

PROPOSAL TITLE:	Luton	Group:	Existing
SUBMITTED BY:	Policy Exchange and Centre Forum	Reference No.:	57

PROPOSAL

Following a review of various aspects of the southeast airport policy debate, including economic, environmental and technical aspects, the submitter concludes that the preferred solution would be to develop hub capacity at Heathrow. However, if that option were politically unacceptable, it concludes that the next preferred option would be to develop an alternative hub at Luton.

In order to render Luton commercially viable, Heathrow would be closed. Stansted would also likely be closed due to airspace restrictions, with a second runway developed at Gatwick to accommodate displaced leisure and low cost flights.

In principle two options are presented, to either build a new airport between Luton and Harpenden, or to extend the existing airport at Luton broadly along the lines of the airport's former master plan. New surface access connections would link the airport to the M1 and the Midland Mainline.

ASSESSMENT SUMMARY

In principle, both this proposal and the concept from WestonWilliamson+Partners are similar, providing 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. Although the system gains a net noise benefit, that benefit is delivered at the cost of affecting a significant, currently not impacted, population around Luton.

Given that commercial delivery is likely to require the closure of Heathrow, and that Stansted would be caused to close due to airspace conflicts, the net capacity benefit to the London system is somewhat limited. The Luton hub option may therefore offer an inferior net capacity benefit compared to Gatwick. The closure of Heathrow and Stansted would reduce competition in the London system, and to a greater extent than the Gatwick option. The capital cost however is lower than for either the Stansted or the Gatwick options.

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OVERVIEW

Approach	No details provided. It is assumed that following enabling legislation an appropriate Special Purpose Vehicle would be established to construct and operate the airport and presumably manage the, State led, closure of Stansted and Heathrow airports. Opening may be 2025-2030.						Opening Year	2030		
Capacity	Runways ATM pax						Airport 4 900,000 170	Net 0 (5,000) 22		
Cost						Airport 15.3	Access 5.9	Other 0.5	Sub Total 21.7	Including Risk/OB 46.2
Surface Transport	A direct link to the Midland Mainline is essential, but it is unclear if there is adequate capacity on the line to provide the necessary level of service frequency to meet demand for access to the new hub. A light rail connection to the WCML and ECML is unlikely to have a high impact. Major highway improvements are likely to be necessary, particularly to address east-west traffic movements from the A1(M), A10 and M11, and possible congestion on the M1 and M25.						1 hr isochrone		15	
							2 hr isochrone		29	
							London centre		27 miles	
Economic Borough	Luton UA		Central Beds		St Albans		Bedford		Dacorum	
Unemployment (%)	9.4%		6.1%		5.2%		7.3%		5.7%	
Ave. Salary (£/yr)	25,111		28,694		35,110		26,905		29,375	
Borough	Stevenage		North Herts							
Unemployment (%)	7.6%		6.9%							
Ave. Salary (£/yr)	28,314		32,448							
County	Luton UA		Beds (rest)		Hertfordshire					
GVA (£/capita)	21,829		15,883		23,073					
Environment	22 Ancient woodlands directly impacted. More residences will be demolished than at STN. Deprived areas within Luton may benefit more than area around STN.						57 LA _{eq} 55 L _{DEN}	Airport 133,000 <u><50k</u> 201,000	Net (115,000)	
	SAC ¹	SPA ¹	Ramsar	CA ¹	AONB ¹	SSSI ¹	Listed Buildings	SAM ¹	Houses Lost	
	-	-	-	-	-	-	42	1	520	

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

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ECONOMY

Borough	Luton UA	Central Beds	St Albans	Bedford	Dacorum
Unemployment (%)	9.4%	6.1%	5.2%	7.3%	5.7%
Ave. Salary (£/yr)	25,111	28,694	35,110	26,905	29,375
Borough	Stevenage	North Herts			
Unemployment (%)	7.6%	6.9%			
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County	Luton UA	Beds (rest)	Hertfordshire		
GVA (£/capita)	21,829	15,883	23,073		

Impact on Industry

A new airport with two pairs of close parallel runways to the south of Luton Airport will close Stansted. With Heathrow also required to close, this provides one net additional runway, but no material change in ATM capacity, although passenger capacity will increase. With a redistribution of low cost flights to Gatwick, this may create benefits at Luton by allowing new services and reducing operational costs due to the 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. It would free up land at Stansted and Heathrow for redevelopment helping address demand for land for housing.

