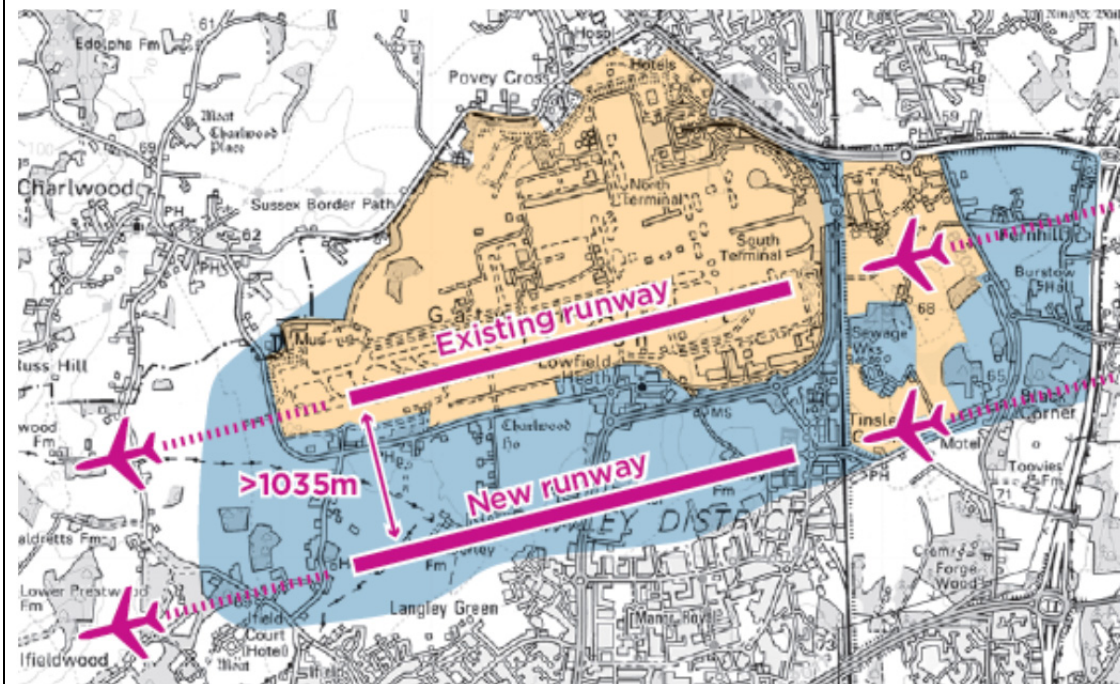


PROPOSAL TITLE:	London Gatwick Airport 2 nd Runway Option	Group:	Dispersed
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PROPOSAL

From the three in-principle options presented by the promoter, this assessment is based upon the widest-spaced second runway to the south of the existing runway permitting fully independent, mixed mode operation. Although details of the supporting infrastructure have not been provided, these would appear to be proposed between the two runways.



ASSESSMENT SUMMARY

STRATEGIC FIT / ECONOMY / OPERATIONS			ENVIRONMENT			
Runways (net increase)	Passengers (net mppa)	ATMs (net)	London Airports Impact	57 dBA Leq 2030 pop'n with scheme	Listed Bldgs Grades I&II*, SM, CA, RP&G	Heritage & Designations Affected
	62	370,000	LHR ➡	1,400	0	<div>SPA</div>
	60	317,000		2,500	3	<div>Ramsar</div>
2	53	268,000	LGW ➡	▶ 6,300 ◀	4	<div>SSSI</div>
▶ 1 ◀	46	260,000	STN ➡	13,500	▶ 5 ◀	<div>Grade I</div>
	40	250,000		142,600		
			LTN ➡	144,000	8	<div>Grade II*</div>
▶ 34 ◀	▶ 222,500 ◀			144,600		<div>Sched. Mon.</div>
	30	190,000	LCY ➡	180,900	14	

SURFACE ACCESS			COST / DELIVERY		PEOPLE	
45 min Population (millions)	1hr Population (millions)	2hr Population (millions)	2030 Risk- Adjusted Total (£bn)	Aero Yield (relative to LHR Q6)	Houses Demolished	IMD (Average within 5km)
17	18	38	9-13	▶ 1.3x ◀	▶ 200 ◀	26
14	16	36	▶ 10-13 ◀	1.5x	260	21
▶ 10 ◀	▶ 14 ◀	27	13-18	1.6x	720	20
9	13	25	16-22	2.4x	800	19
6	12	▶ 20 ◀	50-67	3.4x	1,300	▶ 14 ◀
			82-112		1,500	8
					1,600	7

