million tax revenue.

Figure 3.8: Total UK economic impact of London Luton Airport, 2013

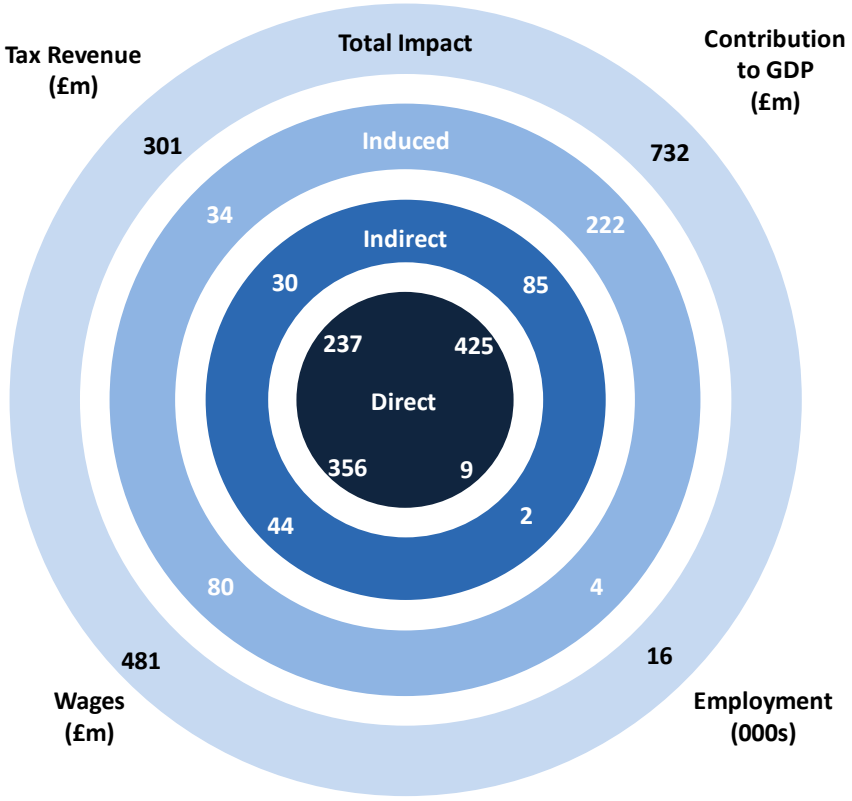


[13] The multiplier is calculated as: (Direct GDP + Indirect GDP + Induced GDP) / Direct GDP

3.2.6 Sub-regional total economic impact

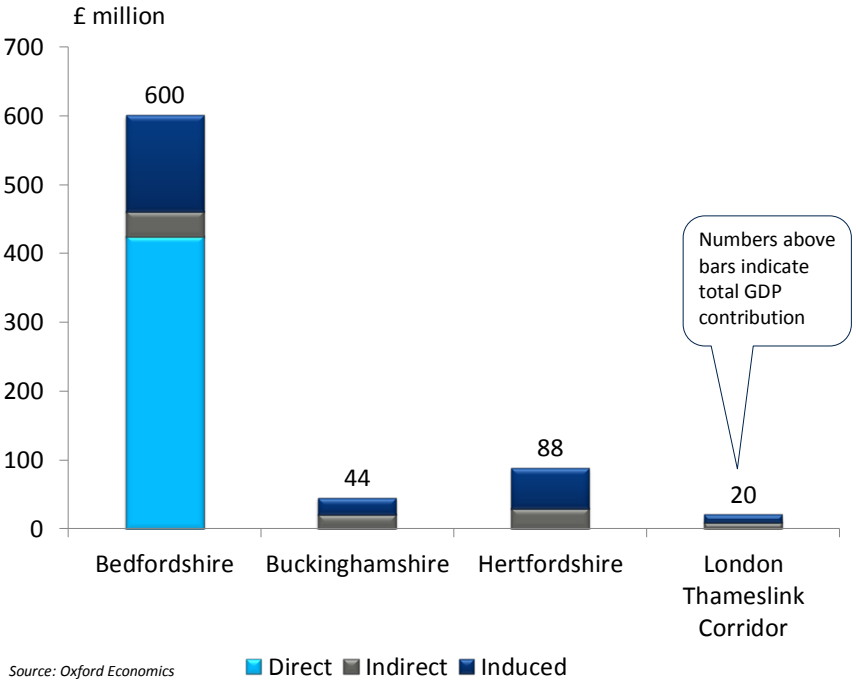
For the Three Counties sub-region the airport's activities supported a total GDP contribution of £732 million, 16,000 jobs, £481 million in gross wages and £301 million in tax revenue (Figure 3.9).

Figure 3.9: Total economic impact of London Luton Airport within the Three Counties sub-region, 2013



Within the Three Counties sub-region, by far the greatest impact of the airport accrues to Bedfordshire. This is because Bedfordshire receives the direct economic impact of having the airport located within its boundaries, as well as large multiplier effects from supply chain linkages between the airport and the immediately surrounding areas. It also benefits from the spending of the large number of airport workers that live and spend money in the county.

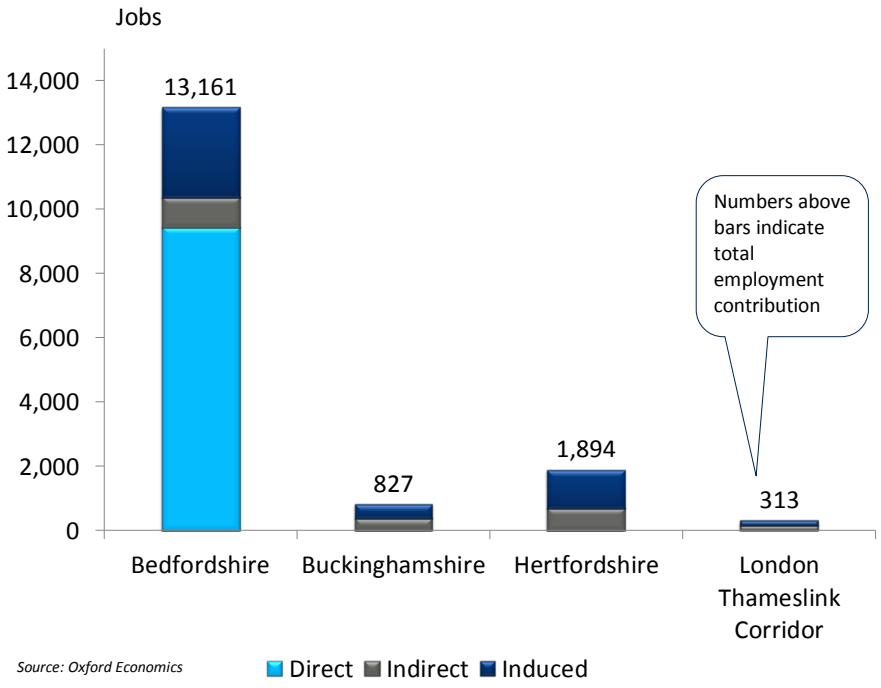
Figure 3.10: Total GDP contribution of London Luton Airport in the surrounding counties and the Thameslink Corridor, 2013



Source: Oxford Economics

Along similar lines, the total employment impact is also concentrated in Bedfordshire, where London Luton Airport supports a total of over 13,000 jobs, including the 9,400 jobs at the airport itself, and a further 3,700 jobs as a result of indirect and induced multiplier effects.

Figure 3.11: Total employment contribution of London Luton Airport in the surrounding counties and the Thameslink Corridor, 2013

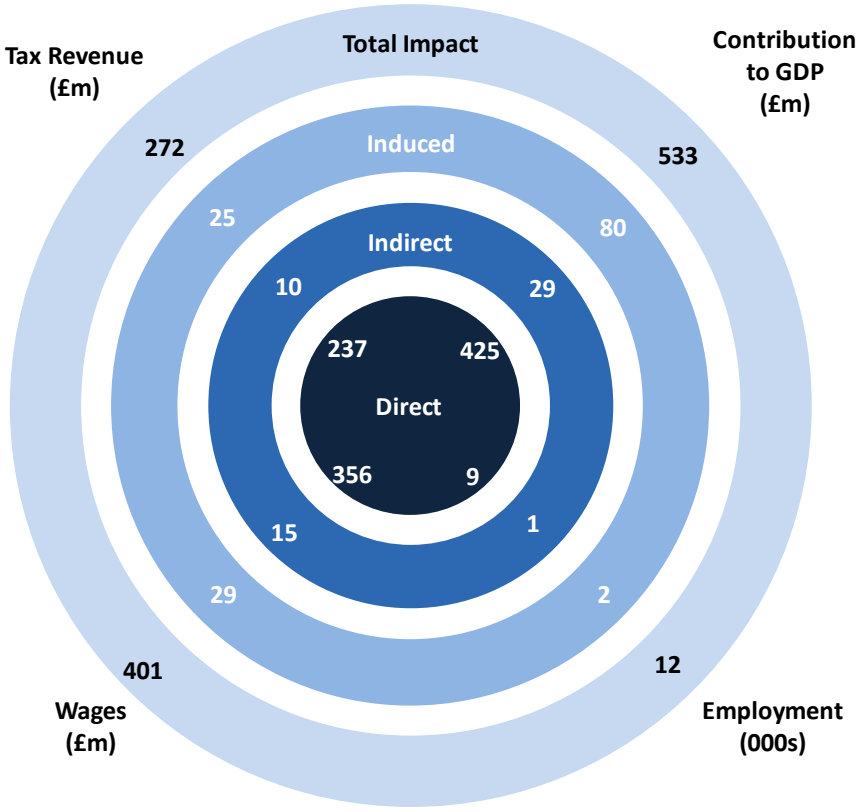


Source: Oxford Economics

3.2.7 The total economic impact of London Luton Airport at the local level

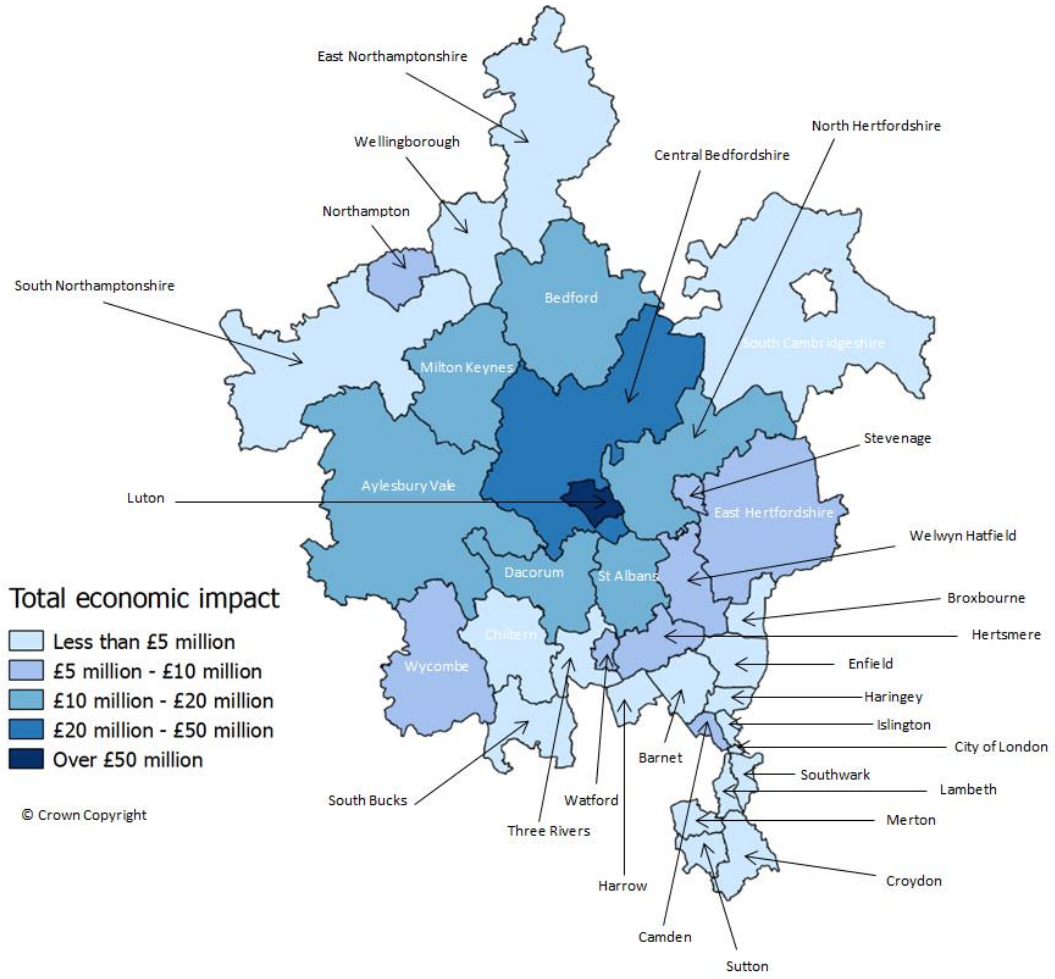
In 2013 the airport's activities supported a £533 million contribution to Luton Borough GDP, 12,000 local jobs, £401 million in gross wages and £272 million in tax revenue for the UK Exchequer.

Figure 3.12: Total economic impact of London Luton Airport in Luton borough, 2013



The total GDP impact of London Luton Airport across all of the local areas considered in the study is shown in Figure 3.13, below.

