

PROPOSAL TITLE:	Stansted 4 Runway Hub	Group:	Dispersed
SUBMITTED BY:	MSP Solutions	Reference No.:	56

PROPOSAL

The submitter considers that Stansted offers the best balance of cost and environmental impact, and that it should be developed into a 4-runway hub airport, along the lines anticipated by the 2003 Air Transport White Paper consultation documents, at which time Heathrow would close. In the immediate term, the proposal suggests that Heathrow would operate in mixed mode. Depending on the runway configuration, up to c.950-980,000 ATMs could be handled by Stansted airport.

Substantial investments in road access and a new rail link to central and west London and beyond would need to be developed to serve the catchment area around Heathrow. The M25 would need to be widened, an improved link into the A1 and access from East Anglia north and east of Cambridge.



ASSESSMENT SUMMARY

In principle, both this proposal and those from MAG and the Mayor of London are similar. Both proposals suggest a phased expansion building upon existing infrastructure, with the potential to offer a larger, more efficient configuration enabling a more resilient operation than Heathrow, with an overall reduction in population affected by aircraft noise nuisance on closure of Heathrow. In contrast to both the Luton and, more significantly, Gatwick hub options, the system reduction to population affected by noise nuisance is achieved at Stansted without affecting a noticeable additional population.

Given commercial delivery is likely to require the closure of Heathrow, and that Luton would be required to close due to airspace conflicts, the net capacity benefit to the London system is somewhat limited. The Stansted hub option may therefore offer an inferior net capacity benefit compared to Gatwick. The closure of Heathrow and Luton would reduce competition in the London system, and to a greater extent than the Gatwick option only closing Heathrow.

PROPOSAL TITLE:	Stansted 4 Runway Hub	Group:	Dispersed
SUBMITTED BY:	MSP Solutions	Reference No.:	56

OVERVIEW

Approach	Unstated, but implies that Government led initiative to compulsorily transfer traffic from Heathrow in 2025 to the developed Stansted. Low-cost traffic is assumed to leave Stansted in 2025 when charges increase to recoup cost of new infrastructure.						Opening Year 2025		
Capacity	The closure of Heathrow and Luton offsets the capacity increase at Stansted. The claimed capacity should be considered as upper bound and may be optimistic depending upon runway configuration. The Low Cost Carrier (LCC) sector however would be disproportionately disadvantaged with only Gatwick remaining in the London system primarily serving the sector.						Airport Net Runways 4 0 ATM 980,000 75,000 pax 175 27		
Cost	Cost includes high speed rail link into London as considered in the similar Mayor of London submission. Without this direct link, cost would be c £60bn.		Airport 22.4	Access 15.1	Other 0.5	Sub Total 38.0	Including Risk/OB 81.8		
Surface Transport	Major capacity improvements are required on the West Anglia Mainline and the Stansted Airport branch to accommodate additional passengers, and at least either an extension to the proposed Crossrail 2 or a dedicated high speed rail link to central London. Besides new airport access roads, the M11, A120 and M25 would require significant widening and other capacity improvements to accommodate the expected additional traffic.				1 hr isochrone 16				
					2 hr isochrone 27				
					London centre 30 miles				
Economic	Borough	Uttlesford	East Herts	Harlow	Broxbourne	Enfield			
	Unemployment (%)	3.7%	4.4%	10.5%	5.9%	10.5%			
	Ave. Salary (£/yr)	29,968	32,765	26,733	29,630	28,850			
	Borough	South Cambs	Epping Forest	Welwyn Hatfield	North Herts	Stevenage			
	Unemployment (%)	4.1%	5.7%	5.3%	6.9%	7.6%			
	Ave. Salary (£/yr)	31,938	29,016	32,448	28,314	32,183			
	County	Hertfordshire	Essex ex UAs	Cambs ex UAs	Outer London E&NE				
	GVA (£/capita)	23,073	16,707	21,598	13,428				
Environment	This footprint at Stansted will impact fewer environmental and heritage sites than proposed footprints at Luton or other proposals for Stansted. Fewer residences will be demolished than at Luton. Large scale movement of jobs.				Airport 15,000 57 LAeq 55 LDEN 92,000	Net (233,000)			
	SAC ¹	SPA ¹	Ramsar	CA ¹	AONB ¹	SSSI ¹	Listed Buildings	SAM ¹	Houses Lost
	-	-	-	-	-	2	91	2	330

¹ SAC: Special Areas of Conservation; SPA: Special Protection Areas; CA: Conservation Area; SSSI: Site of Special Scientific Interest; SAM: Scheduled Ancient Monument.