PROPOSAL TITLE:	London Gatwick Airport 2nd Runway Option	Group:	Dispersed
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OVERVIEW

Approach	Enabling legislation 2015-2019 with construction commencing after 2019 leading to opening in 2025 following established regulated mechanism.								Opening Year 2025	
Operational Viability	Capacity				Airport		Net		Forecast Use of Maximum Capacity	
	Runways				2		1		2030	
	ATM				502,500		222,500		70%	
	pax				84		34		60%	
Cost	£b	Airport	Access	Other	Total	Risk	OB	Risk Adjusted Total	Promote Estimate	
	2030	3-4	1-2	~1	5-6	2-3	3-4	10-13	8.2	
	2050	5-7	1-2	~1	7-9	3-4	5-6	14-19		
Surface Access	<div><div><div>Poor access to cities north of London.</div><div>Current rail access to London is congested at peak times</div><div>Committed rail improvements include Thameslink capacity and service improvements and Gatwick station improvements.</div><div>Total Gatwick to London rail capacity appears just about able to cater for total rail demand, but only if pricing and other mechanisms are applied to ensure airport-related and commuter demand is better spread between the services to exploit full capacity.</div><div>Road access to most of London is significantly slower with less capacity than Heathrow and Stansted, with no improvement plans north of M25.</div><div>Widening of M23 J8-9, and capacity improvements to M23 J8, M23 J9 and M23 J9A are the minimum necessary for adequate road access.</div></div></div>							Isochrone	Pop ⁿ (million)	
								45 min	10	
								1 hr	14	
								2 hr	20	
								London centre	25 miles	
Economic										
Borough Unemp ^{nt} (%)	Crawley	Mid-Sussex	Horsham	Reigate and Banstead			Tandridge	Mole Valley		
Ave. Salary (£/yr)	7.6	3.4	4.6	4.7			4.6	4.3		
County GVA (£/cap)	25,527	29,884	29,968	36,239			30,716	34,284		
	West Sussex	Surrey	East Sussex	Kent						
	19,241	25,432	13,521	17,185						
Environment	<div><div><div>Double the number of people impacted by noise as for Stansted +1, but both still significantly below all Heathrow options.</div><div>Land required has been formally safeguarded since 2003 but up to 200 residential and additional commercial properties would be lost.</div><div>15 Listed Buildings certainly affected (potentially up to 18) by new runway development footprint including 5 Grade II* listed buildings but no other significant designations.</div></div></div>					57 dBA L _{eq}				
						2030 promoter impact	8,400			
						2012 local	3,200			
						2030 local - with scheme	6,300			
						2030 Net Local Impact	4,400			
						2030 system - with scheme	250,100			
						2030 Net System Impact	4,400			
						55 L _{DEN}	2030	22,200		
						50 L _{night}	2030	6,900		
						N70	2030	5,100		
	SAC ¹	SPA ¹	Ramsar	CA ¹	AONB ¹	SSSI ¹	Listed Buildings	SM ¹		
	-	-	-	-	-	-	15	-		
People								IMD	Houses Lost	
								14	200	
Delivery						Aero Yield Increase	Airport Only	Including Access		
						Indexation	~110%	~135%		
						No indexation	~170%	~210%		

¹ SAC: Special Areas of Conservation; SPA: Special Protection Areas; CA: Conservation Area; AONB: Area of Outstanding Natural Beauty; SSSI: Site of Special Scientific Interest; SM: Scheduled Monument.

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ECONOMY

Borough	Crawley	Mid-Sussex	Horsham	Reigate and Banstead	Tandridge	Mole Valley
Unemployment (%)	7.6	3.4	4.6	4.7	4.6	4.3
Ave. Salary (£/yr)	25,527	29,884	29,968	36,239	30,716	34,284
County	West Sussex	Surrey	East Sussex	Kent		
GVA (£/capita)	19,241	25,432	13,521	17,185		

Impact on Industry

Adding a second runway at Gatwick would allow the airport to meet its unconstrained demand through to 2050, enhancing its ability to compete with Heathrow and Stansted. This would support higher frequencies, new routes and additional airlines at Gatwick (as services are currently constrained at peak times by a lack of capacity) particularly growth based on the existing major LCC and network carrier operations. Growth would be in part dependent on continued constraint of capacity at Heathrow, and it could attract some peak services from Stansted. However, expansion of Gatwick may not result in a significant transfer of services from Heathrow. Expansion at Gatwick would support growth of industries in the airport vicinity, and employment in Crawley.