Figure 3.13: Total GDP impact by local authority area



4 The potential future economic impact of London Luton Airport under alternative scenarios

Key points

Direct impacts

- Under the baseline scenario, which assumes no significant infrastructure development, the airport's direct GDP contribution is projected to increase from £425 million in 2013 to £554 million in 2030. Productivity growth means that London Luton Airport is expected to directly employ 178 fewer workers in 2030 than in 2013 in this scenario.
- The development scenario assumes that development occurs to permit passenger numbers to increase to a maximum of 18 million passengers by 2020. Under this scenario the direct GDP contribution of the airport is projected to reach £781 million in 2030, which is £228 million higher than in the baseline scenario. The airport is projected to directly support the creation of a total of more than 3,600 jobs between 2013 and 2030 under this scenario.

Labour availability

- Across the UK as a whole, those working in job roles closely associated with airports tend to be better paid than workers in other occupations that require similar levels of skills.
- The 3,600 jobs that London Luton Airport is expected to create by 2030 under the development scenario is forecast to include 1,100 posts in the three highest-skilled occupational groups, which include roles such as aeronautical engineers, aircraft pilots and flight engineers. Around 2,500 unskilled posts are expected to be created in roles such as customer advisors, baggage handlers and storage workers.

Total economic impact

- Under the baseline scenario, the total GDP contribution of London Luton Airport, including multiplier effects is projected to be £1.7 billion in 2030, compared to £2.3 billion under the development scenario.
- The total number of jobs supported by London Luton Airport and its multiplier effects in the baseline scenario is projected to decrease from 27,200 in 2013 to 26,700 in 2030 due to productivity growth. However, under the development scenario the total number of jobs supported is expected to grow to 37,700 in 2030.
- Within the Three Countries sub-region, the total GDP contribution of London Luton Airport is estimated to reach £1 billion in 2030 under the baseline scenario, or £1.4 billion under the development scenario. Under the development scenario employment increases to 22,600 in 2030, compared to 16,000 in the baseline scenario.

4.1 Introduction

This section considers the future economic contribution of London Luton Airport under two scenarios reflecting alternative levels of infrastructure development and, therefore, passenger growth. The passenger forecasts associated with each scenario have been provided by LLAOL and are shown in Figure 4.1. The two scenarios are described below.

Baseline scenario

There are no significant infrastructure developments. Passenger numbers continue to grow to 12.6 million passengers per annum (mppa) by 2017, at which point the airport will be operating at full capacity and cannot accommodate any further passenger growth. The airport will maintain 12.6 mmpa until 2030.

Development scenario

This scenario assumes that infrastructure developments outlined in London Luton Airport's 2012 Master Plan are implemented. The key components of the Master Plan proposals include:

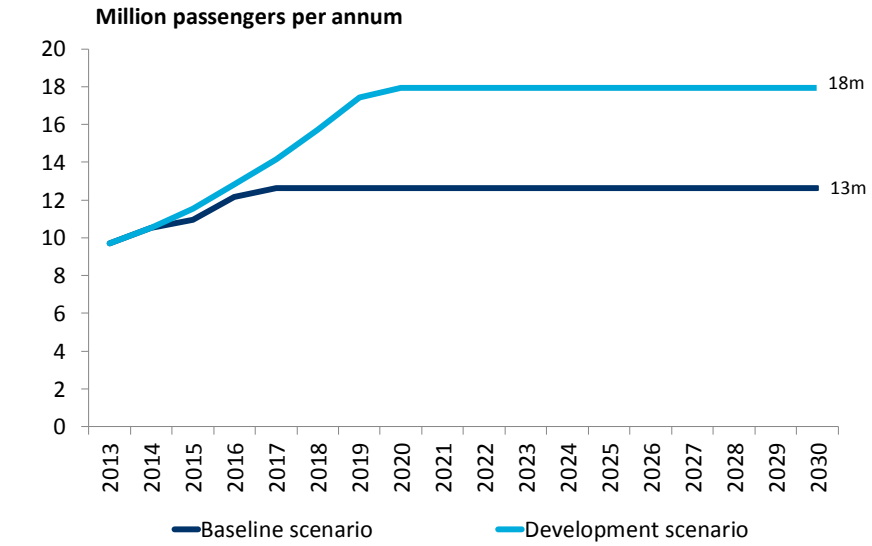
- Dualling of the road from the Holiday Inn roundabout to the Central Terminal Area
- Improvements to the public transport area adjacent to the terminal
- Improvements to the terminal building involving internal reorganisation and minor extensions and building works
- Construction of a new pier
- Provision of a new taxiway parallel to Taxiway Delta
- Taxiway extensions and rationalisation of aircraft parking areas with new stands replacing and improving existing stands
- Construction of a multi-storey car park on part of the existing short-term car park (STCP), to provide additional parking capacity if passenger demand arises in the future.[14]

These improvements allow the airport to grow to 17.8 mppa by 2020, at which point it will have reached its new level of capacity.

[14] The master plan can be located here: http://www.london-luton.co.uk/en/content/8/1171/revised-masterplan.html

Projected passenger numbers under each scenario are shown in Figure 4.1, below.

Figure 4.1: Passenger forecasts under the two scenarios



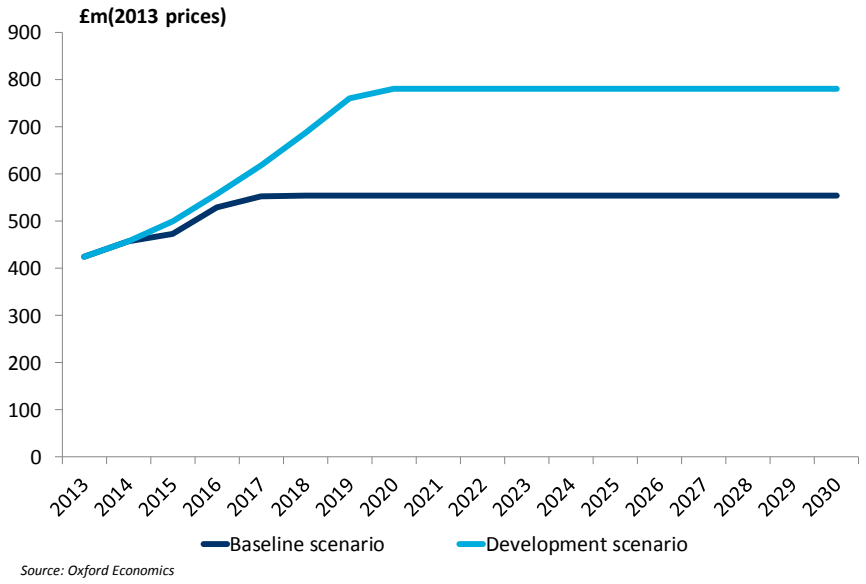
Source: LLAOL & Oxford Economics

4.2 The direct impact of London Luton Airport under alternative scenarios

The analysis assumes that the nominal GDP supported by the airport increases in line with passenger numbers and the consumer price index. So in real terms, the GDP growth rate of the airport reflects the growth rate of airport passengers.

Figure 4.2, below, compares the real (2013 prices) direct GDP contribution of London Luton Airport to 2030 under the two scenarios. Under the baseline scenario, the airport's direct GDP contribution increases from £425 million in 2013 to £554 million by 2030 - an increase of £129 million over the forecast period. Under the development scenario (18 mppa), stronger passenger growth means that the GDP contribution of the airport reaches £781 million in 2030. This is £228 million higher than under the baseline scenario.

Figure 4.2: Forecast direct Gross Value Added contribution to GDP of London Luton Airport, 2013 to 2030



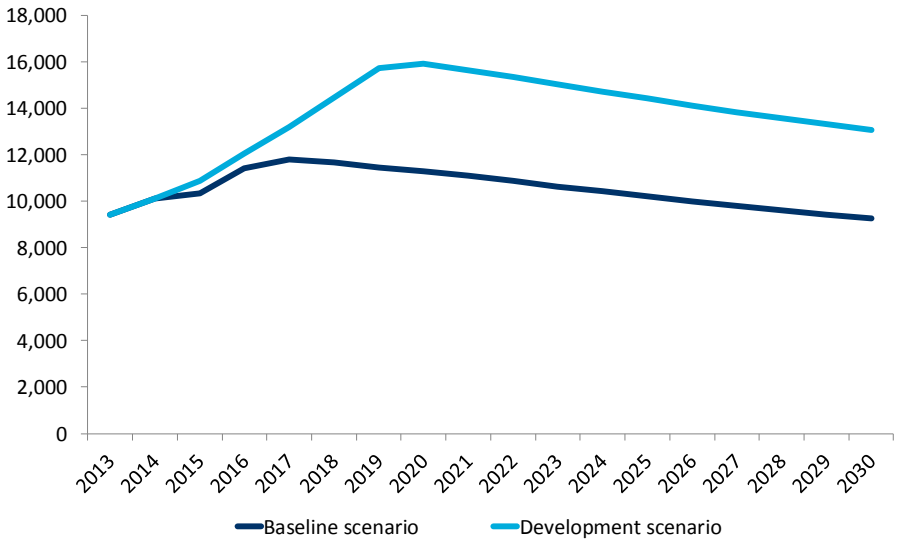
Source: Oxford Economics

The airport could generate up to 3,600 jobs between 2013 and 2030

As passenger numbers and the airport's GDP contribution increase, employment levels will also increase. Our analysis assumes that productivity in the aviation industry increases in future years so that, over time, the number of jobs created per additional mppa declines.

Under the baseline scenario, our calculations suggest that London Luton Airport will need 178 fewer jobs in 2030 than in 2013 due to improvements in labour productivity. In contrast, under the development scenario, London Luton Airport is projected to support the creation of more than 3,600 jobs between 2013 and 2030 since the airport's need for additional workers to service passenger growth far outweighs the impact of productivity growth.

Figure 4.3: Forecast direct employment at London Luton Airport, 2013 to 2030



Source: Oxford Economics

Box 4.1: Comparing the Oxford Economics employment forecast with the Halcrow study

Our analysis suggests that London Luton Airport could directly create 3,600 jobs between 2013 and 2030 under the development scenario. This result is lower than Halcrow finding that employment could increase by 5,100 between 2011 and 2028 under the development scenario.

The two results relate to slightly different time periods. Moreover, the Halcrow estimate relates to full time equivalent posts, whereas the Oxford Economics figure relates to total jobs (full time plus part time).

However, the main reason for the difference is a different assumption concerning future productivity growth. The Halcrow study assumes that productivity remains fixed once airport capacity has been reached, and notes that this is a "*conservative estimation as in practice some degree of productivity gains in airport employment is likely to continue despite traffic level reaching capacity".* In contrast, Oxford Economics assume that productivity in the aviation sector continues to increase in future years so that the number of jobs created per additional mppa declines.

While the Halcrow approach is conservative in terms of productivity, the Oxford Economics approach produces a more conservative estimate of employment growth (since stronger productivity growth means that fewer workers would be needed to deliver a given level of GDP growth).

The forecasts in this section relate to London Luton *Airport* and are therefore conceptually different to the forecasts of Luton *Borough* included in the East of England Forecasting Model used by SEMLEP and other stakeholders.[15] Nonetheless, comparing the projections for London Luton Airport with Oxford Economics' very latest Luton Borough projections[16] provides an indication of the extent to which the airport's share of the local economy might change under each scenario. The results from this exercise are shown in Table 4.1, below.

Table 4.1: The importance of London Luton Airport to the Luton Borough economy under alternative scenarios

Scenarios	London Luton Airport as % of Luton borough	
	GDP	Employment
Baseline	8%	9%
Development scenario	11%	12%

[1515] http://www.cambridgeshireinsight.org.uk/EEFM

[16] The very latest Local Model forecasts were used in this analysis instead of the forecasts from East of England Forecasting Model. The Local Model forecasts are effectively an updated version of the numbers in the East of England Forecasting Model, and incorporate the latest National Accounts data.

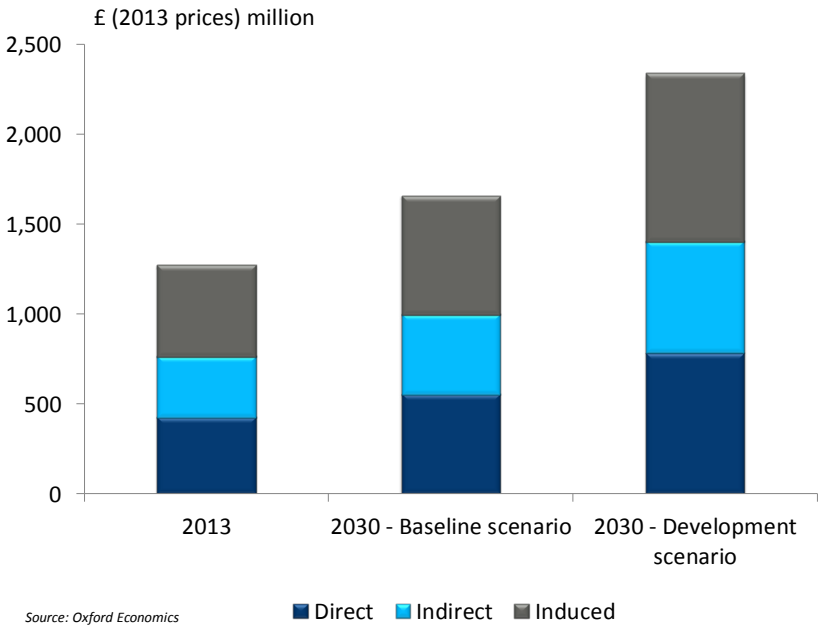
4.3 The total economic impact of London Luton Airport under alternative scenarios

This section presents estimates of the total economic impact, including multiplier effects, of London Luton Airport under the alternative scenarios.

