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# **The Shortcomings of the Avia Solutions Report and an Overview of RSP's Proposals for Airport Operation at Manston**

**Prepared for RiverOak Strategic Partners**

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# 1 Introduction

1.1 Thanet District Council (TDC) has placed far too much reliance on a deeply flawed report from Avia Solutions, that has been neither peer reviewed, discussed with relevant stakeholders<sup>1</sup> or indeed subjected to any kind of public scrutiny, in coming to a hasty and therefore injudicious decision about the future of Manston Airport. This submission offers a high-level critique of the Avia report, which was demonstrably rushed, adopted a flawed methodology, employed poorly judged assumptions and adopted myopic view of the potential of the airport. As such, it does not qualify as a sound evidence base which the Council can use to justify departing from its long-standing support for Manston as an operational airport and thus from policy Ec4 in the current local plan. A more forensic dissection of the report has been undertaken by RSP Ltd, which we would welcome the opportunity to share with TDC in order that the Council can reach a better informed view about the prospects for the airport, because failing that the Avia Report will certainly be tested to the full at a future Local Plan Inquiry.

1.2 The submission then goes on to provide an overview of the much more thorough, multi-faceted and peer reviewed analysis undertaken on RSP's behalf, and how it under-pins its proposals to re-open Manston as a mixed use airport offering air cargo, air passenger links and aircraft servicing and recycling. These proposals are in line with the business models of successful benchmark airports such as:

- Alliance Fort Worth in Texas, USA;
- Hamilton Airport in Ontario, Canada;
- Bergamo in Italy;
- Liege in Belgium; and
- Leipzig in Germany;

none of which rely on a passenger focused business model of the kind set out in the Avia Solutions report commissioned by TDC, which is therefore at best misguided and at worst a deliberate misrepresentation of RiverOak's plans. They

<sup>1</sup> This would include amongst others: District Councils with whom TDC has a duty to co-operate, the County Council, the LEP and local Chamber of Commerce, the Regional and Business Airports Group, Freight Transport Association, Riveroak Strategic Partners Ltd and the various Manston Airport support groups)

also benefit from being market testing at length in discussions with potential commercial partners, investors and competitors.

1.3 Rather RSP's plans are centred on a developing a strategically important are 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<sup>2</sup>. This will be supported by:

- a modest passenger offering serving a core catchment in east and mid Kent, and a floating catchment drawing from west Kent and some outer London suburbs south of the Thames;
- a range of other aeronautical activities, for which capacity is either already heavily constrained (e.g. business aviation, military and diverted flights), or non-existent (e.g. emergency service, aircraft servicing and commissioning flights, air shows, commercial training and flight testing, general aviation and flying schools) at the south east's larger and more congested airports; and
- aircraft MRO<sup>3</sup>, manufacture, conversion, re-spray, dismantling, part storage and recycling

1.4 Notwithstanding this, my forecasts for passenger throughput in Section 3 are not dissimilar to Avia's, nor are Dr Dixon's, even though we come at them from a much simpler and probably more reliable approach, given that Manston is an untapped market and thus forecasts are better understood if based on behavioural decisions rather than spuriously accurate or sophisticated micro-economic modelling.

1.5 The scale of the air cargo operation envisaged by RSP Ltd sufficient to be of national significance and thus to require a Development Consent Order to secure relevant planning, CPO and other approvals. In part they envisage freight traffic being displaced from congested airports elsewhere in the South East, in part growth in underling traffic volumes in line with Boeing World Cargo forecasts. But also of material significance, will be RSP's plans to target the hundreds of thousands, possibly millions of tonnes of air cargo being trucked from the UK to the continent to be flown out of European airports. These volumes are consistent with Department for Transport 2009 predictions of increased cross-channel

<sup>2</sup> The contention is that this will complement, rather than compete with freight operations at increasingly capacity constrained airports serving the South East and East of England, namely Heathrow, Stansted, Gatwick and Luton.

<sup>3</sup> MRO stands for 'maintenance, repair and overhaul'

displacement of air cargo bound for the UK to airports in near Europe and with the analysis of this phenomena provided by York Aviation's Report for the Freight Transport Association and Transport for London in 2015<sup>2</sup>.

- 1.6 The other components of the development mix envisaged by RSP will be complementary but material in commercial and employment terms and capable of significant enhancement if successful. They may also be supplemented by aviation related or associated development such as an expanded museum area, a training academy, an airport business campus with hotels and renewable energy facilities (part of RSP's plans to ensure the airport is environmentally as well as financial sustainable in the medium to long term).

## 2 The Shortcomings of the Avia Solutions Report on Manston

### **Air Cargo Forecasting**

- 2.1 Forecasting future freight volumes is one of the more difficult areas of future projection in the aviation sector. Whereas in the case of passenger forecasts there are three or four recognised techniques that are suitable for different timelines looking forward, in the case of freight the interaction between weight and volume and the reliance upon supply side operations rather than demand as the primary determinant of volume allocation means that normal price-driven economic models have proven very difficult to calibrate successfully. This is because although the industry is very price-conscious at a micro economic level (i.e. on a business to business transactional basis), at a macro level where the goods in transit are transferred to aircraft the primary driver of the business environment is the availability of aircraft slots and cargo space in the aircraft that are using them. This means that the spatial relationship between demand and supply is much more diffuse as in many cases cargo volumes will tend to move much greater distances to access or egress airports than passengers, the exception to this rule being express freight.
- 2.2 The effects of this on the air freight sector in the UK have been to focus a substantial share of the industry at the airport in the UK with the largest network of international routes (because most flown freight is international) and the freight volume of available capacity – namely Heathrow. At other airports air freight is characterised by three principal types of operation:
  - Trucking long distances to the UK's express freight centre at East Midlands or Stansted or to the freight forwarding community at Heathrow;

- Small scale local freight services linking the UK to global express centres or to global freighter hubs flown by large aircraft circulating the globe;
- Domestic air connections to East Midlands, Heathrow or Royal Mail centres.

2.3 In order to forecast where future freight capacity might optimally be developed, it is therefore not appropriate to rely on the geography of consignee demand based on projected growth rates. It becomes more important to understand where there is flexibility to create significant increases in capacity, which is determined by a number of alternative factors. These include:

- Length of runway (large freighters need runways of greater than 2,500 metres);
- Unlike freighter operations which can be flexible and ad hoc, belly hold operations rely on an established network of long haul passenger services
- Substantive area for cargo transshipment centres which means that very busy passenger airports tend not to have this kind of operation because of the pressure of the space for terminals and car parks;
- The availability of runway slots is a key determinant for express freight and freighter operations although it is less significant for belly hold services.