Airports With the existing Stansted airport required to be closed for airspace reasons, and Heathrow to be closed to facilitate hub status at Luton, the additional runway capacity satisfies only short term needs, with full mixed mode necessary for any material passenger capacity increase. The large capacity of the airport could attract network traffic away from Gatwick, while having to subsume the traffic of Stansted and Luton. The low cost sector would be disproportionately impacted, with only Gatwick remaining in the London system offering significant appropriate capacity. Closure of Heathrow and Stansted airports would reduce competition in the London airport system.

Airlines As with any other major new hub airport displacing Heathrow, airlines currently using Heathrow and others seeking to use it would benefit from the increase in capacity allowing new direct routes, higher frequencies, reduced delays, because of sufficient capacity for resilience. LCC and charter airlines would not find sufficient capacity in dedicated airports and may have to share, though this may facilitate growth at Southend, Southampton, Birmingham, etc. Interline traffic would have more potential to increase, enhancing the viability of more direct routes, particularly by airlines based at the new hub.

Passengers As with any other large new hub airport, passengers would 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. But travel times and costs would increase on average for typical customers in London and most of the SE, albeit only modestly as this is the second best SE site after Heathrow, and with reductions from the Midlands and the areas adjacent to Luton. The closure of Stansted would be detrimental to passengers local to that airport.

Local & Regional Economic Impacts

The airport is located in Luton district, an area of relatively high unemployment and low economic productivity for the south east. Surrounding areas vary from somewhat low to somewhat high unemployment for the region, and the economic product of the rest of Bedfordshire is very low. The site providing an expanded airport with sufficient capacity to meet expected short term demand 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 relocate 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 significantly, as such businesses may prefer to locate closer to the new airport and in the M1 corridor. Reduced noise impacts would have a modestly positive effect on land prices to the east of the Heathrow site, offset by some smaller negative impacts closer to the new airport. There would be significant dislocation of employment, with many employees needing to relocate, although house prices are high in much of the area outside Luton and Bedford themselves. Existing commuters in the area may experience increased congestion and travel costs, despite the improved transport connections.

National Economic Impacts

The main impacts come from the provision of new capacity, 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 higher access costs from London (although lower costs for the Midlands and areas surrounding Luton). Increased congestion in the M1 corridor may also be problematic.