PROPOSAL TITLE:	Stansted 4 Runway Hub	Group:	Dispersed
SUBMITTED BY:	MSP Solutions	Reference No.:	56

ECONOMY

Borough	Uttlesford	East Herts	Harlow	Broxbourne	Enfield
Unemployment (%)	3.7%	4.4%	10.5%	5.9%	10.5%
Ave. Salary (£/yr)	29,968	32,765	26,733	29,630	28,850
Borough	South Cambs	Epping Forest	Welwyn Hatfield	North Herts	Stevenage
Unemployment (%)	4.1%	5.7%	5.3%	6.9%	7.6%
Ave. Salary (£/yr)	31,938	29,016	32,448	28,314	32,183
County	Hertfordshire	Essex ex UAs	Cambs ex UAs	Outer London E&NE	
GVA (£/capita)	23,073	16,707	21,598	13,428	

Impact on Industry

Implementing mixed mode at Heathrow could allow an increase in capacity of between 5-15%, increasing connectivity, allowing expansion of businesses supporting Heathrow and its users, and reducing delays through improved resilience. An extended Stansted would, with Heathrow and Luton closing, provide an additional runway. This creates benefits by allowing new services and reducing operational costs due to operation of a more efficient airport and increased runway capacity with better utilisation, particularly if operated in full mixed mode. However this may be offset in part by increased landing charges to recover capital costs of construction, and being slightly less well located for the airlines' prime passenger market. The closures of Heathrow and Luton would free up land for development, but require many businesses located in the Heathrow/Thames Valley/M4 corridor to relocate, eroding the agglomeration effects there, although agglomeration may emerge over time closer to Stansted.

Airports	Allowing full mixed mode at Heathrow could provide additional hub capacity or improved resilience until a new hub is opened at Stansted. A Stansted four runway hub would provide sufficient capacity to meet demand till at least 2040. Closure of Heathrow and Luton Airports would reduce competition in the London airport system. The large capacity of the airport could attract network traffic away from Gatwick, while having to subsume the traffic of Stansted and Luton, making for a potentially difficult traffic mix (i.e. low cost and network carriers typically require/prefer different infrastructure and service levels).
Airlines	Airlines using Heathrow (and its successor hub at Stansted) and others seeking to use it would benefit from the increase in capacity allowing new direct routes, higher frequencies and competition and reducing delays, because of sufficient capacity for resilience. Greater competition and reduced airline 'slot' values will have a countervailing effect on some airlines. Interline traffic would have more potential to increase, enhancing the viability of more direct routes, particularly by airlines based at the new hub. LCC and charter airlines would face less choice of airports, given Luton's closure and Stansted's replacement with a new hub airport, although this may facilitate growth at Southend, Southampton, Birmingham, etc.
Passengers	Passengers will benefit from increased capacity at the new site via delay reductions, a greater choice of destinations/enhanced frequencies, more competition (reducing fares) and faster terminal throughput times. Access and connectivity for Essex, Cambridgeshire, Hertfordshire and Suffolk would improve noticeably with enhanced rail and road connections. Closure of Heathrow would mean modest increases in travel times and surface transport fares for users from West, Central and South London, and from the West and South. The closure of Luton would be detrimental to passengers local to that airport.