2.4 The effect of this is to push freight forecasting away from typical neo-classical demand/price mechanism models and any use of airport specific progression, towards supply driven modelling particularly requiring transparency about the supply factors that are used. So, for example, freight operations will be attracted either to where there is a large volume of network carriers flying international services or to where there are few night time restrictions because these are important for express freight operations, or in the case of dedicated freighters where there are no restrictions on slot availability and there is sufficient space to create efficient apron based loading and unloading operations alongside specialist handling facilities such as refrigerated storage, bonded warehouses and major logistics sheds.

2.5 In the south east of England this points to a relatively small number of airports being suitable for any large-scale freight operations. Heathrow dominates the belly hold market and Stansted is the major alternative for express freight and freighters with Luton providing some niche capacity based on night time operations. Beyond that Gatwick has around 90,000 tonnes of freight, a volume that has been falling substantially as network carriers move out of Gatwick and low cost carriers move in.

2.6 Based on long-term growth trends in the sector, this report contends that freight capacity in the south-east will need to expand by over 100% in the next 25 years. While Heathrow, if its new runway is eventually built, will be able to cater for

future belly hold capacity, the expansion for Stansted and Luton for passenger services, primarily of a low-cost nature, means that there will be very few spare slots during the day and more importantly at night, that can be used by express freight carriers for dedicated freight operations.

- 2.7 In this context, and keeping in mind the need for basic infrastructure requirements such as a substantive runway, good road connections and sizeable areas available for apron and shed development, there are few alternatives other than for Manston to cater for non-belly freight movements at south-east airports. Indeed, I anticipate existing volumes at Luton, Stansted and Gatwick will continue to fall as slots and space become increasingly valuable. Manston, in contrast, will have no foreseeable slot restrictions, an established reputation for efficient handling and if RSP's proposals are approved, a substantial apron capable of handling several large aircraft concurrently all with excellent airside support facilities and access to dual carriageway roads to London, the M25 orbital and in the foreseeable future to a new Dartford crossing improving access to ports in Essex and in East Anglia. It is even well positioned for trans-shipping freight to trucks, which can then use Dover port or the Channel Tunnel to access the near continent.
- 2.8 The recent supply lead forecast modelling that Northpoint has undertaken - see Table 2 at Appendix A, and the original estimates supplied to PINS at the then RiverOak's initial conference with them in 2016 at Table 1 in Appendix A. Since the latter were submitted, the likely opening date for the airport has slipped and consequently the assumed baseline transfer of activity is probably a little high in Table 1, as is the % annual growth rate), with the consequence that c100,000 tonnes has been taken off that figure in Table 2 and the lower Boeing CAGR rate has been adopted to generate projections for 2020, 2030 and 2040.
- 2.9 They nevertheless demonstrate that, under a range of scenarios, Manston is strongly placed to attract surplus demands in the South East by offering an attractive supply side solution to the air freight industry. These forecasts are also supported by in-depth, bottom-up empirical work undertaken by Dr Sally Dixon and include undertaking over twenty structured bi-lateral interviews with major freight carriers and other significant airport operators in the London and South East region. The result of which is to confirm independently the broad level of future freight traffic that we have projected via our forecasting model.
- 2.10 At the centre of the critique of RSP's critique of Avia Solutions analysis, are three core factors that latter has either failed to recognise or to explain with any clarity. These three factors are:
- freight projections,

- cross channel transshipments, and
- the substitutability of bellyhold capacity.

2.11 Each of these points is addressed, seriatim, in the remainder of this chapter.

## **Freight Projections**

2.12 There is good alignment between Avia and Northpoint on the historic performance of the cargo market, particularly its poor growth since the early 2000s and the current size of the UK freight market at approximately 2.3Mt per year, but thereafter there is little common ground. This includes:

- how the market trends over the last 10-15 years should be interpreted,
- what is happening in the market today and what this means for the future,
- the scale of the supply side (i.e. capacity) shortfall for air cargo at the major south east airports today,
- how this will manifest itself over the next 10-15 years,
- what this means in terms of freight volumes leaking to Europe or being unable to travel by air at all, and
- the implications this has for the regional and national economy.

2.13 The result is that while both Northpoint Aviation and Dr Sally Dixon's forecasts for freight throughput at Manston in 2030 are within striking distance of each other, they are both a factor eight higher than forecast by Avia Solutions.

2.14 To illustrate the scale of the divergence Avia has used a 1.0% to 1.5% compound annual growth rate in its forward market analysis, despite the evidence of current trends in the IATA Cargo Chartbook (i.e. growth in a range between 3%-6% in the last 12-18 months in European freight markets), and the public availability of industry standard market forecasts, in the form of the renowned Boeing World Air Cargo Forecast, which suggests a CAGR of 3.7% moving forward is a more reasonable figure.

2.15 Avia have tried to argue that such a low CAGR is in part justified by the fact the bellies of passenger aircraft are standing empty at Heathrow waiting to absorb any additional demand that may come forward during the next three quinquennia. Unfortunately this is not true now and certainly won't be in the future because the cargo capacity of principal aircraft types at Heathrow is set to diminish over time as B787s, A350s and new narrow-bodied aircraft enter into service .

2.16 Avia also state that they have used a midpoint of a wide band of predicted growth rates sources from the Oxford Economics and Ramboll's study, although the actual

growth rates assumed are for some reason not explicitly stated. Back-working the numbers suggests that a CAGR of 1.7% for belly hold freight and 1.4% for dedicated cargo have been used. Avia acknowledge industry predictions for market growth tend have a track record of reflecting correlations with GDP, however, they then elect to use Oxford Economics & Ramboll's most simplistic historic trend assumptions in the form of a scenario where the growth rate pre-dates the advent of e-commerce, and in the other, include the impact of peak oil prices followed by the global recession in 2008.

2.17 Similarly, when Avia states, earlier in its report, that over 95% of UK freight is international, it is not clear why they are seemingly so wedded to finding a specifically national forecast rather than developing their own models based on global trends, when the key aim should be to determine (a) what the scale of future global freight demand will be on both intra-UK and to-from Europe trade-corridors and (b) whether London, and more broadly the UK, can provide competitive capacity into those trade-corridors.

2.18 It is our firm contention, therefore, that Avia's average CAGR forecasts are ill founded and consequently represent a significant under-estimate when compared to Boeing's historical rate data for 1990 to 2015. Benchmarked against Boeing's forecast for growth, based on average GDP growth between 2005-2015, coupled with the recent market upswing due to the increase in Asian e-commerce and a rise in demand for JIT (Just-in-Time) manufacturing practices, and Avia's assumed growth rates are on average 65% lower than Boeing's future rate forecast. Even taking a pessimistic 'low-side' view of Boeing's forecast at 2%, is a counter-intuitive position to adopt in an evolving market and would equate to a growth rate 33% below mid-term GDP growth.