4.3.1 The total UK economic impact

Under the baseline scenario, the total GDP contribution of London Luton Airport to the UK economy is estimated to reach £1.7 billion in 2030. This increases to £2.3 billion under the development scenario. In other words, the total GDP contribution of London Luton Airport could be 41 per cent greater if capacity is increased.

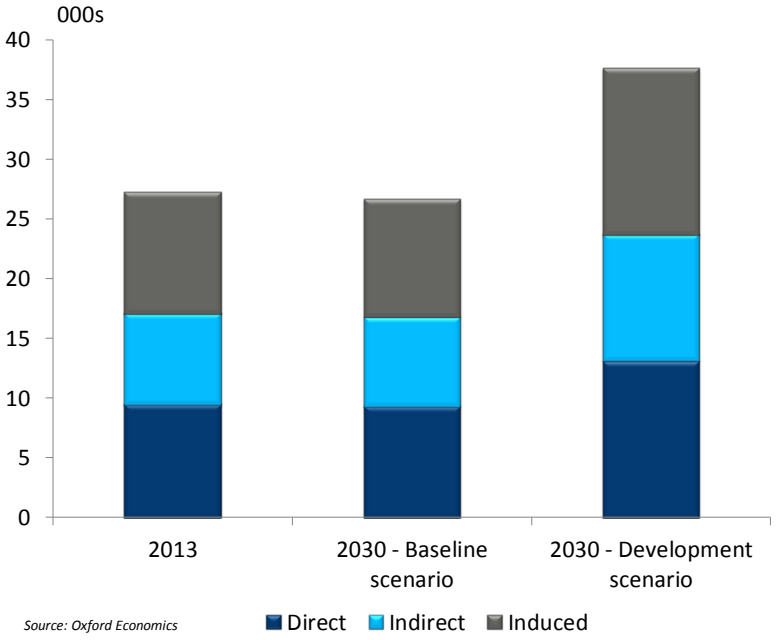
Figure 4.4: Forecast total GDP contribution of London Luton Airport to the UK economy, 2013 to 2030



Source: Oxford Economics

In the baseline scenario, the total number of UK jobs supported by London Luton Airport is projected to decrease from 27,200 in 2013 to 26,700 in 2030 due to productivity improvements across the economy. However, under the development scenario, the total number of jobs supported by London Luton Airport is projected to grow to 37,700 in 2030.

Figure 4.5: Forecast total UK employment contribution of London Luton Airport, 2013 to 2030

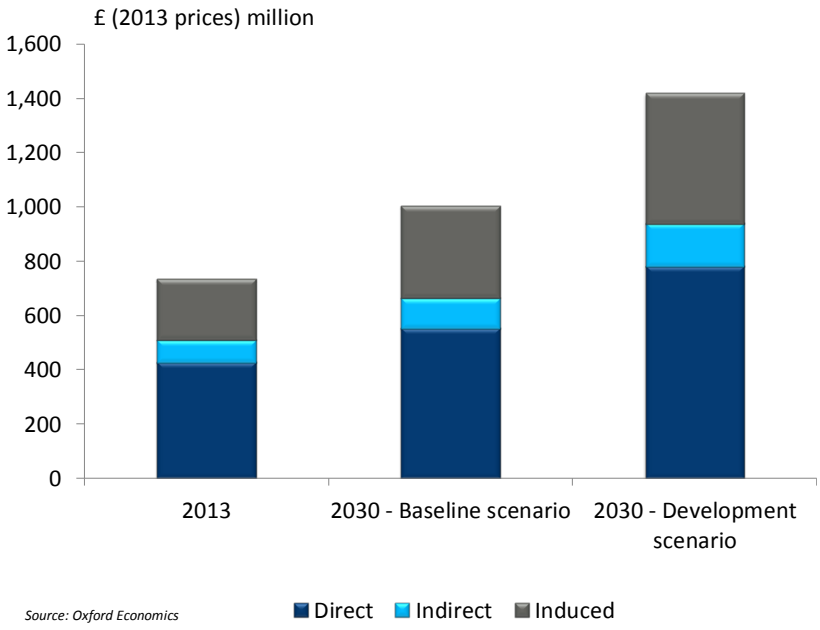


Source: Oxford Economics

4.3.2 Sub-regional total economic impact

Under the baseline scenario, the total GDP contribution of London Luton Airport to the Three Counties sub-regional economy is estimated to reach £1 billion in 2030. This increases to £1.4 billion under the development scenario.

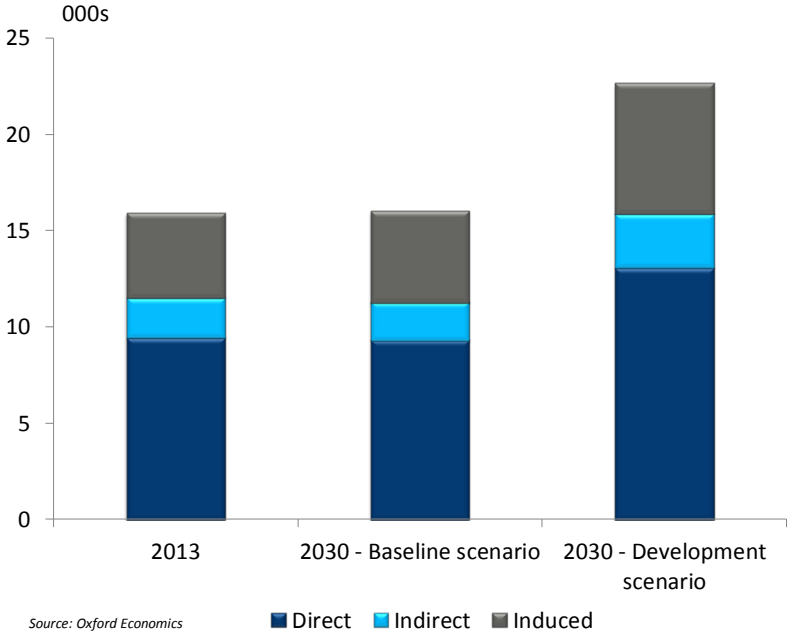
Figure 4.6: Forecast total GDP contribution of London Luton Airport to the Three Counties sub-regional economy, 2013 to 2030



Source: Oxford Economics

In contrast to the UK results, at the Three Counties level the total employment contribution of London Luton Airport is projected to increase very slightly from 15,900 in 2013 to 16,000 in 2030 in the baseline scenario. This reflects an increase in the induced contribution over this period as developments in the sub-regional economy lead to less 'leakage' of the wage spending impact to other parts of the UK. Under the development scenario employment is projected to increase much more markedly to 23,000 in 2030.

Figure 4.7: Forecast total Three Counties sub-regional employment contribution of London Luton Airport, 2013 to 2030



Source: Oxford Economics

4.4 Occupational analysis

4.4.1 Introduction to occupational analysis

The analysis above identified the number of workers the airport is likely to need under the baseline and development scenarios. This final sub-section considers the types of workers employed at the airport, and how these needs may change as the airport grows.

It is important to note at the outset that very little detail is available on the occupations and skills levels of workers employed at London Luton Airport. It is therefore necessary to use information from a number of official datasets to make inferences about the likely characteristics of the airport's workers. The analysis is split into two parts. The first part considers typical occupations of workers employed in airport-related sectors, and the wages of those workers. The second part of the analysis provides an indicative occupational breakdown for workers at London Luton Airport, and suggests how the numbers of workers in each occupational group may change as the airport expands.

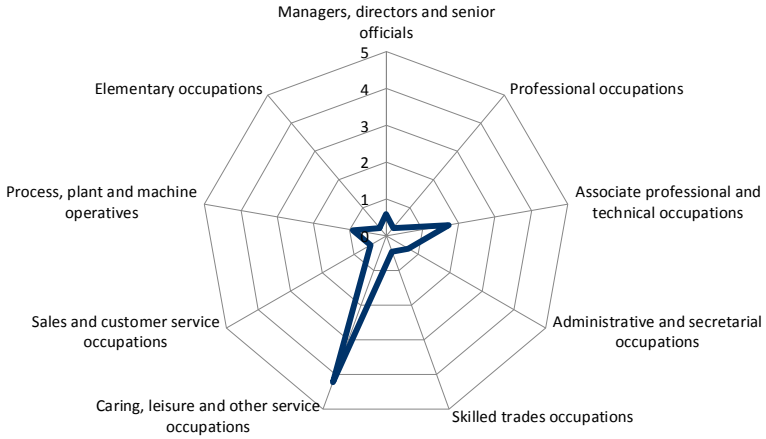
4.4.2 Typical occupations of airport workers in the UK

Using data from the 2011 Census, it is possible to identify the occupations of workers employed in certain sectors that are closely related to economic activity at airports. This is possible for two sectors: air transport and aerospace manufacturing, which together account for 76 per cent of jobs at London Luton Airport. For other sectors with a concentration of jobs at London Luton Airport, such as retail and hospitality published data do not permit aviation-related activity to be distinguished from broader, economy-wide trends. As such, these activities are not considered here.

Air transport (SIC category 51)

Across the UK as a whole, the 2011 Census suggests that 82,000 people are employed in the air transport sector. The same dataset provides information on the occupations of those employed in the air transport sector, denoted by the ONS Standard Occupational Classification. Figure 4.8 summarises the concentration of workers in each broad occupational group in the air transport sector compared to that for the economy as a whole (a value of 1 in the diagram indicates that the concentration of workers in a particular occupational group is in line with the average for all sectors).[17] This reveals that air transport has above-average shares of workers in higher-skill professional and technical roles and lower-skill roles in caring and leisure service occupations.

Figure 4.8: Occupational quotient of workers in the air transport sector relative to the economy as a whole



Note: 1=average for all sectors
Source: Census 2011

[17] Location Quotient = (Specific Occupation Employment Air Transport Sector)/(All Occupation Employment Air Transport Sector)/ (Specific Occupation Employment All Sectors/ All Occupation Employment All Sectors)/

Given the study's interest in understanding the economic impact of London Luton Airport, it is useful to consider the wage levels of workers in air transport-related occupations. To do this we focus on nine detailed occupations which together account for 70 per cent of all UK workers in the air transport sector. These are shown in Table 4.2, ranked from highest skilled to lowest skilled.

Table 4.2: Most common occupations for workers in the air transport sector[18]

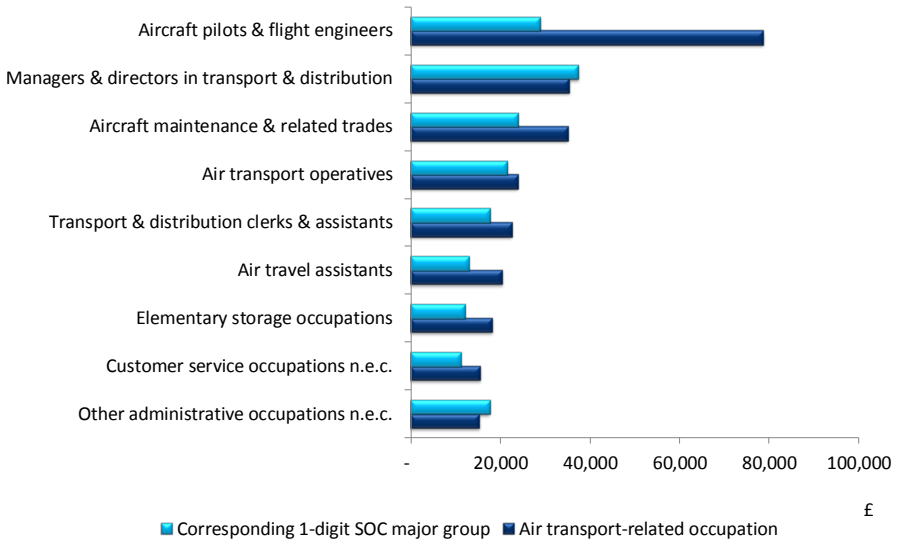
Occupation (SOC code shown in brackets)	Job roles included in occupation	Corresponding major occupational group	Number of workers in 2011
Aircraft pilots and flight engineers (3512)	Airline pilot, first officer (airlines), flight engineer, flying instructor and helicopter pilot	Associate professional and technical occupations	11,000
Managers and directors in transport and distribution (1161)	Fleet manager and transport manager	Managers, directors and senior officials	3,000
Aircraft maintenance and related trades (5235)	Aeronautical engineer, aircraft electrician aircraft engineer, aircraft fitter, aircraft mechanic and maintenance engineer (aircraft).	Skilled trades occupations	3,000
Air travel assistants (6214)	Air hostess, cabin crew, customer service agent (travel), flight attendant and passenger service agent	Caring, leisure and other service occupations	30,000
Air transport operatives (8233)	Aircraft dispatcher, baggage handler, cargo handler (airport), ramp agent and refueller (airport)	Process, plant and machine operatives	4,000
Transport and distribution clerks and assistants (4134)	Export clerk, logistics controller, shipping clerk, transport administrator, transport clerk and transport coordinator.	Administrative and secretarial occupations	2,000
Customer service occupations n.e.c (7219).	Customer adviser, customer service administrator, customer service adviser, customer service assistant and customer services representative.	Sales and customer service occupations	2,000
Other administrative occupations n.e.c. (4159)	Administrative assistant, clerical assistant, clerical officer, clerk and office administrator.	Administrative and secretarial occupations	1,000
Elementary storage occupations (9260)	Labourer (haulage contractor), warehouse assistant, warehouse operator, warehouse supervisor and warehouseman	Elementary occupations	1,000

Source: 2011 Census

[18] Job role descriptions included in the box above are based on ONS Standard Occupational Classification (SOC) Hierarchy, which can be found at the following link: http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dev3/ONS_SOC_hierarchy_view.html

The ONS Annual Survey of Hours and Earnings provides information on average wages in each of these occupations.[19] Figure 4.9 below compares these wage levels to those in the respective broader occupational group comprising all workers in roles that require similar levels of skills.