Local & Regional Economic Impacts

The airport is located in Uttlesford district, and close to East Hertfordshire, an area of low unemployment. Whilst many other surrounding areas have low unemployment, Harlow and Enfield have high unemployment and have easy access to the airport. Essex and adjacent areas of outer London have low economic productivity. A Stansted hub would facilitate growth of new and existing industries in aviation, airport and aviation support services and travel, tourism, logistics and other related sectors, to service the growth in passenger and freight demand met by the new airport. Many of these businesses would have relocated from the vicinity of Heathrow. The immediate effect would be to increase commercial property development in the vicinity of the new site, but there would also be significant potential to redevelop the Heathrow site for both commercial purposes and residential development. The agglomeration effects of the existing Heathrow / Thames Valley/M4 corridor would be diluted, as such businesses may prefer to locate closer to the new airport. Reduced noise impacts would likely have a modestly positive effect on land prices to the east of the Heathrow site, offset by some negative impacts closer to the new airport. There would be significant dislocation of employment, with many employees needing to relocate or face a significantly higher priced commute. Existing commuters in the area may experience increased congestion and travel costs, despite the improved transport connections.

National Economic Impacts

The main national economic impacts come from the provision of new hub capacity both from mixed mode at Heathrow and the new Stansted hub, enabling more flights and connectivity, and the increase in business and leisure trips, and trade in goods and services (and the indirect effects on inward investment). Increased choices of flights and airlines, reducing travel time and fares should generate significant consumer/welfare benefits. The benefits would be offset by slightly higher access costs from West and South London (although lower costs for the East).

PROPOSAL TITLE:	Stansted 4 Runway Hub	Group:	Dispersed
SUBMITTED BY:	MSP Solutions	Reference No.:	56

SURFACE ACCESS

Time/Distance to Central London 30 minutes 30 miles Journey times to other population centres	1 hr isochrone population 16 2 hr isochrone population 27	Key required upgrade schemes <ul style="list-style-type: none"> Second rail tunnel on airport branch West Anglia Main Line (WAML) 4 tracking 12 car, non-stop services to Liverpool St Crossrail 2 extension or high speed rail to central London. Additional local rail connections and services to the N, NE and NW. <ul style="list-style-type: none"> Additional M11 junction and access link. M11 widening (M25-A11) A120 widening and upgrades Local highway and access road improvements.
Rail Infrastructure Capacity Analysis The existing Stansted station can accommodate up to 14 services an hour, but to accommodate the additional passengers expected from a hub, requires a second rail tunnel on the Stansted branch and 4-tracking of the West Anglia Mainline to allow for non-stop frequent services into Liverpool St. In addition, it is likely that at least, either an extension of Crossrail 2 from Tottenham Hale (which would provide a “Piccadilly line” equivalent stopping metro service) or a dedicated high speed railway to central London will be required to meet demand (both have been proposed by submitters). It is not clear which are essential and which are useful but not ideal. Essentials are probably improvements to the WAML and a new high speed rail service and improvements to WAML, and useful are probably extensions to Crossrail 1 and Crossrail2, and HS1/HS2 connections. More analysis is required to validate this.		
Highways Capacity Analysis The submission does not include any highway capacity analysis. However, it suggests a series of highway improvements necessary to serve a Stansted hub airport. It is likely that the minimum required would be: improved links from the airport to the M11, widening the M11 between the A11 and the M25, extensive widening of the A120 and a series of new link and access roads. The submission also proposes a new connection to the A1 and significant widening of the M25 either side of its junction with the M11 likely capacity improvements to wide range of connecting highways and local/access roads.		
Accessibility to Population & Business centres Stansted is adequately connected to central London by existing services. However, rail access to other locations is relatively poor, with hourly services to Cambridge and Birmingham. The M11 provides good access towards west London with connections to the M25 and A406 across outer, east, north and central London, and to Cambridgeshire, with connections to Suffolk, Norfolk and the Midlands, but involves lengthy journey times from west and south London and counties to the south and west of London.		
Accessibility to Transport Interchanges Currently there are rail links to Liverpool Street and Tottenham Hale and a separate service to Cambridge, Peterborough and Birmingham. A Crossrail 2 extension would connect the airport to Euston, Victoria and Clapham Junction, whilst a high speed rail link could connect to multiple London rail interchanges (proposed is Stratford, Old Oak Common, Canary Wharf, London Bridge and Waterloo).		
Accessibility to Workforce Accessibility to workforce has not been considered within the submission, however, it is likely that many employees of the Stansted hub would be drawn from a local catchment, using the existing highway network, and enhanced public transport. It is difficult to forecast the redistribution of commuting patterns from the closure of Heathrow.		
Potential Wider Use Highway improvements on the M11 and A120 around Stansted would substantially benefit existing populations, commuters and businesses along associated corridors. The rail improvements would benefit commuters, particularly if the location of the new hub airport was combined with more land being available for housing along the West Anglia Mainline corridor to create demand for more frequent commuter services on the improved railway.		