Airports	A second runway at Gatwick would allow the airport to provide up to ~220,000 additional ATM p.a. This would enable Gatwick to handle an additional 34mppa, allowing it to meet its likely unconstrained forecast demand to 2050. In particular, Gatwick is likely to attract new LCC, charter and cargo services from other London area airports, and some incremental additional long haul and network services (although this is likely to be dependent on maintaining capacity constraints at Heathrow). Stansted and Luton are most likely to be impacted by expansion at Gatwick. It may nonetheless be difficult for expansion of Gatwick to significantly impact demand for capacity at Heathrow. Gatwick Airport claims it could attract one airline alliance to relocate from Heathrow. However, it is unlikely that Gatwick would attract material network carrier activity, given comments received from the alliances, existing airline commitments to Heathrow, commercial experience of airlines that have offered services at more than one London airport and the fluid, cross-cutting and overlapping relationships and interlining dependencies between airlines within and across alliances e.g. many non-One World carriers have an interlining agreement with British Airways. Competing hubs in countries nearby may also present more profitable avenues for airline expansion than developing an additional London hub. .
Airlines	Airlines currently using Gatwick, and others seeking to use it, would benefit from the increase in capacity and modest reductions in delays due to greater resilience, and would offer more services at times of peak market demand. This is most likely to benefit the main users of Gatwick (LCCs, charter operators, BA, Virgin Atlantic and a small number of foreign network carriers) primarily to expand services to Europe, and a few long haul services currently constrained by lack of slot availability at peak times. It is likely to result in some transfer of services from Stansted and Luton at peak times, and a few operators at Heathrow choosing to realise the value of their Heathrow slots, by transferring a few lower yielding services to Gatwick so that those Heathrow slots can be leased/sold to other carriers, or utilised for “higher yielding” services.
Passengers	Passengers would potentially benefit from increased capacity through delay reductions and a greater choice of destinations/enhanced frequencies at Gatwick. Users in Sussex, Surrey, Kent and south London would particularly benefit, compared to options for expansion at other airports. Users of Luton and Stansted may be disadvantaged, although direct replacement flights may operate from Gatwick limiting the negative impact only to those passengers for whom surface travel to Gatwick is more inconvenient than to Luton or Stansted.

Local & Regional Economic Impacts

An expanded Gatwick Airport would facilitate growth of new and existing industries in 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. Such growth is likely to be an incremental addition to existing industries in the vicinity. It would support modest levels of agglomeration in Brighton, and support employment at Crawley and across Sussex. Most of these areas have relatively low levels of unemployment. Increased noise impacts in the immediate vicinity would have a modest negative effect on residential property prices, but the increased airport activity is likely to contribute towards higher indirect and induced employment in the vicinity. This may also add to the modest agglomeration impacts arising from the airport, and given its proximity to the south-west it may help support agglomeration around Guildford. Gatwick Airport claims that expansion could support an additional 19,000 jobs by 2050, which does not appear unreasonable as the scale of direct and indirect employment would be in proportion to the numbers of additional passengers.

PROPOSAL TITLE:	London Gatwick Airport 2nd Runway Option	Group:	Dispersed
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National Economic Impacts The main national economic 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), but on a smaller scale than options that provide for an expanded hub. Increased choices of flights and airlines, reducing travel time and possibly fares should generate significant consumer/welfare benefits, but again smaller than for an expanded hub. Given Gatwick is close to full capacity, this indicates that there is constrained demand for additional flights from Gatwick. Expansion at Gatwick would have a positive impact on connectivity by allowing more services, primarily to Europe, but also some long haul services.			

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SURFACE ACCESS

Time/Distance to Central London	Isochrone pop ⁿ (million)	Key required upgrade schemes (above those already committed)	
28-46 mins (by rail)	45 min	10	<ul style="list-style-type: none"> M23 widening J8-9. Local road improvements to A23.
55 mins-1hr + (by road)			<ul style="list-style-type: none"> M23 J8 junction improvement. Improvements to Gatwick rail station.
25 miles			<ul style="list-style-type: none"> M23 J9A junction improvement.
Journey times to other population centres	60 min	14	<ul style="list-style-type: none"> New grade separated junction from M23 at J9 to terminals.
Birmingham: 2hrs	120 min	20	
Manchester: 2hr 40mins			