Figure 4.9: Gross median annual wage for full-time workers in air transport-related occupations and the corresponding 1-digit SOC major group, 2013



Taking a weighted average of the data above suggests that the average wage in the main air transport occupations in 2013 was just under £33,000. This compares to an average of £18,500 for workers in the broader groups that fulfil roles at similar skills levels.[20]

If we exclude wages for aircraft pilots and flight engineers from the analysis, the average wage for air transport occupations reduces to £18,000 and the average wage for workers in the broader groups reduces to £13,000.

From this we can conclude that workers in occupations closely associated with the air transport sector are substantially better paid than those in other roles that require similar skills levels.

Aerospace manufacturing (SIC category 30.3)

It is estimated that 15 per cent of employees at London Luton Airport are employed in the manufacturing sector, and it seems reasonable to assume that most manufacturing activity at the airport relates to aerospace. It is therefore

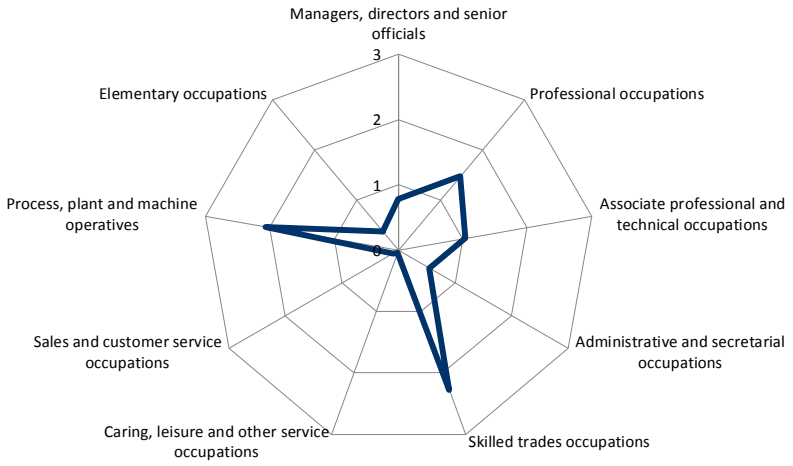
[19] The ASHE data relate to those working in these occupations across the economy as a whole, and not in the air transport sector specifically. Nonetheless, given that many of the roles identified are closely linked to air transport we believe this limitation in the data should not result in a significant bias in the results.

[20] Weights for both averages were based on the number of air transport workers in each group.

informative to consider the occupational breakdown and wage levels of workers in the aerospace manufacturing sector.

The 2011 Census suggests that 100,000 people are employed in aerospace manufacturing across the UK as a whole. Following the same approach as above, the concentration of workers in the sector within each broad occupational group is shown in Figure 4.10, below. This suggests that air manufacturing has above-average shares of workers in higher-skill professional roles, medium-skill skilled trade roles and lower-skill roles in process, plant and machine operations.

Figure 4.10: Occupational profile of workers in the aerospace manufacturing sector compared to the economy as a whole



Note: 1=average for all sectors
Source: Census 2011

Workers in aerospace manufacturing are distributed across a larger number of occupational groups than those in the air transport sector. The Census data suggest that it is necessary to look at 28 occupations to obtain coverage of 70 per cent of workers in the sector. As above, these are shown in Table 4.3, again ranked from highest skilled to lowest skilled.

Table 4.3: Most common occupations for workers in the aerospace manufacturing sector[21]

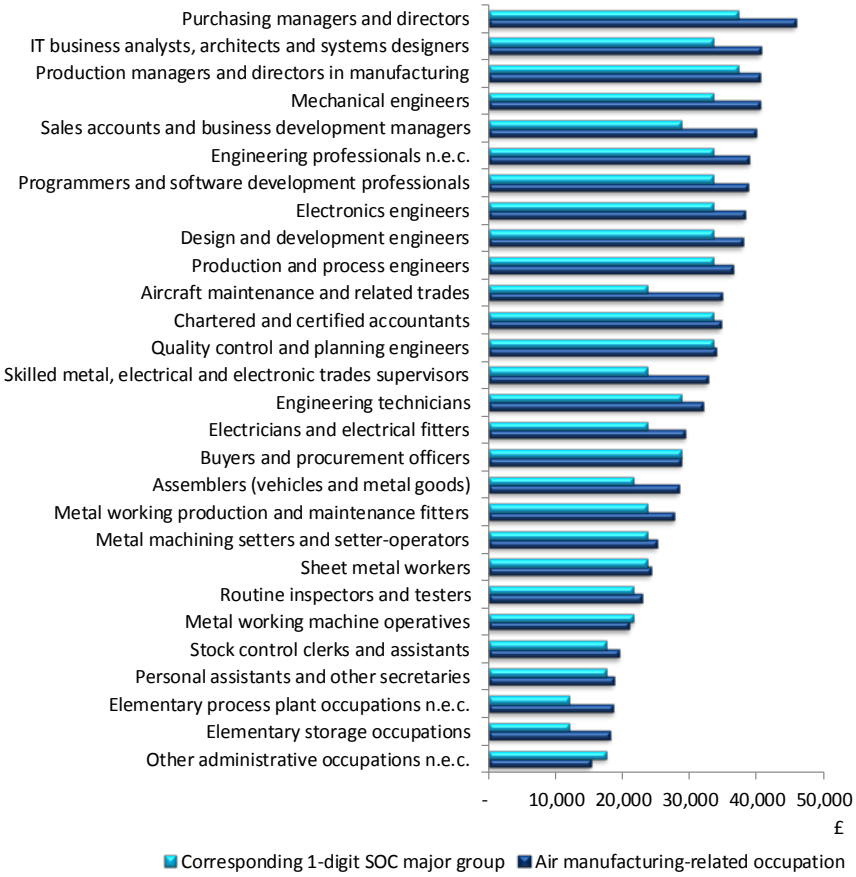
Occupation (SOC code shown in brackets)	Corresponding major occupational group	Number of workers in 2011
Mechanical engineers (2122)	Professional occupations	7,000
Engineering professionals n.e.c. (2129)	Professional occupations	4,000
Design and development engineers (2126)	Professional occupations	3,000
Quality control and planning engineers (2461)	Professional occupations	2,000
IT business analysts, architects and systems designers (2135)	Professional occupations	2,000
Programmers and software development professionals (2136)	Professional occupations	1,000
Electronics engineers (2124)	Professional occupations	1,000
Production and process engineers (2127)	Professional occupations	1,000
Chartered and certified accountants (2421)	Professional occupations	900
Engineering technicians (3113)	Associate professional and technical occupations	3,000
Production managers and directors in manufacturing (1121)	Managers, directors and senior officials	5,000
Purchasing managers and directors (1133)	Managers, directors and senior officials	900
Sales accounts and business development managers (3545)	Associate professional and technical occupations	1,000
Buyers and procurement officers (3541)	Associate professional and technical occupations	1,000
Aircraft maintenance and related trades (5235)	Skilled trades occupations	10,000
Metal working production and maintenance fitters (5223)	Skilled trades occupations	4,000
Metal machining setters and setter-operators (5221)	Skilled trades occupations	3,000
Skilled metal, electrical and electronic trades supervisors (5250)	Skilled trades occupations	2,000
Sheet metal workers (5213)	Skilled trades occupations	1,000
Electricians and electrical fitters (5241)	Skilled trades occupations	900
Metal working machine operatives (8125)	Process, plant and machine operatives	6,000
Routine inspectors and testers (8133)	Process, plant and machine operatives	3,000
Assemblers (vehicles and metal goods) (8132)	Process, plant and machine operatives	1,000
Other administrative occupations n.e.c. (4159)	Administrative and secretarial occupations	1,000
Personal assistants and other secretaries (4215)	Administrative and secretarial occupations	900
Stock control clerks and assistants (4133)	Administrative and secretarial occupations	900
Elementary storage occupations (9260)	Elementary occupations	1,000
Elementary process plant occupations n.e.c. (9139)	Elementary occupations	1,000

Source: 2011 Census

[21] Most common occupations equates to the occupations that comprise 70 per cent of the total workforce.

Figure 4.11 below compares wage levels for the occupations shown above to those in the corresponding broader occupational group.

Figure 4.11: Gross median annual wage for full-time workers in aerospace manufacturing-related occupations and the corresponding 1-digit SOC major group, 2013



Taking a weighted average of the data above suggests that the average wage in the aerospace manufacturing-related occupations in 2013 was just under £32,000. This compares to an average of £27,000 for workers in the broader groups comprising occupations with similar skills requirements.

Once again, this suggests that workers in occupations closely associated with the aerospace manufacturing sector are substantially better paid than those in other roles that require similar skills levels.

4.4.3 Indicative occupational breakdown of workers at London Luton Airport

By combining data on the sectoral structure of employment at London Luton Airport with data from the 2011 Census on the occupations of workers in the Luton 014 'Mid Layer Super Output Area' (which incorporates the airport site) it is possible to estimate the occupational structure of employment at London

Luton Airport.[22] Table 4.4 shows the estimated number of workers in each occupational group in 2013, and the projected number in 2030 under each scenario. The 2030 projections assumes that the occupational structure of employment at the airport remains unchanged as the airport expands. A more detailed breakdown of current occupations is set out at Annex D.

Table 4.4: Current and future employment by occupation at London Luton Airport

Occupation group	Examples of job roles included in occupation group	Estimated employment		
		2013	2030 (Baseline scenario)	2030 (Development scenario)
1 Managers, directors and senior officials	Managers and directors in transport, distribution and production	680	667	942
2 Professional occupations	Mechanical engineer and design and development engineers	701	688	971
3 Associate professional and technical occupations	Aircraft pilots and flight engineers	1,595	1,565	2,208
4 Administrative and secretarial occupations	Transport and distribution clerks and assistants	886	870	1,228
5 Skilled trades occupations	Aircraft maintenance, metal machining setters and setter-operators and hospitality workers	873	857	1,209
6 Caring, leisure and other service occupations	Air travel assistants and travel agents	2,116	2,076	2,930
7 Sales and customer service occupations	Customer service occupations	875	859	1,212
8 Process, plant and machine operatives	Routine inspectors and testers and machine operatives	850	834	1,177
9 Elementary occupations	Air transport operatives and storage workers	861	845	1,192

Source: Oxford Economics

[22] Middle Layer Super Output Areas are a geography for the collection and publication of small area statistics. They have a minimum size of 5,000 residents and 2,000 households with an average population size of 7,500. They fit within local authority boundaries. This definition was sourced from the ONS Neighbourhood Statistics: http://neighbourhood.statistics.gov.uk/HTMLDocs/nessgeography/superoutputareasexplained/output-areas-explained.htm

Comparing the projected number of workers under each scenario in 2030 to the current situation indicates the number of workers the airport could need to recruit in each occupational group over the next 15 years.

It is also informative to consider the future supply of labour in Luton Borough, to understand the extent to which workers in the immediate vicinity of the airport might be available to take up the jobs that would be created were the airport to expand. Oxford Economics' regional model estimates that 2,000 people of working age will be unemployed and looking for work in Luton Borough in 2030. The occupational split of these workers has been estimated using data for the current occupational structure of the Luton Borough population. This has been adjusted using national-level data to take into account that occupational structure of the unemployed is likely to vary to that for those in employment. Further details of the estimation methodology are presented in Annex D. As with the projections of the airport's recruitment needs, it is assumed that the occupational structure of the unemployed in 2030 is unchanged from today.

Table 4.5: London Luton Airport recruitment needs by scenario and potential supply of workers in Luton Borough

Occupation group	Examples of job roles included in occupation group	Additional workers needed by 2030		Estimated number of unemployed workers in Luton Borough, 2030
		Baseline scenario	Development scenario	
1 Managers, directors and senior officials	Managers and directors in transport, distribution and production	-13	262	56
2 Professional occupations	Mechanical engineer and design and development engineers	-13	270	123
3 Associate professional and technical occupations	Aircraft pilots and flight engineers	-30	614	137
4 Administrative and secretarial occupations	Transport and distribution clerks and assistants	-17	341	193
5 Skilled trades occupations	Aircraft maintenance, metal machining setters and setter-operators and hospitality workers	-16	336	200
6 Caring, leisure and other service occupations	Air travel assistants and travel agents	-40	814	183
7 Sales and customer service occupations	Customer service occupations	-16	337	263
8 Process, plant and machine operatives	Routine inspectors and testers and machine operatives	-16	327	241
9 Elementary occupations	Air transport operatives and storage workers	-16	331	686

Source: Oxford Economics

This analysis suggests that under the development scenario, London Luton Airport could need 1,145 workers in the three highest-skilled occupational groups, which include roles such as aeronautical engineers, aircraft pilots and flight engineers. At the bottom of the table, 2,487 additional workers will be needed for unskilled roles such as customer advisors, baggage handler and storage workers.