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SURFACE ACCESS

Time/Distance to Central London 20 mins (40 mins on MML) 27 miles Journey times to other population centre Birmingham 1hr 15 mins Manchester 2hr	1 hr isochrone population 15 2 hr isochrone population 29	Key required upgrade schemes <ul style="list-style-type: none"> East/west Light Rail Transit service from the WCML at Tring running via the airport to the ECML at Stevenage Diversion of Thameslink services on the MML to serve the terminal Platform capacity enhancements at St Pancras New link road from airport to the A1(M) Capacity improvements to the M1 and M25. Improved and higher capacity local highways (e.g. B653, B652)
Rail Infrastructure Capacity Analysis The sponsor has not conducted any analyses of whether the surface access could support an airport of this size. The proposal suggests the use of light rail to connect to the West Coast Mainline at Tring and the East Coast Mainline at Stevenage, meaning an additional interchange for travellers. A dedicated link to the Midland Mainline would also allow access to St. Pancras, and then central and South London via Thameslink. It is unclear whether there would be adequate capacity on the line to support the necessary frequencies for the passengers likely to use a Luton hub. The proposal suggests a 20 minute travel time, but a non-stop express service on the Midland Mainline would be likely to take 40 minutes. No provision has been made to provide enhanced services or capacity on any other lines.		
Highways Capacity Analysis The main access by road would be the M1 with the westerly terminal located directly on the motorway. No analysis has been presented on whether the M1 and M25 could cope with the increase in traffic given current levels of congestion on these roads if Luton was expanded to four runways. It is likely that either a new link road or widening and grade separation of existing roads from the east connecting the A1(M), and possibly the A10 and M11, would be required to avoid severe congestion from traffic accessing from Essex, Suffolk, Cambridgeshire and the East Midlands. Other capacity upgrades to the M1 and M25, beyond those already committed, may also be required, including significant enhancements across the local highway network		
Accessibility to Population & Business centres The airport would be well served by the strategic highway network with the M1 located to the west and the A1 to the east providing links to London and east Midlands, and the M25 to the south and west, although capacity improvements would be needed as peak congestion already puts pressure on these roads. To the north the M1 provides links to Milton Keynes, Coventry, Leicester, Nottingham and northern England, and the A1 provides a key link to Peterborough. The Midland Mainline provides the airport with direct links to London and Bedford in addition to through trains to Leeds, Doncaster and Nottingham.		
Accessibility to Transport Interchanges A light rail link is proposed to directly connect Tring and Stevenage through both terminals. This would provide a 10 minute journey time to the West Coast Mainline at Tring and Stevenage on the East Coast Mainline. Direct trains would serve St Pancras, and key London stations such Farringdon, Blackfriars and London Bridge (for South Eastern) in addition to Gatwick in the south.		
Accessibility to Workforce While new hub would have light rail access to Tring and Stevenage, and access to the Midland Mainline, it is likely that much of the workforce will access the airport by car, as only some of the commuter catchments would be readily accessible by public transport. In addition to those towns, the workforce is likely to be drawn from Luton, Milton Keynes and north London.		
Modal Split Assumptions None stated, but a public transport mode share of over 50% should be achievable for trips to and from central and south London.		
Potential Wider Use The rail connections proposed within the submission are unlikely to have significant wider economic benefits, but increased capacity on the M1, M25 and the Midland Mainline should have some economic benefits for commuters and other traffic.		