### **Failure to Recognise the Importance of Cross Channel Transhipments**

2.19 Avia's freight forecasts also explicitly ignore the potential for Manston to recapture some of the UK O&D (originating or destined) air cargo currently being transhipped by truck through the channel ports for its onward journey by air via near European airports like Paris, Frankfurt, Amsterdam, Liege, Leipzig and Cologne. The first signs of this phenomenon were noticed around ten years ago, at the time when Heathrow became effectively full in terms of slot access. But it was Steer Davies Gleave's report<sup>4</sup> on freight for the Department for Transport in 2010 which really highlighted the issue and sought to provide an explanation:

<sup>4</sup> SDG (2010): Para's 8.53 – 8.54 of Air Freight – Economic and environmental drivers and impacts



“8.53 We note the potential for capacity constraints at Heathrow to result in air freight forwarders and airlines turning to European hubs to accommodate growth in demand in the UK. In this case, the amount of airfreight cargo originating in the UK, but trucked by road transport across the Channel would grow. It is likely that this has already happened, contributing to the ending of air freight growth in the UK since the year 2000.”<sup>5</sup>

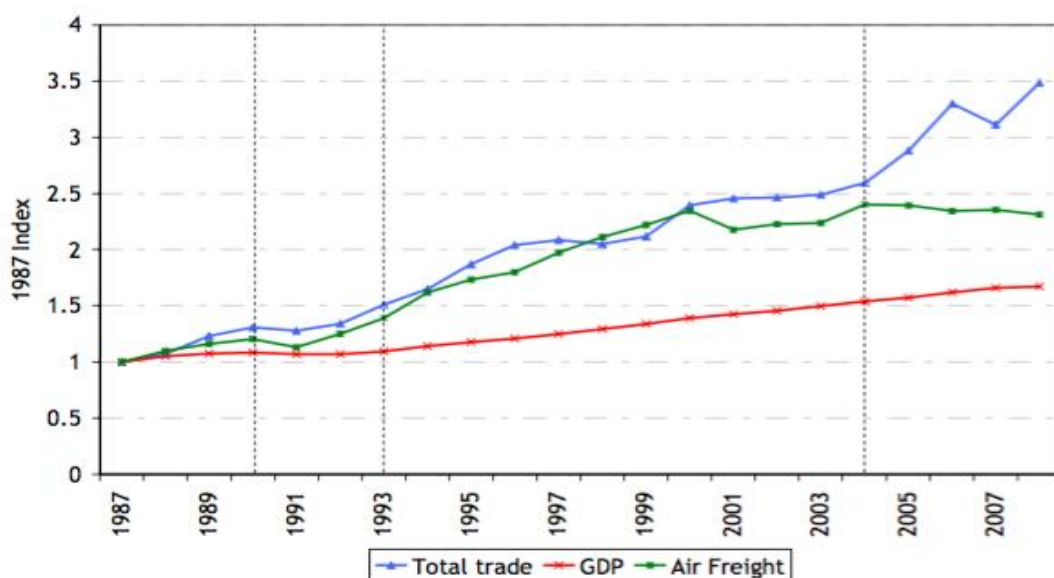
2.20 Evidence in the same report indicates that between 1987 and 2004 air freight grew consistent with trade in the UK. However, when from 2005 onwards this relationship broke down, total air freight volumes to and from the U.K. declined by 3% between 2005 and 2008 at a time when both UK GDP and trade grew. In the same period world trade and world air cargo volumes also continued to grow, emphasising the anomalous behaviour of year-on-year UK air freight metrics (see Figure 8.2 from the report, reproduced as Figure 1 overleaf).

2.21 This led SDG to further postulate that part of the phenomenon may also be that certain types of product are particularly susceptible to ex-UK transshipment, and ironically these are the very same markets in which Manston used to be particularly competitive:

“8.54 Similarly, some product types – perishables for example – are vulnerable to the creation of a European “superhub”. The main European hubs are in sufficient proximity to the UK to allow for perishables to be flown to mainland Europe before being trucked to the UK.”<sup>6</sup>

**Figure 1**

**FIGURE 8.2 HISTORICAL RELATIONSHIP BETWEEN FREIGHT VOLUMES, TRADE AND ECONOMIC GROWTH IN THE UK**



Source: CAA, IMF, ONS. SDG Analysis

<sup>5</sup> SDG (2010): Ibid

<sup>6</sup> SDG (2010): Ibid

2.22 Finally, a report by ARC7 emphasises the significance of this development by highlighting that:

*“Cargo operators use truck rights ..... to extend their networks and add scheduling flexibility. In that perspective trucking offers door-to-door and factory to distribution centre service, which air transport alone cannot provide.”*

*“... In Europe since 2004 the number of airport pairs has increased (more than doubled). And so have the weekly frequencies (nearly fivefold).”*

*“This is especially the case for:*

- Final leg of an intercontinental flight. Once arrived in Europe the good is then shipped by road to its final destination*
- Medium haul “flights” which are mainly operated with narrow body aircraft (A320 or B737 for example) with limited belly capacity- Routes where demand is too low or infrequent to make a dedicated full freight aircraft service sustainable.”*

2.23 It is difficult to put an exact figure on current cross-channel volumes of air freight, but we believe conservatively that it runs into hundreds of thousands of tonnes. Anecdotal evidence from experts RSP’s consultancy team have spoken with confirms this. Such figures would also be in line with York Aviation’s report for TfL and the Freight Transport Association submitted to the Davies Commission in 2015, which suggests that without further intervention in the form of new capacity in the South East of England, 2.1M/T of air freight would need to be trucked to or from airports elsewhere. And even if the third runway at Heathrow does come to fruition the figure would still be close to 1.2M/T. RSP’s consultancy team will be speaking to a range of forwarders in the coming months in an attempt to confirm whether these ‘book-end figures’ are in the right ballpark, and if they are seeking to understand the service levels and pricing that will need to be provided to divert some of that traffic Manston’s way.

2.24 Of course, with Brexit and the loss free movement across custom’s boundaries to Europe in prospect, the time delays and costs associated with cross-channel air freight trucking seems likely to rise substantially once the UK exits the European Custom’s Union. If the UK were therefore to remain dependent on continental airport capacity to deliver and export air freighted goods from the South East of England, then substantial inefficiencies and costs are likely to be introduced for Britain’s businesses. Reporting before Brexit, York Aviation estimated a future requirement for up to 55,000 additional dedicated freighter movements in the South East in 2050 to address this, and recognised that Manston is the only realistic opportunity to meet at least part of this growing demand.