Comparing these skills needs to the potential supply of unemployed workers in Luton Borough suggests that workers may be available in the immediate vicinity of the airport to fill the lowest skilled roles. For the remaining roles, the pool of unemployed could potentially support 48 per cent of the Airport's worker

requirements under the development scenario. The airport will need to look further afield to fill the remaining roles.

The analysis above is a purely numerical exercise. In reality, airport employers are unlikely to prioritise Luton residents when seeking to fill new positions. They will select the strongest candidates irrespective of where they reside. Nonetheless, it does illustrate the extent to which the airport's future demand for labour could, at least in theory, be met by workers from Luton Borough.

5 Catalytic Impacts

Key points

The catalytic impact of London Luton Airport can be thought of as the benefits the airport offers to those who use its services. Two types of catalytic impact for passengers are explored.

Value to passengers

- Luton is the closest airport for around 43 per cent, or 4.5 million, of the passengers who used it in 2014. For these passengers, flying from an alternative airport would add between 20 and 68 minutes in travel time, and associated travel costs, for each leg of their journey.
- Luton also offers among the cheapest available fares for the destinations it serves, with 75 percent of comparable fares cheaper than average among the seven major airports considered.
- Taking account of the value of passengers' time, the surface transport costs they face, and the competitive fares on offer it is estimated that London Luton Airport provided additional value for passengers approximately £120 million in 2014 alone. Last year 900,000 Luton passengers would not have flown from an alternative airport had Luton not been available.

London area airport capacity

- London Luton Airport, particularly after it expands capacity to accommodate 18 million passengers per annum, will play an increasingly important role in providing much needed capacity to the London airports system over the next 10 to 15 years.
- In 2011 Luton accounted for 7 per cent of passengers at London airports, but based on official Department for Transport forecasts it is expected to contribute 17 per cent of London passenger growth between 2011 and 2030.

5.1 Introduction

Over and above the direct, indirect and induced impacts reported in the sections above, London Luton Airport generates a number of wider 'catalytic' benefits. These can be thought of as the benefits the airport offers to those who use its services. The analysis in this section assesses the value of the airport's location and low cost flight options to passengers, before going on to consider the airport's role in complementing London's hub airports, Gatwick and Heathrow, and contributing transport capacity to the wider London airport system.

That is not to say that these are the only wider benefits generated by London Luton Airport. In particular, it contributes to the overall attractiveness of the surrounding region as a location for businesses to locate and invest. This is not formally analysed in this chapter of the report, but previous research has shown that the availability of international transport is one of the most important factors that firms consider when deciding where to locate.[23]

5.2 Quantifying the value of London Luton Airport to passengers

5.2.1 Travel cost savings

This part of the analysis provides an indicative quantification of the travel time and direct cost savings that passengers enjoy as a result of living close to London Luton Airport.

The analysis is based on 2013 Civil Aviation Authority data provided by LLAOL, with results scaled up to 2014 passenger totals. These data indicate the origin of Luton's UK passengers on the UK side of their journey by local authority. To estimate the potential travel time savings, it was necessary to assign each passenger to a more precise location within each local authority. As such, passengers were assigned to wards within each local authority based on the distribution of the population within that local authority. A second round of estimation was used to assign passengers to a specific postcode area within each ward, based on the main population centre within the ward.

The postcode level data were then used in conjunction with software developed by Oxford Economics to estimate travel times using Google maps. This enabled the estimation of each passenger's travel time to London Luton Airport, under the simplifying assumption that all passengers travel to the airport by car. The exercise was then repeated to estimate the travel time to each alternative international airport that a Luton passenger could have chosen.

[23] For example, the Cushman and Wakefield European Cities Monitor 2011 (http://www.cushmanwakefield.com/~/media/reports/uk/Brochures/European%20Cities%20Monitor%20October%202011.pdf) finds that the most important factors a company considers when deciding where to locate their business are easy access to markets and customers, followed by the availability of qualified staff, and telecommunications. Transport links with other cities and internationally was found to be the fourth most important factor, with 42 per cent of companies suggesting these were an absolutely essential consideration when deciding where to locate their business.

The analysis showed that for 43 per cent of Luton passengers – around 4.5 million passengers in 2014 - the airport was the closest option to their ultimate UK origin or destination. The majority of these passengers came from 13 local authorities: Aylesbury Vale, Bedford, Central Bedfordshire, Dacorum, East Northamptonshire, Hertsmere, Luton, Milton Keynes, North Hertfordshire, South Northamptonshire, St Albans, Three Rivers and Welwyn Hatfield. On average it took passengers 30 minutes to get to London Luton Airport from these locations, assuming no traffic delays.

The next stage of analysis considers how much longer would be involved in travelling to an alternative airport if London Luton Airport did not exist. Around 94 per cent of Luton's UK passengers come from the South East, Eastern, East Midlands, West Midlands and London regions. Comparator airports that offer similar flights to Luton were identified from within these regions. The comparator airports selected were: Heathrow, Gatwick, Stansted, Birmingham, East Midlands and London City.

In a best-case scenario, a passenger unable to travel from Luton could take a similar flight from the next closest airport to their place of residence. If this were the case for all passengers whose origin was in the local authority areas identified above, the average travel time to the airport would increase by 20 minutes, absent any delays. This extra travel time would be associated with higher immediate transport costs as well as time costs for millions of passengers each year in Luton's absence.

In reality, equivalent flights may not be available at the second closest airport and a passenger unable to use Luton may have to travel considerably further to take a flight from an alternative airport. In 2014 the closest alternative international airport, Heathrow, only served 57 per cent of seat-weighted destinations reachable from London Luton Airport.[24] In the extreme case, all passengers whose UK origin or destination was in the local authority areas identified above might have to travel to the furthest comparator airport. In many cases this would be Gatwick, which serves some 80 per cent of the seat-weighted destinations served by Luton, but which is also the furthest alternative airport for many Luton passengers. Where passengers might have to travel to their furthest alternative airport, the journey would take an average of 68 minutes longer. Again, traffic delays could add to that journey time significantly depending on the timing of the flight, making this a conservative estimate.

The analysis above therefore provides a range from 20 to 68 minutes for the additional travel time that would be required if those Luton passengers for whom the airport is closest were to have to use another airport. For people making a return journey these time and associated travel costs would, of course, be double.

[24] Estimated using SRS Analyser data on flight schedules from Luton and the other comparator airports. This figure assumes that there are no capacity constraints that might prevent passengers from flying from one of these alternative airports.

Table 6.1 provides details for each local authority for which Luton is the closest airport. It also compares the distance between the second closest and farthest away airports to give the range of possible increases in journey times.

Table 5.1: Time saving by origin, minutes

	Average time from London Luton Airport	Second closest airport	Average time from second closest airport	Time saved - low	Farthest away airport	Average time from farthest airport	Time saved - high
Central Bedfordshire	30	Heathrow	59	29	Gatwick	96	65
Luton	22	Heathrow	45	23	East Midlands	88	66
St Albans	20	Heathrow	39	19	East Midlands	98	79
Milton Keynes	36	Heathrow	65	30	Gatwick	101	65
North Hertfordshire	25	Stansted	45	19	East Midlands	99	73
Bedford	44	Stansted	67	22	Gatwick	101	57
Dacorum	29	Heathrow	35	6	East Midlands	99	70
Aylesbury Vale	46	Heathrow	55	9	East Midlands	96	50
Welwyn Hatfield	27	Stansted	43	17	East Midlands	108	82
Hertsmere	27	Heathrow	39	12	East Midlands	106	78
Three Rivers	27	Heathrow	30	3	East Midlands	105	79
South Northamptonshire	49	Birmingham	53	3	Gatwick	106	57
East Northamptonshire	63	Birmingham	70	7	Gatwick	129	66

5.2.2 Low-cost air travel

London Luton Airport's competitive fees and charges mean that customers benefit from lower cost flights than are available at other comparable airports

Luton's proximity for millions of people is not the only source of its value relative to alternative airports. This section assesses the extent to which passengers may enjoy lower fares for flights from Luton compared to other airports. The comparator airports are the same as those used in the previous section.

Comparing flight costs is a complex exercise, not least due to the yield management techniques employed by airlines. Prices for apparently similar flights can vary substantially for a wide range of reasons, such as time of day, date, and the number of passengers searching for or reserving seats on a particular flight. To compare flight costs between airports we undertook a structured search to identify flights that are as similar as possible to those offered by Luton. To be regarded as 'similar' for the purposes of this exercise, we selected flights that were identical in terms of the following criteria:

- Time of day: morning before 12:00, afternoon between 12:00 and 17:59, or evening from 18:00
- Departure date: three dates were chosen for the sample - 09/03/2015 (one week from the time of the analysis); 05/06/2015 (3 months away); and 08/08/2015 (a summer holiday travel day)
- Destination airport.

For each flight in the sample we compared the price of flying from Luton to the price of flying from all other airports offering the same flight. Flights were only

included if a minimum of three comparator airports offer a similar flight. Prices were obtained from the price comparison website *www.skycanner.net*.

Table 6.2 below presents a summary of the results. In total, a sample of 44 flights were compared. For 33 flights, London Luton Airport offered a below average price when compared to the other airports. For 21 of the flights Luton was one of the two cheapest providers and for nine flights Luton was the cheapest provider. This demonstrates the degree to which a further benefit for many Luton passengers is the low airfares on offer.

Table 5.2: Summary of airport price comparison

Luton is below average	Luton is below average and one of two cheapest providers	Luton is absolute cheapest in sample	Luton is above average	Luton is most expensive	Total examined
33	21	9	11	5	44

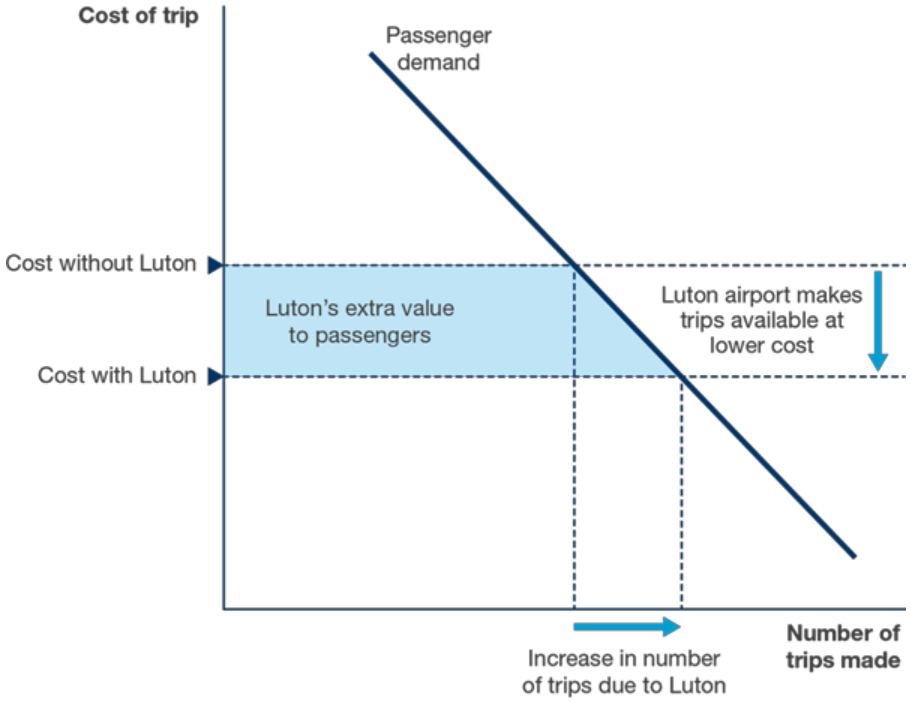
5.2.3 Valuing the benefits to passengers

The main value from an airport accrues to airline passengers. To make a journey, those using the airport self-evidently value making their trip at least as highly as the cost of their surface transport and airfare, and the time taken to reach their destinations. In most cases, of course, people would still make the trip if those costs were higher. Economists call the value received, over and above the costs associated with travel, the 'consumer surplus'.[25] Consumer surplus represents the maximum cost people would be willing to pay to make their journey less the actual cost they face.

[25] Source: IATA. OXFORD ECONOMICS, Economic Benefits from Air Transport in Mexico, 2007

The analysis in the previous two sub-sections suggests that, for millions of people each year, the value of consumer surplus that accrues to Luton passengers may be greater than if they instead had to use another airport, due to Luton's low fares and proximity to the origin or destination of many passengers. As Luton offers a cheaper option for millions of passengers, this boosts the number of people prepared to travel and benefits those who would have travelled anyway (see Figure 5.1)

Figure 5.1: Quantifying the extra value Luton provides for passengers



To explore this further, this sub-section builds on the analysis above to estimate how the value of consumer surplus enjoyed by Luton passengers might change if they instead had to use the next cheapest airport.