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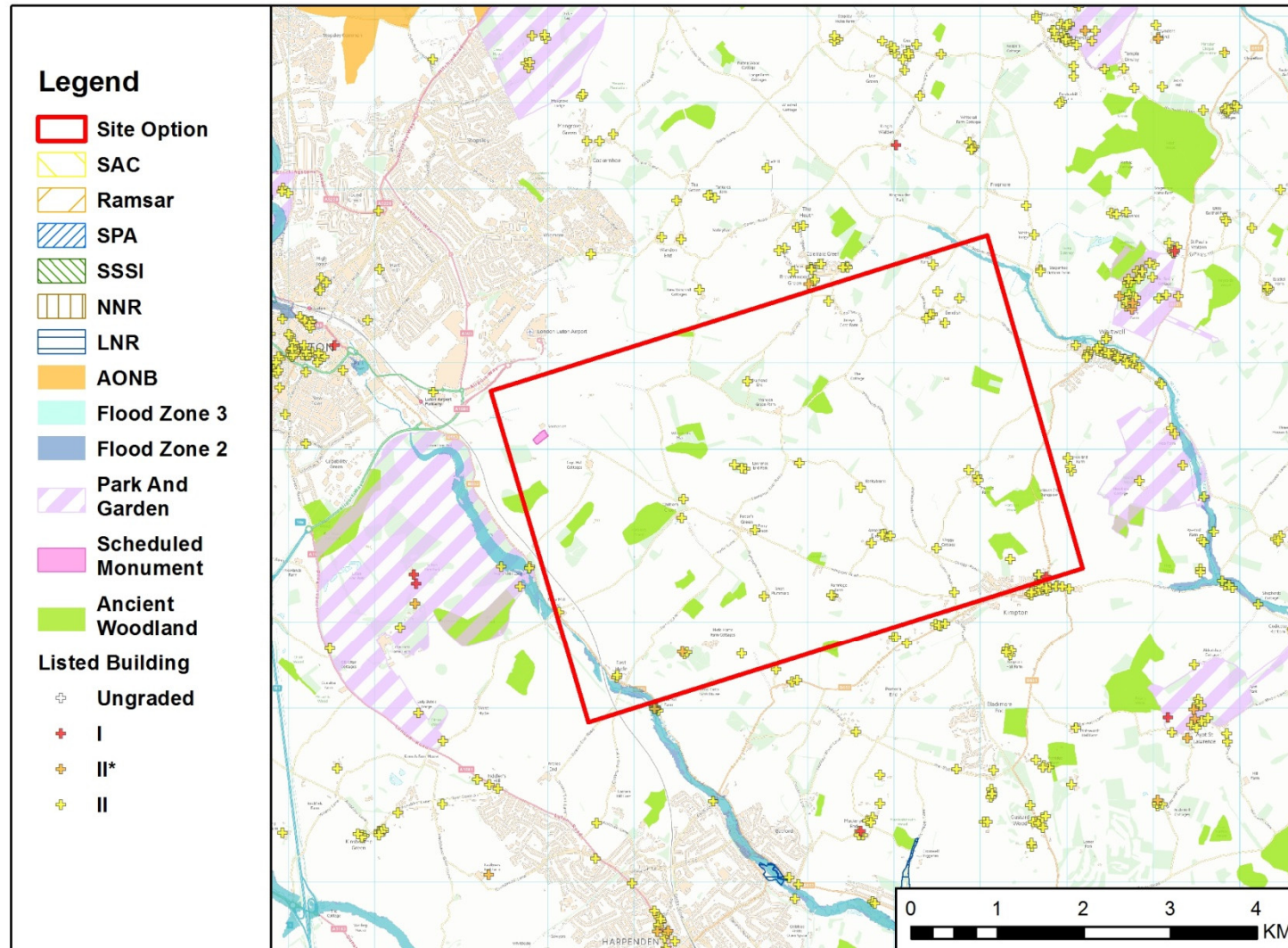
ENVIRONMENT

Overall noise impact	Significant local negative impact, primarily on Stevenage, but net system reduction, principally with the closure of Heathrow.						57 LA_{eq}	Airport	Net
	SAC	SPA	Ramsar	AONB	SSSI	CA	55 L_{DEN}	133,000	(115,000)
							Listed Buildings	SAM	Houses Lost
	-	-	-	-	-	-	42	1	520
Air Quality The area of the new airport would experience a negative impact, although 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 and removal of Stansted airport and related traffic contribution to air emissions locally							Mitigation Plan		
Noise Independent noise modelling for comparison provided the following results: <ul style="list-style-type: none"> 57LAeq: 133,000 people affected; 55Lden: 201,000 people affected. The population affected by 57LAeq represents a 126,000 increase at Luton Airport, however the London system would experience a net reduction of 115,000 given the closure of Heathrow and to a lesser extent, Stansted. The impact of this increase would disproportionately impact Stevenage.							Mitigation Plan		
Designations Likely loss of a number of cultural heritage designations, ancient woodland and landscape impacts. GIS analysis indicated a direct impact of 42 listed buildings, one Scheduled Monument and 22 Ancient Woodlands.							Mitigation Plan		
Climate Change <u>Goal that 45% of airport passengers would travel to the airport by car and 55% by public transport.</u> Modal change from passenger transport to airport via rail. Carbon footprint likely to be less than a wholly new hub location, efficiencies may result in lower carbon emissions per traveller than average.							Mitigation Plan Efficiency potential in technology, modal shift, design and operation. Potential for increased passenger use of public transport may contribute to reduced CO ₂ emissions.		
Other Issues Impact on agricultural land and woodland. No significant flooding issue.							Mitigation Plan		