<sup>7</sup> Airports Regional Councils (2016): Air Cargo in Airport Regions

## **The Availability of Substitutable Bellyhold Capacity**

2.25 The final aspects of Avia's report with which RSP disagree, is that Avia asserts that there remains plenty of spare capacity available in the belly hold of aircraft leaving Heathrow and that it is on offer at substantially cheaper rates than can be offered by the owners of freighter capacity at East Midlands or Stansted. The claim is that, because most of the aircraft's operating costs are covered by passenger payloads, then bellyhold rates per tonne are lower than rates for freighters, which are consequently priced out of the market. Moreover, when the third runway, this will increase the supply of bellyhold capacity further, providing sufficient supply-side response to meet the UK's needs for the foreseeable future (i.e. until after 2040). However, Avia adduces no evidence on comparative charging rates between bellyhold and freighter carriers and therefore with Heathrow known to be one of the most expensive airports in the world, we remain sceptical that this is a material factor that would drive the re-allocation of consignments from freighters to bellyhold aircraft.

2.26 In our view, far more important factors influencing where rising air freight volumes are likely to be placed include the following:

- First, just under 50% global air cargo is shipped bellyhold; the comparative figure in the UK is 70%. Since the economies of the UK's main EU competitors are not materially different from our own, there is no logical explanation for this difference other than the shortage of slots available to integrator aircraft or dedicated freighters at the the South of England's two main freight airports - Heathrow and Stansted - caused by high levels of daytime runway demand and capacity at saturation levels in peak and shoulder periods, and in Heathrow's case in off-peak periods too.
- Second, there are many types of freight (e.g. time critical, heavy, large or live) for which bellyhold capacity cannot provide an acceptable substitute to dedicated freighters.
- Third, Heathrow's principal attraction for freight forwarders, namely the range of international destinations it serves directly, is also its potential Achilles heel, because that network may not be sufficiently concentrated on certain 'thick' freight routes to be able to cope with the underlying demand - in other words the more complex the passenger network, the greater the likelihood it may not match the required pattern of freight distribution flows.
- Fourth, new aircraft tend to have less bellyhold capacity than older ones and Heathrow and Stansted are the two airports where these new aircraft are most likely to be introduced.
- And finally, it is very likely that a sizeable chunk of the available runway capacity at both airports will be taken up by Low Cost Carriers (i.e. Ryanair

at Stansted and easyJet at Heathrow), and as with most Low-Cost Carriers, carrying freight does not form part of their business model.

2.27 Hence, in the medium to long term it is hard not to see the average freight capacity per aircraft arriving at Heathrow diminishing, even if with the new runway, the total number of aircraft that can operate there increases.

2.28 Research undertaken by Dr Sally Dixon on RSP's behalf has highlighted substantial evidence that contrary to popular belief, many freighter movements at German freight hubs are made during the day when airports are less congested and rather than at night when stricter night noise quotas apply. But it is during the daytime that slots at Heathrow and Stansted are their greatest premium for passenger services, which generate more revenue per movement to the airport than their freight equivalent. The alternative of using spare runway before or after the morning and evening peaks and shoulder periods, respectively, falls down as a result of:

- the night noise regimes imposed on both airports in the form of noise quotas for aircraft movements before 6am and after 11pm, and
- the preference airports will always give to more remunerative passenger operations rather than freight only movements.

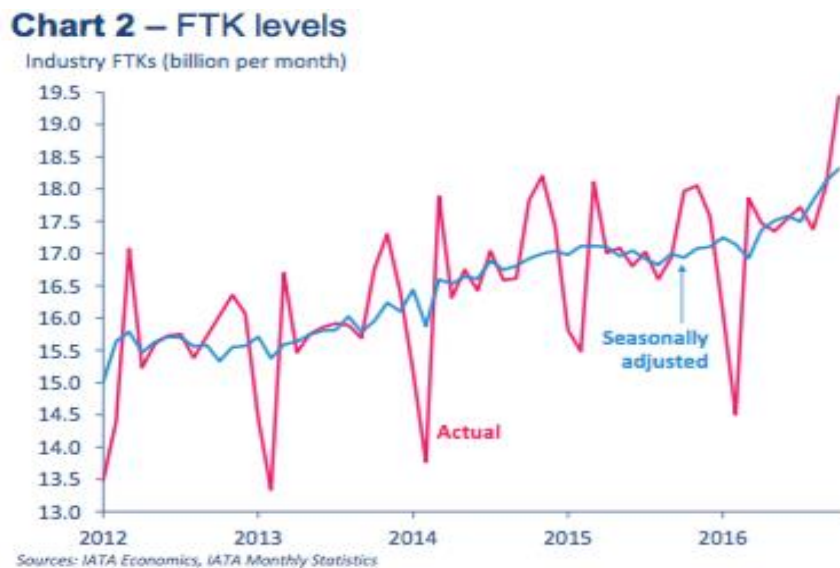
2.29 And whereas slots at Heathrow are already scarce throughout the day, at Stansted, the major carrier Ryanair is looking to base new aircraft that will of necessity be required to fly increasingly long sectors (over 4 hours) to new markets, resulting in an extended operating day in order to fit in the required number of rotations. Hence use of noise of noise quotas for late night arrivals or early morning departures will mostly be allocated to these aircraft rather than being ring-fenced for integrator or dedicated freighter movements.

2.30 Indeed, it is our reading of the market that at some time in the near future (i.e. around 2020-2025), Heathrow, MAG (Manchester Airports Group) the owners of Stansted and Luton will between them be keen to displace several thousand freighter movements to create "new" passenger slots. The only logical destination for these movements will be Manston, which is the only runway south of Doncaster with either the runway length, capacity headroom and real estate footprint to take on the cargo movements.

2.31 Added to this, with the upward trend in air freight FKT's (Freight Kilometre Tonnes) since 2012 and Boeing's central forecast of freight volumes growing at an average CAGR of 3.7% in Europe over the next 20 years, and it is difficult not to surmise that there will not be any let up to the pressure for freight capacity to be

found at South East airports, unless of course, more and more of it is trucked across to the competitive disadvantage of UK business.