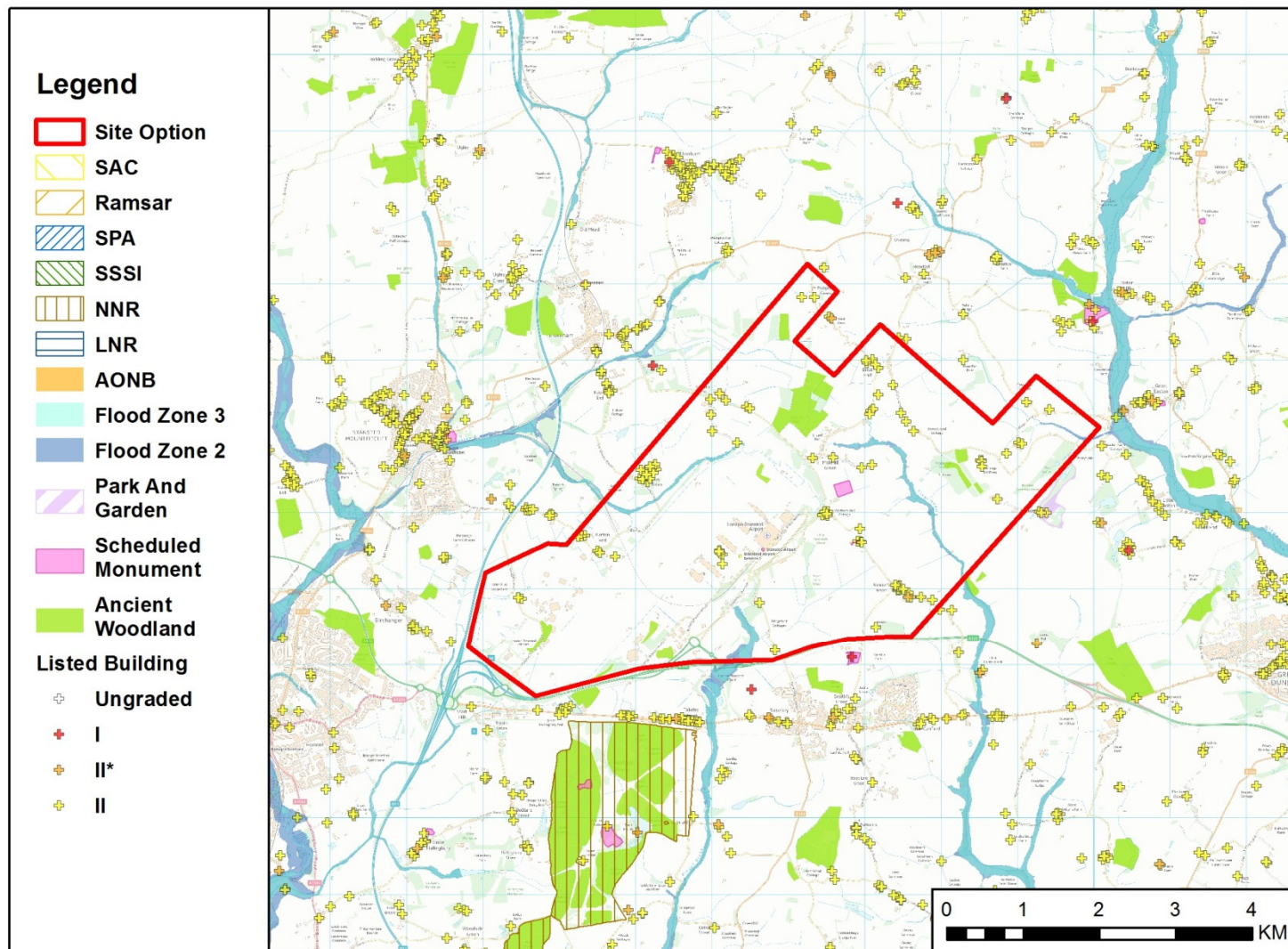
PROPOSAL TITLE:	Stansted 4 Runway Hub	Group:	Dispersed
SUBMITTED BY:	MSP Solutions	Reference No.:	56