PEOPLE

Housing	Properties would be lost in the hamlets of Peter's Green, Chiltern Green and the larger village of Breachwood Green.	Demolished c520
Vulnerable Groups	Most of the wards within Luton have a high score on the Indices of Multiple Deprivation, indicating a primarily deprived area with scope for improvement, which might benefit more from the new opportunities that the airport hub could bring.	
Quality of Life	In addition to the property loss detailed above, there would be significant impacts on a number of additional villages close to the airport footprint (New Mill End, East Hyde, Kimpton, Bendish). Stevenage would experience a significant increase in noise nuisance.	
Wider Social Impacts	Enhanced connectivity internationally, and between regional UK location and the rest of the world. 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.	

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COST

Capital Cost		£ bn
<u>Submission estimates a cost of £20 bn, not adjusted for optimism bias and does not make any reference to contingency for risk. The submitter notes that cost estimates require a full engineering appraisal and their estimate is a benchmark against their own Heathrow proposal and Foster's Thames Estuary scheme.</u>		
Independent cost analysis assesses the scheme to cost £46bn.	Airport	15.3
	Access	5.9
	Other	0.5
	Sub-Total	21.7
	Risk	9.1
	Optimism Bias	15.4
Total		46.2
Key Risks		
<ul style="list-style-type: none"> ▪ Undulating topography of the proposed site. ▪ Surface access links needed. 		
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		
£0.9bn estimate for road and rail links based on site requirement for infrastructure identified by independent analysis, with further allocation of £5bn for offsite upgrading of road and rail access. This allocation may underestimate the full cost which could increase the total cost to c £50bn.		
Other Off-Airport Costs		
An allowance of £0.5bn has been included to cover other typical environmental mitigations measures. No costs included with respect to the closure of Heathrow and Stansted.		
Summary Comments		
Cost suggested by appears to underestimate the potential cost of the airport and its wider access requirements. Costs associated with the closure of Heathrow have been excluded.		

OPERATIONAL VIABILITY

Capacity		Airport	Net
The closure of Heathrow and Stansted leads to a minor reduction in system ATM capacity. 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 LCC sector would be disproportionately disadvantaged, with only Gatwick remaining in the London system.	Runways	4	0
	ATM	900,000	(5,000)
	pax	170	22
Resilience, Reliability and Efficiency			
The proposal supports independent parallel approaches on the two centre runways and segregated operations/independent parallel departures on the two outer sets of runways. The proposal could be defined to meet resilience targets.			
Safety			
The outer runways require inner runway crossings to access. Easterly approaches would overfly Stevenage, however the extent is significantly less than the approaches over London into Heathrow, which the new airport would replace.			
Scalability			
Although, in theory it is possible to build further runways to the east to avoid Harependen, but Harependen would still lie close to the western end of the any future runway, with the potential to create risks around noise, air quality and the environment.			
Airspace			
The proposal would require significant airspace design. The boundaries of the London Terminal Manoeuvring Area (LTMA) and Luton'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 Stansted. 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 Light Aircraft Maintenance 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.			

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DELIVERY

Timescale

Unstated, but assumed that following enabling legislation an appropriate Special Purpose Vehicle would be established to construct and operate the airport and presumably manage the, State-led, closure of both Heathrow and Stansted airports. Opening may therefore be 2025-2030.

Sources of funding

Assumed that funding, similar to other new hub proposals, may be raised from private sources through Development Company, but likely to be underwritten by Government, and would require resolution of LLAOL's lease.

Assume government funds surface access. Potentially 50% grant, 50% private of which 20% (10% overall) from private equity. Highly geared approach due to limited availability of construction equity. Debt financing primarily through bond market, combination of fixed rate and index-linked.

Public funding

Comprehensive government guarantee package likely to be required including management of the closure of Heathrow, availability of surface access, financing market disruption, change of law/policy protection, limitation of cost/time overrun. Direct guarantees of senior debt may even be needed.

Private funding

Likely to comprise significant debt funding (mainly bond) and limited equity investment.

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.