**Figure 2**

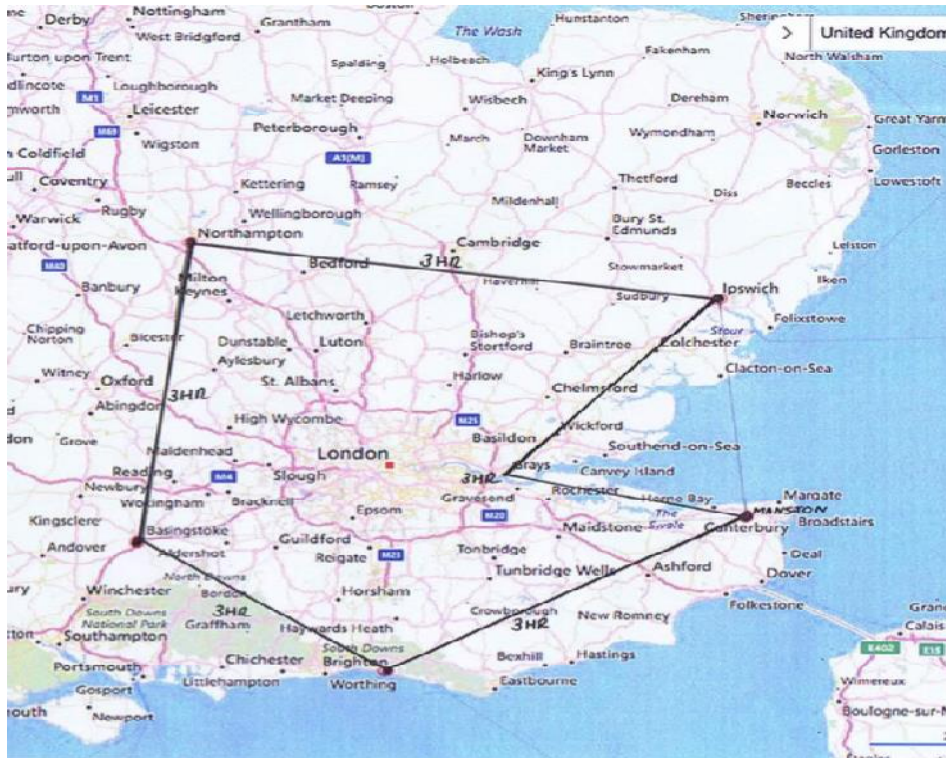


2.32 And Finally, as ARC's reported:

*Flexibility is key for air cargo. The constraint imposed by a slot scarcity could be a problem for operations, in that prospective capacity issues at airports (and delays) could put a brake to cargo operations. Thus, cargo airlines and forwarders are looking for alternative airports to serve their market demands, especially on specific markets (such as live animals shipment, luxury cars, etc.).*<sup>8</sup>

2.33 Manston, which as Figure 3 indicates is within three hours trucking time of much of the South East (including places as far afield as Reading, Brighton, Ipswich and Northampton) and had an exceptional reputation for the speed and efficiency of its freight handling operation - including transferring loads from plane to truck on apron, is exceptionally well placed to meet this role.

**Figure 3**



### 3 Scheduled Passenger Services

- 3.1 Avia's passenger forecasts much more closely match those both Northpoint and Dr Sally Dixon have generated for RSP than their freight equivalents. Their figure of 1.3mppa by 2030 is in line with Northpoint's lower bound, but is 450,00 lower than the high forecast. But thereafter our projections again depart materially, as Avia assumes there will be no further growth at Manston as it will all be focused at Heathrow when the new runway opens. For reasons explained at greater length below, it is highly unlikely that there will be such singularity in terms of future spatial distribution of airport growth and consequently by 2040 Northpoint is projecting a mid-point forecast of 2.5mppa for Manston.
- 3.2 Northpoint's forecasts for RSP use two common methodologies. First, analysis of 2011 and 2012 CAA survey data for South East airports to assess potential market size and then growing that market in line with DfT average growth rates; second evaluation of typical airline behaviour in relation to sub regional markets with an under-utilised airport asset.

- 3.3 The first of these approaches indicates that Manston’s core and floating catchment areas generate demand of between 1.5-3.7m passenger trips per annum depending on where the exact boundaries of the Airport’s catchment is drawn. The districts in Kent included in Table 1, are a somewhat conservative reading of the airport’s potential catchment, the inner core have 375,000 population, the outer circle double that number. But the latter corresponds closely to the industry standard 60-minute drive time used for estimating overall market size for domestic and short haul passenger services.
- 3.4 Other than during a brief period in 2005 when EU Jet was operating an extensive network of services from Manston, these ‘potential’ customers for the airport within Kent are making relatively long surface journeys to use other South East Airports. The data suggests by far the largest percentage of this leaking traffic (around 85%) uses Gatwick and that much of it is leisure orientated (i.e. it is predominantly point-to-point and not dependent on access to a hub to reach its end destination).

**Table 1: Passenger Leakage from Manston’s Catchment**

MSE	Leakage		
Inner catchment	Business	Leisure	Total
Ashford District	33,918	193,472	227,390
Canterbury District	46,218	294,806	341,024
Dover District	20,628	164,176	184,805
Shepway District	19,251	125,768	145,018
Swale District	37,863	148,213	186,076
Thanet District	50,628	181,701	232,329
<b>Sub Total</b>	<b>208,504</b>	<b>1,108,138</b>	<b>1,316,642</b>
Outer catchment	Business	Leisure	Total
Dartford District	39,433	231,649	271,082
Gravesham District	31,236	158,594	189,829
Hastings District	26,554	135,992	162,546
Maidstone District	52,142	300,236	352,378
Medway	68,439	388,215	456,654
Rother District	15,862	109,763	125,626
Sevenoaks District	41,058	295,695	336,753
Tonbridge & Malling	27,932	198,425	226,357
Tunbridge Wells District	79,579	254,615	334,194
<b>Sub Total</b>	<b>382,235</b>	<b>2,073,183</b>	<b>2,455,418</b>

<b>Grand Total</b>	<b>590,740</b>	<b>3,181,321</b>	<b>3,772,060</b>
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- 3.5 By adopting an annualized average growth rate of 2% (compatible with DfT's latest forecasts and rates used by the Davies Commission in their work), we believe that overall demand in Manston's catchment area will increase to around 5 mppa by 2030 based on current surface access infrastructure and 6-7 mppa when planned rail improvements reduce journey times to Manston from London to 60 minutes and to outer London interchanges such as Bromley South and Stratford to 45-50 minutes. By 2040 the equivalent potential market figures will have risen to 8-10m.
- 3.6 Using the conservative assumption that by then 25-30% on certain thick routes might realistically be capable of being captured given the availability of the right type and frequency of services from Manston, that would equate to 1.0-1.5m passengers in 2030, which would be broadly consistent with the start-up performance seen at Southend since it opened. By 2040 the figure would be.
- 3.7 It is worth noting, that by then Gatwick, Stansted and Luton are all likely to be full, with spare capacity focused on Heathrow. However, in Kent's case that is the most distant of the other airports in the London system, with road travel times of 2hrs 30 minutes via some of the most congested and unreliable roads in the UK. Moreover, these estimates ignore the fact that:
- Manston's core catchment area does not have a large airport like Stansted close to it like Southend does, and that airport breached the million passenger barrier with 3 years of start-up;
  - The Lower Thames Crossing once built will open up the densely populated south Essex area to Manston's orbit; and
  - the prospect of Paramount Studios and Ebbsfleet Garden City being built only 40 minutes away and major cruise operations developing at Dover,