This analysis relies on another technical concept – the generalised cost of travel (GCT), which represents the overall cost of making a journey in terms of travel time and money. Direct travel costs take account of things like airfares and the full economic cost of private road transport. Time spent travelling is converted into monetary values based on accepted techniques for valuing people's time based on characteristics such as whether or not they are a business traveller.

For this study a GCT value is calculated for Luton passengers based on their origin and likely airfare. Equivalent values are then computed for those passengers in the hypothetical scenario where these Luton passengers instead use their next cheapest airport (a full description of the methodology is included at Annex F). [26] [27]

[26] Only those passengers for whom Luton is the closest airport were included in the analysis. The remaining passengers were excluded on the basis that they are using London Luton Airport for reason that does not relate to total cost.

The analysis suggests that the average GCT for Luton is £174 per single journey, compared to £194 at the next cheapest airport (the second cheapest airport is specific to each passenger). On this basis we estimate that, on average, a typical passenger of the 6.3 million in 2014 for whom Luton was the cheapest airport enjoyed a consumer surplus that was £19 greater than if Luton did not exist. For someone making a return journey the benefit would amount to some £37.

The benefits for passengers also extend to people who otherwise might not have travelled at all. For many passengers, the overall costs of the Luton option are sufficiently low to encourage them to make a trip which they otherwise would not have taken. To account for this effect, we draw on available evidence about how passengers respond which the cost of travel changes, to measure the responsiveness of the demand for flights to changes in the GTC. We assume an elasticity of -1.27, which means that a 1 per cent fall in the overall (time and fare) cost of travel causes a 1.27 per cent rise in passenger numbers.[28] On these assumptions we can estimate that 900,000 passengers for whom Luton was the closest airport would not have travelled in 2014 had Luton not existed. Adding these benefits, we estimate that the total consumer surplus, or additional benefit to passengers for whom Luton is the closest airport amounted to approximately £120 million in 2014 alone.[29]

27 In order to be conservative, only those passengers for whom Luton is the closest airport are considered in this analysis. While those coming from further afield presumably choose Luton for a good reason, it is harder to quantify the scale of their consumer surplus, hence we conservatively assume that these people are indifferent between travelling from Luton or another airport.

[28] The elasticity of -1.27 is for the generalised cost elasticity for intra-European flights of 500-1000 miles. Source: 'Fleet Level Assessments & System-Wide Environmental Impacts' presentation by the University of Cambridge, UCL, City University London and University of Toronto: http://old-www.arct.cam.ac.uk/Documents/AEvans_Lecture_UTIAS_March13.pdf

[29] In practice, this estimate is likely to be conservative both because it ignores the possibility that road traffic congestion may add to journey times, and because it conservatively assumes the benefits of London Luton Airport to passengers for whom it is not the closest are zero.

5.3 London area airport capacity

Luton Airport has a vital role to play in providing capacity for the London airport system over the next 10 to 15 years

Major airports around London are approaching capacity. If no action is taken to develop new infrastructure there is a risk that airport bottlenecks will constrain the UK's ability to handle increasing numbers of business passengers and tourists, and ultimately harm economic growth prospects.

To address this, the Airports Commission, chaired by Howard Davies, was set up in 2012 to examine options to develop the UK's aviation infrastructure, so that it maintains its status as Europe's key aviation hub. In December 2013 the Commission published a report outlining three shortlisted options to increase the UK's aviation capacity in the long-term. Each of these options would provide at least one net additional runway at Gatwick or Heathrow by 2030. Following a period of consultation, the Airports Commission is set to announce its recommended option in the summer of 2015.

Given the stated aim of developing the chosen option by 2030, it is important to consider how the UK's airport capacity needs will be met in the interim. To explore Luton's role in this, we examine the 2013 Department for Transport passenger forecasts.[30] These come in two variants:

i. *Unconstrained* forecasts, which provide estimates of the extent of passenger growth in the absence of airport capacity constraints

ii. *Constrained* forecasts which factor in the impact of airport capacity constraints.

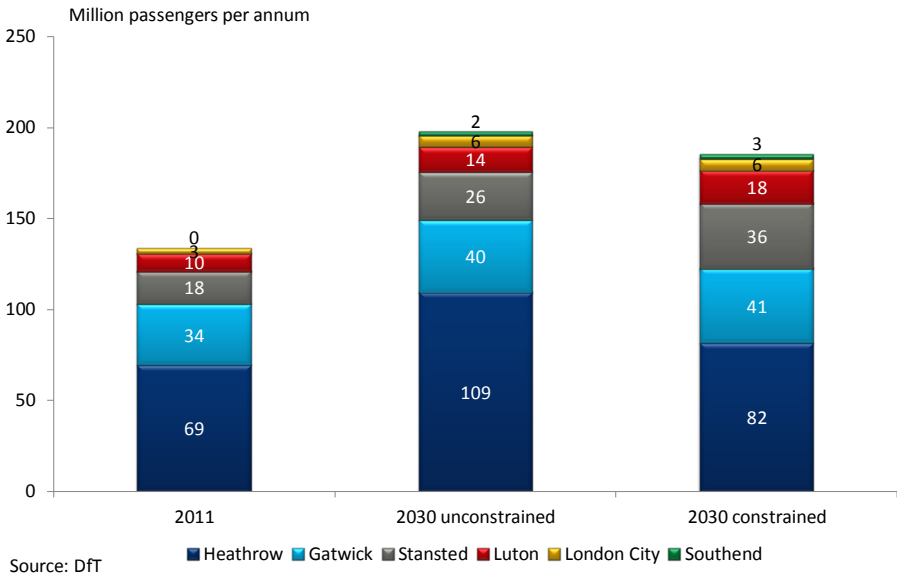
While the constrained forecasts assume that no new runways are built in the UK, they do allow for smaller-scale infrastructure enhancements. Of particular relevance to this study, it is assumed that *"Luton adds 35% to its runway capacity and 70% to its terminal capacity."*[31] This is broadly consistent with the development scenario in our study.

[30] https://www.gov.uk/government/publications/uk-aviation-forecasts-2013

[31] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223839/aviation-forecasts.pdf

Figure 5.2 shows that there were 134 million terminal passengers at London airports in 2011. Under the DfT's unconstrained forecast this would increase to 198 million by 2030. However, once airport capacity constraints are considered, this falls to 185 million 2030 as passengers either switch to airports away from London, or choose not to travel.

Figure 5.2: Constrained and unconstrained passenger forecasts for London airports

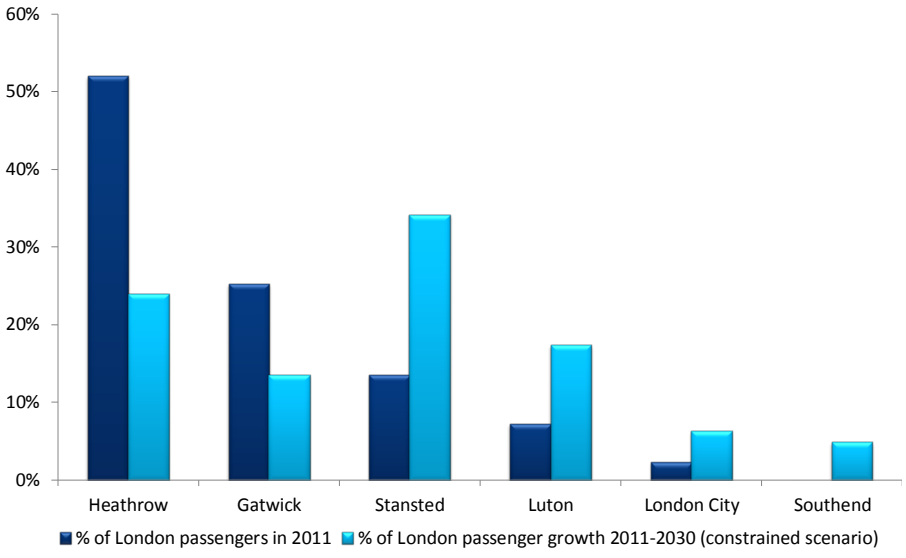


Source: DfT

Closer examination of the data for individual airports highlights the important role to be played by smaller airports in supporting passenger growth to 2030. In the unconstrained forecast, passenger numbers at Heathrow are forecast to increase from 69 million in 2011 to 109 million in 2030. However, Heathrow is nearing its operational capacity and the constrained forecast suggests it will only be able to accommodate 82 million passengers in 2030. As a result, passengers are displaced to other London airports, particularly Luton and Stansted, where there is proportionately greater scope for growth. In the case of Luton, there are 4 million more passengers in the constrained scenario than in the unconstrained scenario, indicating that the airport is well placed to provide capacity to service passengers unable to use Heathrow. This means that passenger numbers at Luton are projected to almost double to 18 million between 2011 and 2030 in the constrained scenario.

To consider the contribution of Luton to overall passenger growth in London further, Figure 5.3 compares each airport's share of passengers in 2011 to its contribution to London passenger growth between 2011 and 2030. This shows that while Luton accounted for just 7 per cent of London airport passengers in 2011, it is expected to accommodate 17 per cent of passenger growth between 2011 and 2030. Were this capacity not available at Luton, the London airports system would be even more constrained and, all else equal, passengers who wished to use a London airport would be likely to face higher fares.

Figure 5.3: Constrained and unconstrained passenger forecasts for London airports



Source: DfT, Oxford Economics

There is currently a large amount of uncertainty concerning what may happen beyond 2030. While the Airports Commission is set to make its *recommendation* in the summer of 2015, the *decision* on additional runway capacity will ultimately be taken by politicians and the timing of any such decision is unknown.

Nonetheless, the analysis in this chapter has highlighted that Luton has an important role to play in providing much-needed capacity for the wider London airports system. It has capacity to accommodate significant growth over the coming decade; provides convenient access to international flights for local residents; and it is able to offer flights at lower cost than many comparable airports.

Appendix A: Economic impact methodology

Direct employment contribution

The most detailed previous work to estimate the direct impact of London Luton Airport was undertaken for the 2012 Halcrow study. This presented a central employment estimate for 2011 based on data from the Business Register and Employment Survey and Experian.[32] More recent estimates of employment at London Luton Airport are presented in the 2013 London Luton Airport Annual Monitoring Report.[33]

Following discussion with stakeholders it was decided to estimate employment in 2013 by growing forward the Halcrow estimate using the growth rates reported in the Annual Monitoring Report. This approach ensures that the direct employment estimate presented in this study is broadly comparable with the Halcrow study, but also incorporates the latest evidence on how employment at the airport has changed since 2011.

Direct GDP contribution

This is comprised of the wages paid to those directly employed at the airport, plus profits generated by firms at London Luton Airport.

To calculate London Luton Airport's total wage contribution, the 2013 employment estimates were multiplied by average gross wage estimates for the relevant sectors. These average wages were based on estimates from the Halcrow report, adjusted to account for wage growth between 2011 and 2013.

To estimate profits for 2013 we uplifted average turnover per employee estimates from the Halcrow study using productivity growth rates[34] for the Eastern region, and then multiplied by total employment to obtain an estimate of turnover. We then applied Halcrow's turnover/profit ratio to arrive at a pre-tax profit estimate. Since we are considering the direct impact of London Luton Airport on the whole of the UK, and in contrast to the Halcrow approach, we did not make a further adjustment to only count profits attributable to the local economy.

Direct gross wage contribution

The gross wage bill of London Luton Airport workers was estimated by updating the previous results from the Halcrow study. While Halcrow reported net wages in their headline results, the detailed workings included average gross wage per worker estimates. Oxford Economics grew these estimates in line with wage growth from 2011 to 2013 for the Eastern region and then multiplied these wages by the new number of workers in each sector.

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[32] Further details of the methodology used to develop the employment estimate are presented in Chapter 6 of the Halcrow report: http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

[33] http://www.london-luton.co.uk/en/content/8/243/annual-monitoring-report.html

[34] Productivity growth rates for individual sectors were used.