Mode Split Assumptions

Currently 44% of passengers use public transport modes to access Gatwick: 34% using rail and 10% bus/coach. GAL's strategy is based on increasing the public transport mode share of passengers to 50% in 2031, split 42% rail and 8% bus/coach. We concur that this is not an unrealistic assumption, given the significant planned improvements in Thameslink service patterns contained in the committed CP6 Programme (and the continued poor quality road access from much of London). Currently, 35% of employees use 'sustainable modes' to access the airport (12% bus, 12% rail, 5% car passenger, 6 % other including walking and cycling). The target is to increase this to 40%, and we have assumed 20% would be by rail. This target would be achieved by the extension of the Airport Travel Plan which offers discounted travel on bus and rail services, providing remote staff car parking to encourage a transfer to other modes and re-timetabling early morning rail services to be more attractive to employee travel.

Rail Infrastructure Capacity Analysis

Peak hour one-directional rail flows to/from Gatwick on a 'busy day' in 2031 estimated to be ~2,500 passengers per hour in the peak direction (pphpd). Based on the current geographic distribution of airport-related rail trips, one-way peak hour airport-related demand (pphpd) on each service estimated as: Gatwick Express (1,300); Thameslink northbound (800); Southern services northbound (300); southbound to Brighton (500); and westbound to Reading (200). Based upon Network Rail's assumed frequency patterns and train capacities estimated the volume/capacity (v/c) ratios for airport-related demand on the services are: overall (0.15); Gatwick Express (0.55); Thameslink northbound (0.10); Southern northbound (0.10); southbound to Brighton (0.15) and westbound to Reading (0.30). All these services would be used by both airport-related and other (commuter and leisure) demand and the key issue is whether there is enough capacity to cater for both airport-related and commuter demand.

A range of measures are already committed to increase the rail capacity on the Brighton Main Line including 50% more capacity on Thameslink by 2018, new connections to Cambridge and Peterborough, an additional platform at Redhill (allowing a doubling of services to Reading) and specification of a dedicated Gatwick Express service in the next Thameslink franchise.

GAL modelled the CP6 capacity improvements specified above in DfT's PLANET South model and concluded that rail capacity is sufficient to accommodate the demand from the second runway at Gatwick. However, the Rail Utilisation Study estimated that the v/c ratios (excluding a second runway at Gatwick) would be 1.05 at Victoria for fast services from East Croydon and 0.87 at London Bridge for Sussex Thameslink services. It would appear that the committed capacity improvements (including CP6) would provide (just) enough total capacity on the services between Gatwick and London. With careful pricing and other mechanisms, airport-related and commuter demand may be spread between the services to ensure that the full capacity is maximised.

Network Rail proposed schemes in its January 2013 Business Plan to provide additional peak hour capacity for both air passengers and commuters which could be brought forward in CP6. These schemes include Three Bridges signalling, Windmill Bridge Junction grade separation, remodelling of East Croydon Station to provide extra platforms and fast line tracks (bi-directional), Stoats Nest Junction improvements, Keymer Junction grade separation, Victoria Platform 8 alterations and potential Clapham Junction signal alterations. Furthermore, GAL is reviewing options with NR for additional investment at the airport station including: additional concourse capacity and platform access, improved passenger facility quality, and to meet passenger aspirations for seamless end-to-end journeys. These projects would be likely to further improve the confidence that services on the route would not face severe overcrowding at peak periods.

Highways Capacity Analysis

A range of relevant highway capacity improvements are already committed including: M25 hard shoulder running (J 5-7); M25 controlled motorway (J 7-8); Dartford Crossing free-flow tolling; the A23 Handcross to Warninglid improvement and M23 J 8-10 managed motorway improvements. To meet additional demand capacity improvements are required as follows: one additional lane in each direction on M23 J8-9; capacity improvements to the M25/M23 slips at J7/8; a grade-separated junction at M23 J9; capacity improvements at M23 J9A and local improvements to the A23. However, Gatwick would still continue to have poor quality highway access to much of London (except outer south/southeast London), compared to Heathrow and Stansted, given the capacity and travelling time for using the A23 north of the M25.