all point to these forecasts potentially being conservative

**Table 2: Based Aircraft Passenger Forecasts**

Aircraft Type	Seat Capacity	2020		2030		2040		2050	
		Low	High	Low	High	Low	High		High
B737Max200	200	0	0	0	1	1	2	2	4
B737-800	189	0	1	2	3	3	3	3	1
Q400	78	1	1	1	1	2	2	2	3
Saab 2000	50	0.5	1	1	1	1	1	1	1
Dornier 328	31	1	1	1	1	0	1	0	0
<b>Total Per Annum</b>		<b>250000</b>	<b>750000</b>	<b>1250000</b>	<b>1750000</b>	<b>2250000</b>	<b>2750000</b>	<b>2750000</b>	<b>3000000</b>



- 3.8 Looked at another way, the basing of a low-cost aircraft with 189 seats (such as the B737-800's used by Ryanair to serve holiday sun destinations, short break cities and thick UK and Ireland routes - e.g. Dublin and Edinburgh), brings with it the prospect of 450,000 passengers per aircraft throughput if it is used efficiently (i.e. four rotations and 85% load factors). The equivalent figure for a 78-seat turbo prop of the type used by Flybe to serve business and premium leisure routes in the UK and near Europe would be 150,000 passengers and for a 50 seat Embraer 145 (Bmi Regional) or Saab 2000 (Eastern) and a 30 seat Dornier 328 (Loganair) or Jetstream 41 turboprop (Eastern) serving hub connections and thin business routes, the annual volumes would be 100,000 and 50,000 respectively for a based aircraft.
- 3.9 Table 2 then analyses how different combinations of based aircraft can be used to achieve a range of passenger projections coinciding with key timelines. Hence the low projection of 1.25m ppa by 2030 for example requires two low cost and three different sized turbo-prop aircraft to be based at Manston over the next 15 years and the 2040 high projection require five low cost aircraft, four turbo-props (see Table 2). The combination of factors including domestic, hub connection and short haul leisure demand already identified in, and projected for, the airport's core and outer catchment areas and the prospective slot constraints on Gatwick and Stansted over that period makes this level of passenger activity eminently achievable in the next 25 years.
- 3.10 Therefore, while passenger operations are not the central plank of RSP's plans for Manston, they are nevertheless a useful adjunct, which they will be looking to develop. And our analysis suggests that there is plenty of scope for developing such operations over the next 25 years as discussions with Ryanair and other carriers have confirmed.

### **Other Aeronautical Activities**

- 3.11 General Aviation covers a multitude of activities, from diversions and flight-testing/training of commercial aircraft; to military and emergency service use, aid flights, Business Aviation (BusAv) including offshore servicing, pilot training and private light aircraft flying. All of these activities are gradually being pushed down the airport hierarchy in the South East as the busier and more London centric airports fill up with commercial passenger and BusAv flights. General Aviation will ultimately need to find a safe home somewhere and Manston can provide that.

## **4 Aerospace and Aircraft Servicing and Recycling**

- 4.1 The other major market niche that RSP envisages developing at Manston is a strategic aerospace, aircraft servicing and recycling park offering airside access,

similar to the facility at Alliance Fort Worth in Texas, Hamilton in Ontario and Mirabel in Montreal, Shannon in Ireland and prospectively Cardiff and St Athan in the Vale of Glamorgan. The increasing congestion at the largest south-east airports means that activities such as:

- Aircraft parts manufacture, or assembly of small aircraft;
- Maintenance, repair and overhaul (MRO);
- Other generic aircraft servicing (re-sprays, conversions, parts replacement, upgrades); and
- Aircraft recycling and parts storage operations,

can all be accommodated at Manston.

- 4.2 With the exception of line maintenance (i.e. A and B checks), this kind of activity has tended to get squeezed out of congested airports with limited runway slot availability and/or limited spare land to establish large-scale hangars and accompanying parts, logistics and office buildings. As a result, these uses tend to gravitate towards airports with smaller passenger throughput elsewhere in the UK, where long runways are relatively lightly used, space is plentiful, noise problems associated with nearby communities are manageable and there is Development Area status – for example: Cornwall Airport at Newquay, Prestwick, Cardiff/St Athan and Doncaster Finningley for aircraft and Aberdeen for helicopters.
- 4.3 Although, arguably, Stansted has developed a significant presence in non-passenger markets such as freight and MRO, as has Luton, their medium-to-long term prospects for retaining what they have, let alone capturing a larger market share is uncertain because of growing passenger aircraft movements, enhanced night noise restrictions and in Luton’s case an already significant shortage of land for new apron or buildings. Indeed, Monarch recently relocated their heavy maintenance operation from Luton to Birmingham for exactly this reason. Southend and Gatwick are equally space constrained with pressure to minimise the area dedicated to aircraft servicing in favour of other airport operational or commercial ambitions.
- 4.4 In reality, Manston is a unique in offering an opportunity to develop an airfield-focused cluster of civilian aerospace businesses on a large scale in location with development area status in the South East of England. By comparison, Farnborough and Biggin Hill, who have material aspirations in this area, have more targeted niche aspirations in mind focused largely on Business and General Aviation; Cambridge is maxed out accommodating Marshalls’ mainly defence-orientated aerospace business and Norwich is heavily committed to meeting KLM’s corporate needs. As such, Manston is well placed to as a focal point for new

or replacement requirements of this sort in the South East on the grounds of its relative proximity to London and the near continent and because of the substantive land holding and excellent runway it offers.