ENVIRONMENT

Overall noise impact	Increase impact at Stansted, but significant system reduction.						Airport	Net	
	57 LA _{eq}						<u>12-14,000</u>	(233,000)	
							15,000		
	55 L _{DEN}						<u>35-40,000</u>		
							92,000		
	SAC	SPA	Ramsar	AONB	SSSI	CA	Listed Buildings	SAM	Houses Lost
	-	-	-	-	2	-	91	2	<u>240-400</u> c330
Air Quality Air emissions are likely to depend greatly on surface access and the use of public transport. As for all new hub options, potential for some local air quality benefits through removal or reduction of Heathrow airport’s contribution to local NO ₂ . Luton airport would close for this option, with removal of airport and related traffic contribution to air emissions locally.							Mitigation Plan		
Noise Independent noise modelling for comparison provided the following results: ▪ 57LAeq: 15,000 people affected; ▪ 55Lden: 92,000 people affected. The population affect by 57LAeq represents a 14,000 increase at Stansted Airport, however the London system would experience a net reduction of 233,000 given the closure of Heathrow and Luton.							Mitigation Plan		
Designations Direct loss of 2 woodland SSSIs and local wildlife sites; GIS analysis shows 91 listed buildings and 2 Scheduled Ancient Monuments within the footprint. Designated sites nearby are additionally potentially affected by surface transport and associated development. Direct impacts on 12 blocks of Ancient woodlands. Potential impacts on a nearby National Nature Reserve							Mitigation Plan		
Climate Change Construction carbon footprint likely to be less than a wholly new hub location. Operational efficiencies may result in lower carbon emissions per traveller than average.							Mitigation Plan		
Other Issues Large area of agricultural land loss. No significant flooding issue							Mitigation Plan		

PEOPLE

Housing	Demolished
Significant increased demand for housing likely in the region	c330
Vulnerable Groups Most of the wards within the towns closest to Stansted Airport, such as Bishops Stortford, have a low score on the Indices of Multiple Deprivation, indicating a primarily non-deprived area. Impacts on health, vulnerable groups and local communities are not specifically addressed other than through employment opportunities.	
Quality of Life Noise and visual impacts and significant loss of open space and recreational amenity with the additional urbanisation of the area will affect local quality of life. Benefits through improved opportunity, access to services and connectivity.	
Wider Social Impacts Could support regeneration aims for the Upper and Lower Lea Valley and east London with associated social benefits to areas of deprivation and unemployment. There are likely to be additional impacts from in-migration of working population in terms of increased pressure on services such as health, housing and education and changes to population mix and health issues. Additional pressure on housing and housing/rental could reduce affordability for the existing population. Social impacts at Heathrow and Luton would depend on redevelopment of the airport sites and the extent they can provide for housing and employment needs.	