Direct tax contribution

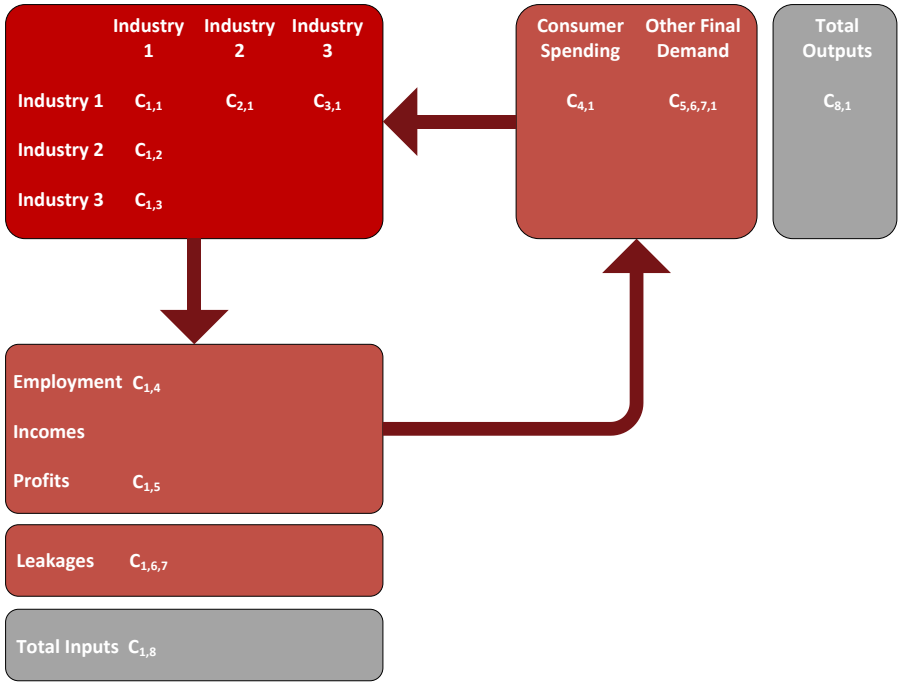
There are a number of large companies at London Luton Airport that operate from many sites across the UK, and sometimes internationally. In these cases the value of tax revenue attributable to London Luton Airport was estimated by updating the previous results from the Halcrow study by adjusting their assumptions on the various tax rates to reflect the latest data available. Specifically, Income tax and National Insurance Contributions were updated using the 2013 ONS 'The Effects of Taxes and Benefits on Household Income' release, located here: http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/2012-13/index.html. APD was updated using information on APD rates and allowances for 2013 from HM Revenue an Customs, located here: https://www.gov.uk/government/publications/rates-and-allowances-excise-duty-air-passenger-duty/rates-and-allowances-excise-duty-air-passenger-duty

Overview of input-output modelling approach for the UK

Input-output tables are designed to give a snapshot of an economy at a particular time, showing the major spending flows. These include "final demand" (i.e. consumer spending, government spending and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector – the supply chain); how much of that spending stays within the economy; and the distribution of income between employment income and other income (mainly profits). Input-output tables are therefore particularly useful when estimating indirect and induced economic impacts.

The idea behind the input-output table is that the economy can be divided into a number of producing industries, and that the output of each industry is either used as an input into another industry, or in final consumption. For example, grain produced by the farm sector becomes an input into flour milling; flour produced by the milling sector becomes an input into the baking sector, and so on. In essence an input-output model is a table that shows who buys what from whom in the economy.

Figure AA.1: A simplified input-output model



Source: Oxford Economics

Reading across horizontally illustrates the distribution of each industry's output, split between intermediate demand from other industries (used as an input to production) and final demand (consumer spending, exports and other government consumption). Therefore, Industry 2 in Figure AA.1 purchases an amount, C2,1 from Industry 1 as an input to their production process. Thus, reading down vertically indicates what each industry purchases from other industries in the national economy by way of inputs which, when combined with imports from abroad (leakages), employment costs, operating surplus and any additional taxes or subsidies to production, give total inputs, which will equal total outputs. In the simple model illustrated in Figure AA.1, C8,1 will equal C1,8.

A primary application of domestic use input-output tables is to create multipliers that are used to illustrate how an increase in demand in one sector affects the whole economy:[35]

- **Type I multiplier** – estimates the impact on the whole economy of £1 spent in a given industry, through its supply chain.
- **Type II multiplier** – includes the Type I multiplier, but also includes the effect of spending by households as a results of the additional employment generated by the additional £1 spend. The multipliers reported in this report are Type II multipliers.

[35] In a domestic IO table intermediate demand has been adjusted to remove the effects of imports. Imports are itemised in a different part of the IO table.

To calculate the indirect and induced impacts for London Luton Airport, domestic-use input-output tables, available for the UK economy from the ONS, were used to build a bespoke input-output model. The ONS tables can be downloaded here: http://www.ons.gov.uk/ons/rel/input-output/input-output-analytical-tables/2010/index.html

Regional input-output modelling approach

The above approach is used to quantity the indirect and induced impacts at the UK level. An important element of this study, though, is to consider the geographical distribution of these multiplier effects to understand how London Luton Airport affects levels of economic activity in surrounding sub-regions and local areas.

Information on the geographical distribution of supply chain expenditure has been gathered from major firms based at London Luton Airport. In total, this information covers around 8 per cent of London Luton Airport's estimated supply chain purchases and for this portion of spending it is possible to develop a very accurate picture of the distribution of supply chain impacts. Oxford Economics has estimated the remaining 92 per cent of supply chain spending using inter-regional input-output models developed by Oxford Economics based on established academic techniques initially developed by Flegg and Webber.[36] This approach involves constructing regional input-output models by applying Location Quotients (LQs) and regional size adjustments to the standard UK input-output tables. Oxford Economics' regional model was used to provide data on LQ's and regional employment.

For this study, regional input-output tables were developed for Luton Borough , the Three County area and the regions surrounding Luton Borough (Eastern, South East, London and East Midlands).

Employment shares were used to divide the impact of the Three County area to the various local authorities within the area. The supply chain impact that remained (i.e. the four regions supply chain impact minus the Three Counties supply impact) was split out according the sectoral employment share amongst all the local authorities within that area.

In the case of induced effects, no 'real' data are available to identify where London Luton Airport workers actually spend their wages. Nonetheless, it seems reasonable to assume that most spending is likely to take place close to workers' place of residence, and will therefore support GDP and employment in those areas. This is the starting point for our analysis of induced impacts, but in cases where this results in an unrealistically large injection to the local economy (given the economic structure and average spending per head in that local area) induced impacts are assumed to spill over into neighbouring areas. The

[36] Flegg and Webber, (2000), 'Regional Size, Regional Specialization and the FLQ Formula'. Regional Studies, Vol. 34.6, pages 563–569.

spending adjustment and a quantum that is absorbed by neighbouring areas is calculated using regional IO tables.

Indirect and Induced GDP contribution

To calculate the indirect and induced gross value added contribution to GDP (i.e. GVA), the total expenditure effect (derived from the input-output models) is multiplied by industry sector-level GVA to gross output ratios, again calculated from the ONS input-output tables.

Indirect and Induced employment

To calculate the impact on employment, labour productivity in each industry sector in the supply chain is applied to the respective component of the GVA figures.

Appendix B: Economic impact results by geographical area

Table AB.1 Total GVA contribution to GDP impact of London Luton Airport, 2013

Total GVA contribution to GDP 2013 (£ million, Nominal)				
Locations	Direct	Indirect	Induced	Total
UK	425	338	506	1270
Three Counties sub-region	425	85	222	732
Bedfordshire	425	37	138	600
Buckinghamshire		20	25	44
Hertfordshire		29	59	88
London Thameslink Corridor		8	12	20
Luton	425	29	80	533
Central Bedfordshire		5	45	50
Bedford		3	14	17
Aylesbury Vale		3	9	12
Chiltern		2	2	4
Milton Keynes UA		9	11	20
South Buck		2	1	3
Wycombe		4	2	6
Broxbourne		2	2	4
Dacorum		3	8	11
East Hertfordshire		3	5	8
Hertsmere		3	2	5
North Hertfordshire		2	17	19
St Albans		4	14	17
Stevenage		2	4	6
Three Rivers		2	2	4
Watford		4	2	7
Welwyn Hatfield		3	4	7
Barnet		1	2	3
Camden		2	3	5
Islington		1	1	3
City of London		0	2	3
Southwark		1	1	2
Lambeth		1	1	2
Merton		1	0	1
Sutton		0	0	1
Croydon		1	1	1
South Cambridgeshire		1	3	3
Enfield		1	1	2
Haringey		0	1	1
Harrow		0	1	1
East Northamptonshire		0	2	2
Northampton		2	4	5
South Northamptonshire		0	2	2
Wellingborough		0	1	2

Table AB.2 Total employment impact of London Luton Airport, 2013

Employment 2013				
Locations	Direct	Indirect	Induced	Total
UK	9437	7682	10088	27207
Three Counties sub-region	9437	2038	4408	15883
Bedfordshire	9437	943	2781	13161
Buckinghamshire		386	441	827
Hertfordshire		708	1186	1894
London Thameslink Corridor		150	163	313
Luton	9437	751	1598	11786
Central Bedfordshire		120	901	1021
Bedford		73	282	354
Aylesbury Vale		69	154	224
Chiltern		31	33	64
Milton Keynes UA		176	197	372
South Buck		35	20	54
Wycombe		76	37	112
Broxbourne		56	30	86
Dacorum		73	152	225
East Hertfordshire		79	94	173
Hertsmere		63	38	102
North Hertfordshire		51	333	384
St Albans		91	276	367
Stevenage		42	91	133
Three Rivers		45	42	87
Watford		130	42	172
Welwyn Hatfield		78	87	166
Barnet		11	34	45
Camden		35	47	82
Islington		25	15	40
City of London		9	20	28
Southwark		25	12	37
Lambeth		16	16	31
Merton		10	6	16
Sutton		9	4	13
Croydon		11	9	20
South Cambridgeshire		18	52	69
Enfield		10	15	26
Haringey		8	15	23
Harrow		7	16	23
East Northamptonshire		9	35	44
Northampton		41	85	126
South Northamptonshire		10	45	55
Wellingborough		13	25	38

Table AB.3 Total wage impact of London Luton Airport, 2013

Wage 2013 (£ million, Nominal)				
Locations	Direct	Indirect	Induced	Total
UK	356	181	203	740
Three Counties sub-region	356	44	80	481
Luton	356	15	29	401

Table AB.4 Total tax impact of London Luton Airport, 2013

Tax 2013 (£ million, Nominal)				
Locations	Direct	Indirect	Induced	Total
UK	237	122	169	648
Three Counties sub-region	237	30	34	301
Luton	237	10	25	272

Appendix C: The total future economic contribution of London Luton Airport

Table AC.1 Forecast direct Gross Value Added contribution to GDP of London Luton Airport, 2013 to 2030

Direct GVA (£2013 prices)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Baseline scenario	425	457	474	529	552	554	554	554	554	554	554	554	554	554	554	554	554	554
Development scenario	425	457	500	558	619	687	760	781	781	781	781	781	781	781	781	781	781	781

Table AC.2 Forecast direct employment at London Luton Airport, 2013 to 2030

Employment	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Baseline scenario	9437	10113	10327	11420	11791	11659	11468	11282	11092	10869	10642	10433	10220	10009	9805	9614	9429	9259
Development scenario	9437	10113	10896	12044	13208	14460	15746	15924	15656	15342	15022	14726	14426	14128	13841	13570	13310	13070

Table AC.3 Forecast total GDP contribution of London Luton Airport to the UK economy, 2030

GVA (£2013 prices) 2030	Direct	Indirect	Induced	Total
Baseline scenario	554	441	660	1,654
Development scenario	781	622	931	2,335

Table AC.4 Forecast total UK employment contribution of London Luton Airport, 2030

Employment 2030	Direct	Indirect	Induced	Total
Baseline scenario	9,259	7,537	9,898	26,694
Development scenario	13,070	10,639	13,971	37,680

Table AC.5 Forecast total GDP contribution of London Luton Airport to the sub-regional economy, 2030

GVA (£2013 prices)		Direct	Indirect	Induced	Total
Three Counties sub region	2013	425	85	222	732
	Baseline Scenario 2030	554	111	339	1,004
	Development Scenario 2030	781	157	479	1,418
Bedfordshire	2013	425	37	138	600
	Baseline Scenario 2030	554	48	230	832
	Development Scenario 2030	781	68	325	1,175
Buckinghamshire	2013	0	20	25	44
	Baseline Scenario 2030	0	26	32	58
	Development Scenario 2030	0	37	45	82
Hertfordshire	2013	0	29	59	88
	Baseline Scenario 2030	0	37	77	114
	Development Scenario 2030	0	52	108	161

Table AC.6 Forecast total employment contribution of London Luton Airport to the sub-regional economy, 2030

Employment		Direct	Indirect	Induced	Total
Three Counties sub region	2013	9,437	2,038	4,408	15,883
	Baseline Scenario 2030	9,259	1,985	4,778	16,022
	Development Scenario 2030	13,070	2,801	6,745	22,616
Bedfordshire	2013	9,437	943	2,781	13,161
	Baseline Scenario 2030	9,259	931	3,015	13,205
	Development Scenario 2030	13,070	1,314	4,256	18,640
Buckinghamshire	2013	0	386	441	827
	Baseline Scenario 2030	0	380	478	858
	Development Scenario 2030	0	536	674	1,211
Hertfordshire	2013	0	708	1,186	1,894
	Baseline Scenario 2030	0	674	1,286	1,959
	Development Scenario 2030	0	951	1,815	2,765

Appendix D: Occupational analysis

Estimated split of London Luton Airport employees by sector and occupation

The estimated split of employment by sector comes from the 2012 Halcrow study. For each sector, the occupational breakdown has been estimated using data from the 2011 Census on the occupational structure of employment within the respective sector.

The specific steps involved include:

1) Estimate London Luton Airport employment by sector in 2013, drawing on the 2012 Halcrow study
2) Use the Luton 014 SOA (the Super Output Area where London Luton Airport is based) SIC-SOC matrix from the 2011 Census to estimate broad occupation breakdown by sector for the Airport
3) Split out broad occupational groups from step 2 using more detailed 3-digit SOC breakdown for the SOA from the 2011 Census.