- 4.5 Forecasting this sector tends to be done either at a macro level or in terms of specific specialisms (MRO, conversions, re-sprays, etc.). This is because it is the archetypal example of a face to face networking market, where quality and personal relationships and existing order-books are as important as in-depth data driven analysis in identifying market opportunities. This makes having a strong supply side offering in terms of existing buildings, serviced land, a skilled work force and good supply chains as important as price in many cases. Other than that, having good intelligence about different airline, (OEM) Original Equipment Manufacturer and third party supplier current and potential future needs, based around new models and entry or expansion into new markets, is required, alongside good contact networks.
- 4.6 However, the clear evidence is that there are, at any one time, a small number of major development requirements in the market for investment in large-scale facilities offering airside access. This has certainly been the case over the last 2-3 years when:
- Boeing, Gulfstream, Embraer and Bombardier are known to have been looking to establish new servicing centres in Europe. Monarch needed to relocate their MRO operation from Luton and KLM expanded their operation at Norwich substantially;
  - there has been material aerospace industry demand for UAV friendly airfields (Newquay, Aberporth and Cambeltown are good examples)
  - a number of companies are known to be considering investing in spaceport facilities, with Llanbedr, Prestwick and Newquay in the UK known to be locations favoured by the UK Space Agency and CAA; and
  - there are consortia exploring the scope for developing large-scale, specialised and high-tech orientated aircraft recycling centres, as the number of aircraft coming out of service and requiring dismantling is likely to rise to up to 400 per year in Europe over the next ten years.
- 4.7 The last of these niche sectors is a classic example of an emerging market opportunity that, as yet, few have capitalised on, but which in the future will require a substantial scaling-up of available facilities to cater for the number of aging aircraft being taken out of service and the residual asset value that can be extracted from second-hand parts and recycled aluminium they contain. The current aircraft recycling industry is nascent, small and rather primitive, relying as it does on the destructive break-up of aircraft that have had second-hand parts removed and the dispatch of the resulting scrap for general scrap value. A new,

more modern and sophisticated approach to the sector is required as increased volumes of aircraft come out of service and are ready for dismantling.

- 4.8 The annual throughput is eventually expected to reach 400 a year and this will demand larger-scale recycling centres of between 250,000 - 300,000 square feet with associated storage of 100,000-200,000 square feet, because space needs to be capable of accommodating large precision cutting equipment for use on redundant aircraft wings and fuselages to generate scrap in a form where aluminium recyclers can make increasing use of it more easily than they can of aluminium mixed up in general scrap. The storage space will be required for recovered spare parts while they are inventoried, checked and then made available for sale. Moreover, these large sheds will need to be accompanied by apron space for 8 or 9 aircraft to be stored at a time waiting for the start of the dismantling process.
- 4.9 Manston is one of a relatively small number of locations in the UK where an aircraft recycling centre on this scale, taking over 100 aircraft a year, could be accommodated. RSP is in contact with potential partners for this kind of facility and there is little doubt Manston will be in a strong position to attract this kind of activity, generating substantial rental income for the airport and skilled jobs for the regional economy.
- 4.10 What is absolutely certain, is that Avia's approach to this opportunity, notably to dismiss it from any consideration in relation to their financial appraisal of the prospects for a re-opened Manston airport, is short-sighted, arbitrary and wrong. It smacks of trying to ensure that the substantial revenue and jobs that could come from developing an aircraft engineering and servicing cluster in East Kent are not reflected in business plan for the airport as it might make it look substantially more attractive.

## 5 Conclusions

- 5.1 Taken together, this vision of Manston as a multi-faceted airport combining freight, passenger and air servicing and recycling activities, amounts to a completely different business model for the use of the airport than envisaged in the Avia Solutions report, which focused on passenger-driven revenues for the airport's viability. Avia's report therefore demonstrates a fundamental misunderstanding of RSP's intentions and a failure to understand how to strategically exploit Manston's infrastructure assets within a congested system of airports in the South East.
- 5.2 The conclusion reached by Northpoint Aviation is that the Avia Solutions report adopted an outlook, methodology and accompanying assumptions that were designed to generate a pre-determined answer, namely that Manston was no longer viable as an airport.
- 5.3 It is for these reasons that we remain convinced that given:
- The right activity and therefore revenue mix, that does not depend materially on passenger volumes as in the past;
  - significant investment in infrastructure on the ground and, in particular, all the new parking stands warehousing and hangarage required to support a major air freight hub operation at Manston;
  - an investor with the resources to take a long-term view of the airport as an investment and not expect an instant return;
  - the consolidation of key partnerships with key carriers and other important stakeholders (such as those RSP have been assiduous in discussing their plans with); and
  - the successful progress of a DCO and the associated CPO;
- 5.4 Then Manston can be both viable, profitable and a major source of employment in East Kent generally and Thanet, in particular, whilst offering much needed cargo capacity to a London airports system which is bursting at the seams and is likely to remain so for many years to come.
- 5.5 Accordingly, RSP's carefully honed proposals demonstrate that Manston can be successfully developed as a mixed-use airport, underpinned by a significant and much-needed cargo operation, to become an important and complementary infrastructure asset within the wider South East airport's system that will contribute materially to the local, regional and national economy.

## Appendix A: Cargo Forecasts Presented Initially to PINS in the Context of the DCO Application<sup>9</sup>

A1. Initial estimates, presented informally to PINS last year at the start of the DCO process, suggested a market of c500-650k tonnes of freight could be captured at Manston by 2040, and they were based on relatively conservative assumptions about capacity loss at other South East airports and a 5% growth in overall volumes moving forward, compared to the 20% CAGR seen historically in the dedicate freighter markets. For example:

- Stansted is affected by increasing shortages of slots and noise quotas reduce the volume of freight it handles from 250,000 to 100,000 tonnes over next 10 years, with the balance (150,000 tonnes) transferred as carriers move to the less expensive and environmentally constrained facilities at Manston.
- A similar pattern occurs at Luton, which is also a predominantly freighter operation, reducing volumes from 27,500 - 12,500, with the balance transferred to Manston.
- At Gatwick, which is now approaching 90% slot occupancy, more of the freight is belly hold and can be expected to remain. With this in mind, we have assumed only a small proportion, representing the residual dedicated freight movements transfer and hence tonnages reduce from 90,000 to 80,000, with 10,000 tonnes moving to Manston
- In the case of East Midlands, we have conservatively assumed no change, even though a proportion of freight is heading for inside or around the M25 and could therefore be re-directed through the geographically closer Manston.
- For Heathrow, we have assumed dedicated freighter operations remained constrained and some lower value less time critical consignments can be re-directed via Manston, transferring 25,000 tonnes in the process.
- We have also targeted ‘clawing back’ some of the UK bound traffic that is flown into EU freight hubs (e.g. Liege, Paris CDG, Cologne, Leipzig etc.) and then trucked to the UK. The conservative assumption is 50,000 tonnes.

A2. The resultant projections are shown below in Table A1. The date at which the NSIP threshold of 10,000 freighter movements is passed is dependent heavily on how freight volumes develop, but also on the average tonnage per movement. At 50t/atm it would take until 2030 to pass the 10,000-movement barrier; but with a figure close to the Manston average per flight between 2004-13 of 26t/atm that date could be as early as 2024-25.

<sup>9</sup> ARC (2016): Page 28 Ibid.