PROPOSAL TITLE:	Stansted 4 Runway Hub	Group:	Dispersed
SUBMITTED BY:	MSP Solutions	Reference No.:	56

COST

Capital Cost		£ bn
The submission appears to suggest a capital cost of c £15-25bn. Independent cost analysis assesses the scheme to cost c £82bn.		
	Airport	22.4
	Access	15.1
	Other	0.5
	Sub-Total	38.0
	Risk	16.5
	Optimism Bias	27.3
	Total	81.8
Key Risks		
<ul style="list-style-type: none"> Land acquisition costs. Tunnel construction. Widening of M11 and M25. Rail connection to London. 		
Risk and Contingency Allowances		
40% contingency adopted for airport works. 50% contingency adopted for surface access costs reflecting the greater uncertainty of scope and complexity of extending links into London. 50% optimism bias applied to all costs.		
Surface Access Costs		
£15.1bn estimate for road and rail links based on submission and requirement for infrastructure identified by the independent analysis. The independent cost estimate includes allowances for a high speed rail link/Crossrail extension and express rail link to London Waterloo.		
Other Off-Airport Costs		
An allowance of £0.5bn has been included to cover typical environmental mitigations measures for flood protection and habitat loss.		
Summary Comments		
The high level cost estimate in the proposal is likely to underestimate the cost.		
Costs associated with the closure of Heathrow have been excluded.		

OPERATIONAL VIABILITY

Capacity		Runways	Airport	Net
Broadly in line with the similar proposal from MAG, the submission suggests that 950-980,000 ATMs pa may be achievable. The high end of this range may be optimistic.		4	0	
		ATM	980,000	75,000
		pax	175	27
The closure of Heathrow and Luton offsets the capacity increase at Stansted. However the greater average passengers per ATM achieved at the new airport compared to either the current Luton or Stansted airports would be expected to lead to an overall increase in passenger capacity. The Low Cost Carrier sector however would be disproportion disadvantaged with only Gatwick remaining in the London system primarily serving the sector.				
Resilience, Reliability and Efficiency				
The proposed adoption of mixed mode at Heathrow would add modest capacity or improve resilience. These benefits would be lost on the abandonment of Heathrow. The proposed Stansted hub could be defined to meet resilience targets.				
Safety				
The proposals could be designed to comply with safety requirements.				
Scalability				
Further eastwards expansion could provide additional capacity if required.				
Airspace				
The proposal would require significant airspace design. The boundaries of the London Terminal Manoeuvring Area (LTMA) and Stansted's Standard Instrument Departure (SID) routes, Standard Terminal Arrival (STAR) routes and interfaces with en route airspace would be amended to reflect the essentially new airport and the closure of Heathrow and Luton. However, given the long-term nature of the options and the likely airspace and air traffic management developments under SESAR (the Single European Sky ATM Research Programme) and the London Airspace Management Programme (LAMP), restructuring could be achieved as part of the on-going development process. There would not need to be any change of international boundaries.				

PROPOSAL TITLE:	Stansted 4 Runway Hub	Group:	Dispersed
SUBMITTED BY:	MSP Solutions	Reference No.:	56

DELIVERY

Timescale

Unstated, but implies that government led initiative to compulsorily transfer traffic from Heathrow in 2025 to the developed Stansted.

Public funding

Government -funded scheme presumably delivered via Special Purpose Vehicle with some new road links via public-private partnership with potential government underwriting of demand risk. Constructed airport then operated by private operator.

No clarity re estimates for Heathrow acquisition/resale/redevelopment.

Private funding

Package of support measures may be needed for private financing, including government support/commitment (e.g. loans, debt guarantees, minimum demand guarantees, tax incentives) and supportive regulatory framework. These measure measures may be needed to reduce cost of finance or, more fundamentally, to accessing sufficient quantum of private finance before financing cost considerations arise.

Commercial/financial structure (e.g. RAB, PPP, other)

RAB structure for new airport plus PPP/conventional government procurement for surface access and utility company finance for utilities.

Commercial Deliverability

Even with government grant the scale of private financing challenge is very significant, but may be achievable subject to regulatory structure and comprehensiveness of government support package. Raises major taxpayer value for money questions plus could impact government balance sheet treatment. Without grant funding landing charges would need to rise to levels that are likely to be unsustainable if the airport were to remain competitive.