Table AD.1 Indicative occupational (SOC 3) structure of London Luton Airport employment

Occupations	London Luton Airport estimated employment		
	2013	2030 (Baseline scenario)	2030 (Development scenario)
111 Chief Executives and Senior Officials	6	5	8
112 Production Managers and Directors	95	93	132
113 Functional Managers and Directors	133	130	184
115 Financial Institution Managers and Directors	7	7	9
116 Managers and Directors in Transport and Logistics	156	154	217
117 Senior Officers in Protective Services	11	10	15
118 Health and Social Services Managers and Directors	6	5	8
119 Managers and Directors in Retail and Wholesale	65	63	89
121 Managers and Proprietors in Agriculture Related Services	0	0	0
122 Managers and Proprietors in Hospitality and Leisure Services	97	96	135
124 Managers and Proprietors in Health and Care Services	4	4	6
125 Managers and Proprietors in Other Services	101	99	139
211 Natural and Social Science Professionals	6	6	8
212 Engineering Professionals	148	145	205
213 Information Technology and Telecommunications Professionals	174	171	241
214 Conservation and Environment Professionals	3	3	4
215 Research and Development Managers	6	6	8
221 Health Professionals	18	18	25
222 Therapy Professionals	3	3	4
223 Nursing and Midwifery Professionals	13	13	18
231 Teaching and Educational Professionals	37	37	52
241 Legal Professionals	16	15	22
242 Business, Research and Administrative Professionals	188	184	260
243 Architects, Town Planners and Surveyors	14	14	20
244 Welfare Professionals	5	5	7

245 Librarians and Related Professionals	6	6	8
246 Quality and Regulatory Professionals	44	43	61
247 Media Professionals	20	20	28
311 Science, Engineering and Production Technicians	136	134	188
312 Draughtspersons and Related Architectural Technicians	8	8	11
313 Information Technology Technicians	56	55	77
321 Health Associate Professionals	6	6	8
323 Welfare and Housing Associate Professionals	14	14	19
331 Protective Service Occupations	108	106	150
341 Artistic, Literary and Media Occupations	35	35	49
342 Design Occupations	21	20	29
344 Sports and Fitness Occupations	21	20	29
351 Transport Associate Professionals	641	629	888
352 Legal Associate Professionals	18	17	24
353 Business, Finance and Related Associate Professionals	118	115	163
354 Sales, Marketing and Related Associate Professionals	262	257	363
355 Conservation and Environmental associate professionals	1	1	1
356 Public Services and Other Associate Professionals	151	148	209
411 Administrative Occupations: Government and Related Organisations	33	32	46
412 Administrative Occupations: Finance	243	238	336
413 Administrative Occupations: Records	236	231	326
415 Other Administrative Occupations	212	208	293
416 Administrative Occupations: Office Managers and Supervisors	32	31	44
421 Secretarial and Related Occupations	132	130	183
511 Agricultural and Related Trades	14	14	20
521 Metal Forming, Welding and Related Trades	14	13	19
522 Metal Machining, Fitting and Instrument Making Trades	61	60	85
523 Vehicle Trades	402	395	557
524 Electrical and Electronic Trades	105	103	145
525 Skilled Metal, Electrical and Electronic Trades Supervisors	19	18	26
531 Construction and Building Trades	123	120	170
532 Building Finishing Trades	39	39	55
533 Construction and Building Trades Supervisors	6	6	8
541 Textiles and Garments Trades	14	13	19
542 Printing Trades	6	6	9
543 Food Preparation and Hospitality Trades	59	58	82
544 Other Skilled Trades	11	11	16
612 Childcare and Related Personal Services	108	106	149
613 Animal Care and Control Services	5	5	7
614 Caring Personal Services	84	82	116
621 Leisure and Travel Services	1828	1794	2532
622 Hairdressers and Related Services	45	44	62
623 Housekeeping and Related Services	24	23	33
624 Cleaning and Housekeeping Managers and Supervisors	23	22	31
711 Sales Assistants and Retail Cashiers	440	431	609
712 Sales Related Occupations	43	42	59
713 Sales Supervisors	49	48	68
721 Customer Service Occupations	297	291	411
722 Customer Service Managers and Supervisors	47	46	65

811 Process Operatives	53	52	73
812 Plant and Machine Operatives	77	76	107
813 Assemblers and Routine Operatives	134	132	186
814 Construction Operatives	32	32	45
821 Road Transport Drivers	209	206	290
822 Mobile Machine Drivers and Operatives	18	18	25
823 Other Drivers and Transport Operatives	326	320	451
911 Elementary Agricultural Occupations	3	3	4
912 Elementary Construction Occupations	13	12	17
913 Elementary Process Plant Occupations	43	42	60
921 Elementary Administration Occupations	39	38	54
923 Elementary Cleaning Occupations	176	172	243
924 Elementary Security Occupations	279	274	387
925 Elementary Sales Occupations	19	19	27
926 Elementary Storage Occupations	142	140	197
927 Other Elementary Services Occupations	147	144	203

Approach to estimating the occupational split of unemployed workers in Luton Borough

Oxford Economics' regional model was used to estimate the number of unemployed individuals in Luton Borough in 2030.

The occupational split of these workers was estimated using 2011 Census data for the occupational structure of the Luton Borough resident employment. However, the occupational structure of the unemployed is likely to differ from that of the employed. Annual Population Survey data was therefore used to estimate the proportional difference between the employed and the unemployed occupational structure at the UK level. This difference was then applied to the estimated occupational breakdown for Luton Borough unemployed.

Appendix E: Detailed results from analysis of flight prices

Table AE.1 Analysis of flights prices

Destination	Luton Price	Average lowest price amongst Airports compared	Luton price rank out of airports compared	Number of airports compared
Monday 09/03/2015				
Morning (00.00 - 11.59)				
Alicante	137	140	3	5
Amsterdam	67	89	3	6
Barcelona	112	124	3	6
Dublin	23	42	2	7
Edinburgh	38	53	3	7
Geneva	117	111	4	6
Glasgow	34	64	2	7
Malaga	213	179	5	6
Afternoon (12.00- 17.59)				
Amsterdam	63	79	2	7
Dublin	39	44	2	6
Murcia	178	181	3	5
Evening (18.00 - 23.59)				
Aberdeen	43	70	1	5
Amsterdam	51	67	1	5
Dublin	33	34	4	6
Edinburgh	33	39	3	7
Glasgow	34	44	2	7
Friday - 05/06/2015				
Morning (00.00 - 11.59)				
Alicante	141	139	4	5
Amsterdam	46	60	1	6
Barcelona	119	99	6	6
Dublin	46	55	2	7
Edinburgh	40	48	2	7
Geneva	35	55	1	4
Glasgow	35	42	2	6
Malaga	137	133	4	6
Afternoon (12.00- 17.59)				
Amsterdam	44	52	2	6
Dublin	65	54	7	7
Murcia	65	75	1	4
Evening (18.00 - 23.59)				
Aberdeen	37	49	1	5

Amsterdam	42	62	1	5
Dublin	55	50	5	7
Edinburgh	37	45	2	7
Glasgow	35	44	2	7
Saturday - 08/08/2015				
Morning (00.00 - 11.59)				
Alicante	193	166	5	5
Amsterdam	52	54	5	7
Barcelona	133	141	4	6
Dublin	28	35	3	7
Edinburgh	73	54	6	6
Geneva	74	72	3	4
Glasgow	40	53	3	6
Malaga	171	156	4	5
Afternoon (12.00- 17.59)				
Amsterdam	43	57	1	5
Dublin	33	36	4	5
Murcia	131	136	1	4
Evening (18.00 - 23.59)				
Dublin	24	34	2	5

Appendix F: Methodology to estimate gain in consumer surplus for Luton passengers

The overall approach was to estimate the generalised cost of travel from Luton and all comparator airports for each Luton passenger based on their ward of residence. The following comparator airports were used: Gatwick, Stansted, Birmingham, East Midlands (Other comparator airports were excluded from the analysis, as the analysis suggested that they were not the second cheapest to Luton for any passengers.)

The generalised cost of travel (GCT) was defined as follows:

Generalised cost of travel = Direct travel costs + Cost of time + Cost of air ticket

Where:

- Direct travel cost = Distance to each airport * 45p per mile (based on HMRC mileage rates, which were sourced here: www.gov.uk/government/publications/rates-and-allowances-travel-mileage-and-fuel-allowances/travel-mileage-and-fuel-rates-and-allowances#approved-mileage-rates-from-2011)
- Cost of time = Travel time to airport and average time of flight* £14 per hour (this value is a weighted average of business and leisure travellers values of time. The business value is based on the Airports Commission - Economy: Transport Economic Efficiency Impacts report: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/372769/AC07_bookmarked.pdf and the leisure value is based on the Airports Commission - Economy: Delay Impacts Assessment Methodology Paper https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/372606/AC08a_tagged.pdf)
- Cost of air ticket = Average fare of flights from each airport, based on the panel of comparable flights used in the fares analysis
- The average GCT for all Luton passengers was then calculated by adding the GCT for all passengers and dividing by the total number of passengers.
- The previous step was then repeated, but using the GCT to each passenger's second cheapest airport.

Sample size and scaling

This analysis was based on a sample of 5.1 million passengers. Aggregate results for the consumer surplus have been scaled to reflect London Luton Airport's total passenger numbers (10.5 million passengers) in 2014.

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Wingspread Conference on the Precautionary Principle

AUGUST 5, 2013

January 26, 1998 Last weekend at an historic gathering at Wingspread, headquarters of the Johnson Foundation, scientists, philosophers, lawyers and environmental activists, reached agreement on the necessity of the Precautionary Principle in public health and environmental decision-making. The key element of the principle is that it incites us to take anticipatory action in the absence of scientific certainty.

At the conclusion of the three-day conference, the diverse group issued a statement calling for government, corporations, communities and scientists to implement the "precautionary principle" in making decisions.

The 32 conference participants included treaty negotiators, activists, scholars and scientists from the United States, Canada and Europe. The conference was called to define and discuss implementing the precautionary principle, which has been used as the basis for a growing number of international agreements. The idea of precaution underpins some U.S. policy, such as the requirement for environmental impact statements before major projects are launched using federal funds. But most existing laws and regulations focus on cleaning up and controlling damage rather than preventing it. The group concluded that these policies do not sufficiently protect people and the natural world.

Participants noted that current policies such as risk assessment and cost-benefit analysis give the benefit of the doubt to new products and technologies, which may later prove harmful. And when damage occurs, victims and their advocates have the difficult task of proving that a product or activity was responsible. The precautionary principle shifts the burden of proof, insisting that those responsible for an activity must vouch for its

harmlessness and be held responsible if damage occurs. The issues of scientific uncertainty, economics, environmental and public health protection which are embedded in the principle make this extremely complex. We invite your thought and conversation on these topics.

The Wingspread Consensus Statement on the Precautionary Principle The release and use of toxic substances, the exploitation of resources, and physical alterations of the environment have had substantial unintended consequences affecting human health and the environment. Some of these concerns are high rates of learning deficiencies, asthma, cancer, birth defects and species extinctions; along with global climate change, stratospheric ozone depletion and worldwide contamination with toxic substances and nuclear materials.

We believe existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to protect adequately human health and the environment - the larger system of which humans are but a part.

We believe there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.

While we realize that human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.

Therefore, it is necessary to implement the Precautionary Principle: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

In this context the proponent of an activity, rather than the public, should bear the burden of proof.

The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

Conference Partners The Wingspread Conference on the Precautionary Principle was convened by the Science and Environmental Health Network, an organization that links science with the public interest, and by the **Johnson Foundation** (http://www.johnsonfdn.org/), the **SEHN** (http://static1.squarespace.com/static/5ad8bb3336099bd6ed7b022a/5b563fd4124f1c89fba029fe/5b564110124f1c89fba0614a/1532379408219/wing.html?format=original), the C.S. Fund and the Lowell Center for Sustainable Production at the University of Massachusetts-Lowell.

Wingspread Participants:

Dr. Nicholas Ashford M.I.T. Katherine Barrett Univ. of British Columbia Anita Bernstein Chicago-Kent College of Law Dr. Robert Costanza Univ. of Maryland Pat Costner Greenpeace Dr. Carl Cranor Univ. of California, Riverside Dr. Peter deFur Virginia Commonwealth Univ. Gordon Durnil Attorney Dr. Kenneth Geiser Toxics Use Reduction Inst., Univ. of Mass., Lowell Dr. Andrew Jordan Centre for Social and Economic Research on the Global Environment, Univ. Of East Anglia Andrew King United Steelworkers of America, Canadian Office Dr. Frederick Kirschenmann Farmer Stephen Lester Center for Health, Environment and Justice Sue Maret Union Inst. Dr. Michael M'Gonigle Univ. of Victoria, British Columbia Dr. Peter Montague Environmental Research Foundation Dr. John Peterson Myers W. Alton Jones Foundation Dr. Mary O'Brien Environmental Consultant Dr. David Ozonoff Boston Univ. Carolyn Raffensperger Science and Environmental Health Network Dr. Philip Regal Univ. of Minnesota Hon. Pamela Resor Massachusetts House of Representatives Florence Robinson Louisiana Environmental Network Dr. Ted Schettler Physicians for Social Responsibility Ted Smith Silicon Valley Toxics Coalition Dr. Klaus-Richard Sperling Alfred-Wegener- Institut, Hamburg Dr. Sandra Steingraber Author Diane Takvorian Environmental Health Coalition Joel Tickner Univ. of Mass., Lowell Dr. Konrad von Moltke Dartmouth College Dr. Bo Wahlstrom KEMI (National Chemical Inspectorate), Sweden Jackie Warledo Indigenous Environmental Network

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