<sup>9</sup> ARC (2016): Pag

**Table A1: Original NSIP Outline Freight Projections for Manston to 2050**

	<b>2030</b>	<b>2050</b>
2015 Tonnage Re-allocated by 2025#	250,000	250,000
<b>Projected Tonnages</b>	<b>520,000</b>	<b>660,000</b>
No. of Freighter Movements at 50T/ATM*	10,400	13,265
No. of Movements at 37.5 T/ATM (i.e. assumes 50% return movements empty)*	13,865	17,600
No. of Freighter Movements at 26T/ATM*	<b>20,000</b>	<b>25,385</b>
MSE Ave 2004-13		

Notes: # This is the assumed baseline by 2025

A3. Since then, those original forecasts have been updated and made slightly more conservative as the likely date of re-opening the airport recedes to 2020. The new forecasts allow for the capture of 75,000 tonnes of freight by 2020 and 150,000 tonnes by 2025 - half from other airports (50,000 tonnes from Stansted, 15,000 as dedicated freighters are moved out of Heathrow and 10,000 tonnes from Luton) and half as clawback from cross channel traffic.

A4. A lower CAGR of 3.7% (in line with Boeing World Cargo Forecast expectations) is then applied in Table 2 alongside and a further allowance of 5,000 tonnes per annum transferring from Stansted and Luton to 2040 (it is assumed Heathrow expands again from 2025 onwards), complemented by continuing clawback from cross channel markets of a similar amount. By 2040 the total amount of clawback is conservatively assumed to be 150,000 tonnes, although the arrival of the third runway means that after 2026 Heathrow will also be competing in this market suggesting clawback from Europe might reach 250,000-300,000 in total.

A5. These assumptions result in forecasts of 230,000 tonnes by 2030 and 470,000 tonnes by 2040, with the threshold for the DCO in terms of freight movements being tripped around 2035, 15 years after the airport re-opens if average tonnage per aircraft movement is 37.5 tonnes and 2031 if the average is close to Manston's previous average of 26t/atm.

**Table A2: Revised Outline Freight Projections for Manston to 2040**

	<b>2020</b>	<b>2030</b>	<b>2040</b>
2015 Tonnage Re-allocated or Re-Captured by 2025#	75,000	150,000	150,000
Projected Tonnages	75,000	180,000	372,000
With Potential Clawback from EU Airports added	<b>75,000</b>	<b>230,000</b>	<b>472,000</b>
No. of Freighter Movements at 50T/ATM*	1,500	4,600	9,400
No. of Movements at 37.5 T/ATM (i.e. assumes 50% return movements empty)*	2,000	6,150	12,590
No. of Freighter Movements at 26T/ATM*	<b>3,000</b>	<b>9,200</b>	<b>18,880</b>
MSE Ave 2004-13			

A6. Along with the figures in Table A1 and A2, Amazon are known to be considering establishing their own freight airline to service their next day delivery promise both in the US and Europe<sup>10</sup>. This is a core part of their Amazon Prime offer, and rather than continue to outsource it to existing carriers it looks increasingly likely that they will seek internalise and control supply chains, as this is at the heart of the company's

<sup>10</sup> Seattle Times 18 Dec 2015 - <http://www.seattletimes.com/business/amazon/amazon-in-talks-to-lease-20-jets-to-launch-air-cargo-business>



business philosophy. If the current trials are successful, then the network could begin to be rolled out in 2-3 years' time in Europe.

A7. Unlike at Luton, where some of the trial flights are currently heading (because of the companies established fulfilment centres at Milton Keynes and Hemel Hempstead, there is sufficient land to develop a very large (500,000 – 1 million sq. ft.) fulfilment centre with direct airside access and immediate dual carriageway access at Manston.

A8. Such a dedicated logistics centre might be expected to substantially increase the tonnages and movement projections above, perhaps by as much as 200,000 tonnes (i.e. 30-40%). And it seems highly unlikely it would go to a congested airport with, little spare land available (e.g. Heathrow, Luton and Southend) and significant night movement restrictions (Heathrow, Gatwick and Stansted). Manston would therefore seem like the obvious (and only) option for Amazon in the South East.

A9. However, as Table 1 makes clear, the threshold for a NSIP project (i.e. 10,000 freighter movements) is exceeded under all our scenarios, whether Amazon's operations are attracted or not.

## Appendix B: About the author

Chris Cain, Director of Strategy and Policy at Northpoint Aviation, is a transport and economic development planner who has specialised in aviation since 1998. Since joining Northpoint in 2011, Mr Cain has advised a wide range of both public and private sector clients, including most of the UK's smaller regional airports, on strategy and Government policy matters.

In 2013, he conceived and created a new industry association specifically to look after the policy interests of smaller airports. This organisation, called the Regional and Business Airports Group, has now grown to 38 airport members. Its' main role is to commission research and make representations to Government on its members' behalf.

Prior to joining Northpoint, Mr Cain's background included eight years as Head of Airports Policy in the Department for Transport where he was responsible for the development of regional airport policy across the UK and for running many of the large-scale technical studies and consultations that under-pinned the preparation of the 2003 Air Transport White Paper, including such areas of work as:

- Air freight policy and forecasts;
- SERAS (The South East Regional Air Services Study), which included development of a new passenger forecasting model for the UK;
- Smaller airports in the South East referenced in paragraphs 11.93 – 11.103 of the Future of Air Transport White Paper published in 2003, including paragraph's 11.98 and 11.99 on Manston.

In 2006, he became Airport Director at Newquay Cornwall Airport working for Cornwall County Council where he was responsible for:

- the transition of the then military airfield at R.A.F. St. Mawghan into licensed civilian airport owned and operated by the Council – Manston's CLOPUD (Certificate of Lawfulness of Proposed Use or Development) was used as a model during this process;
- developing the airport's passenger facilities, route network, commercial activities and financial revenues;
- developing long-term vision for the airport in the form of a Masterplan which was published, consulted upon and finalised between 2008-09;
- diversifying the new airport's revenue streams away from relying solely on passenger services and to invest in other aviation related activities such as the aerospace sector and aircraft servicing and training.

Mr Cain's experience of central Government policy making in this area and the directly relevant expertise he developed from having a hands-on leadership role at Newquay (an airport that, like Doncaster Sheffield, faced and overcame many of the challenges that will face RSP when they secure the DCO for Manston), leads him to consider that a

similar outcome can be secured for Manston. This is especially the case as it benefits from a more propitious commercial environment, in an already heavily congested South East airport system, where spare capacity is at a premium.

Between 2011-13 he was also engaged by Infratil, the then owners of Manston Airport, in a consultancy capacity to prepare representations to the Davies Commission on its strategic long term potential, if the Commission chose not to recommend construction of new runway capacity in the Thames Estuary or at one of the existing major London Airports.