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Accessibility to Population & Business centres The airport provides 24 hour direct public transport passenger access. Journey times by rail to Central London currently range from 28-46 minutes and there is wider connectivity to Brighton and Reading. The committed Thameslink Programme would provide new connections to Cambridge and Peterborough. Gatwick is located on the strategic road network with a direct connection to the M23 and with the M23 and M25 allowing easy connectivity in all directions. However, the A23 provides comparatively poor quality highway access to inner London, inside the M25.			
Accessibility to Transport Interchanges Gatwick has direct connections to London Victoria, London Bridge, Kings Cross/St Pancras, Farringdon, City Thameslink, East Croydon and Clapham and major stations in north London. There are major connections to Brighton, Reading, and Kent. The delivery of the committed Thameslink Programme would provide consistent peak and off peak services to London Bridge station and enhanced interchange at Farringdon with Underground and Crossrail services.			
Accessibility to Workforce Currently most of the workforce is located locally, with the most workers resident in Crawley, Horley, Brighton and the rest of Sussex. The catchment area for airport employees is expected to increase with improvements to rail and bus services.			
Demand Management Assumptions GAL would update its Airport Travel Plan in November 2013 to include the following demand management measures to influence travel behaviour to meet the mode choice targets: extensions to the Airports Travel Card which offers discounted travel on bus and rail services; improvements to bus/coach services to include frequent services to suit employee shift patterns; providing remote staff car parking to encourage a mode transfer to other modes; and re-timetabling an early morning service on the BML to be more attractive to employee travel.			

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ENVIRONMENT

Overall noise impact	Proposer states that an additional 8,400 people exposed to 57dBAL _{eq} and 26,700 exposed to 54dBAL _{den} with second runway. Independent analysis concludes that by 2030, of the 6,300 people within the 57 dBA L _{eq} contour, 4,800 people would be brought into the noise contour compared to 2012. *There would be an overall increase in the number of people affected in 2030 with the second runway compared to the single runway operation currently (2012) and compared to a continuation of the single runway in 2030 taking into account improved aircraft technology.	57 dBA L _{eq}	2030 promoter stated impact	8,400			
				2012 local	3,200		
				2030 local - without scheme	1,900		
				2030 local - with scheme	6,300		
				2012-2030 Local Impact with scheme	3,100		
				2030 Net Local Impact	4,400		
				2012 system	269,250		
				2030 system - without scheme	245,700		
				2030 system - with scheme	250,100		
				2012-2030 system impact with scheme	(19,150)		
				2030 Net System* Impact	4,400		
				2030 population within 2012 and 2030 57 L _{eq} contour	1,500		
				2030 additional population within 2030 57 L _{eq} contour	4,800		
				55 L _{DEN} 2030	22,200		
				50 L _{night} 2030	6,900		
				N70 2030	5,100		
SAC	SPA	Ramsar	CA	AONB	SSSI	Listed Buildings	SM
-	-	-	-	-	-	15	-

Air Quality

Proposer suggests an objective to grow public transport mode share to 50%, primarily through improved rail links to mitigate air quality impacts and states that modelling results show that none of the main runway options would breach any existing legislative limits for NO₂, NO_x and particulate matter (PM₁₀ and PM_{2.5}) in place around the airport, including in the Horley AQMA. The maximum predicted NO₂ concentration in the Horley AQMA is 30.54 ug/m³ (compared to the standard of 40 ug/m³).

Noise

GAL claims an additional 8,400 people exposed to 57dBA _{Leq} and 26,700 exposed to 54dBA _{L_{DEN}} with second runway; and that the Gatwick expansion would form part of dispersed capacity as opposed to a hub and therefore mitigates the intensive noise impacts over a single heavily populated area as associated with Heathrow. Defining noise preferential routes, low noise operational practices, aircraft type restrictions, and extensions to existing noise insulation programme coupled with introduction of P-RNAV (awaiting CAA approval) which would allow rotating noise respite and provide mitigation.

2030 Forecast: Independent noise modelling provided the following results based on 2030 forecast population distribution and forecast aircraft mix appropriate for the number of aircraft movements and passenger load and taking account of housing demolished:

- 57 dBA _{Leq}: 6,300 people affected of which 4,800 would be newly affected.
- 55 _{L_{DEN}}: 22,200 people affected.
- 50 _{L_{night}}: 6,900 people affected.
- N70: 5,100 people affected at the 50 event contour, slightly higher than for Stansted +1 (4,000), but both significantly lower than Heathrow +1 options.

New/revised flight paths would expose additional populations but would still avoid the more densely populated settlements closest to the airport (Crawley, Horley, East Grinstead, Horsham).

2050 Forecast: By 2050 ATMs are forecast to increase by around 41% potentially increasing total noise by around 1.8 dB in overall noise levels, which would affect all contours equally. However, assuming no further change to the aircraft mix, it is considered likely that improvements would be broadly offset by technological improvements resulting in quieter aircraft.

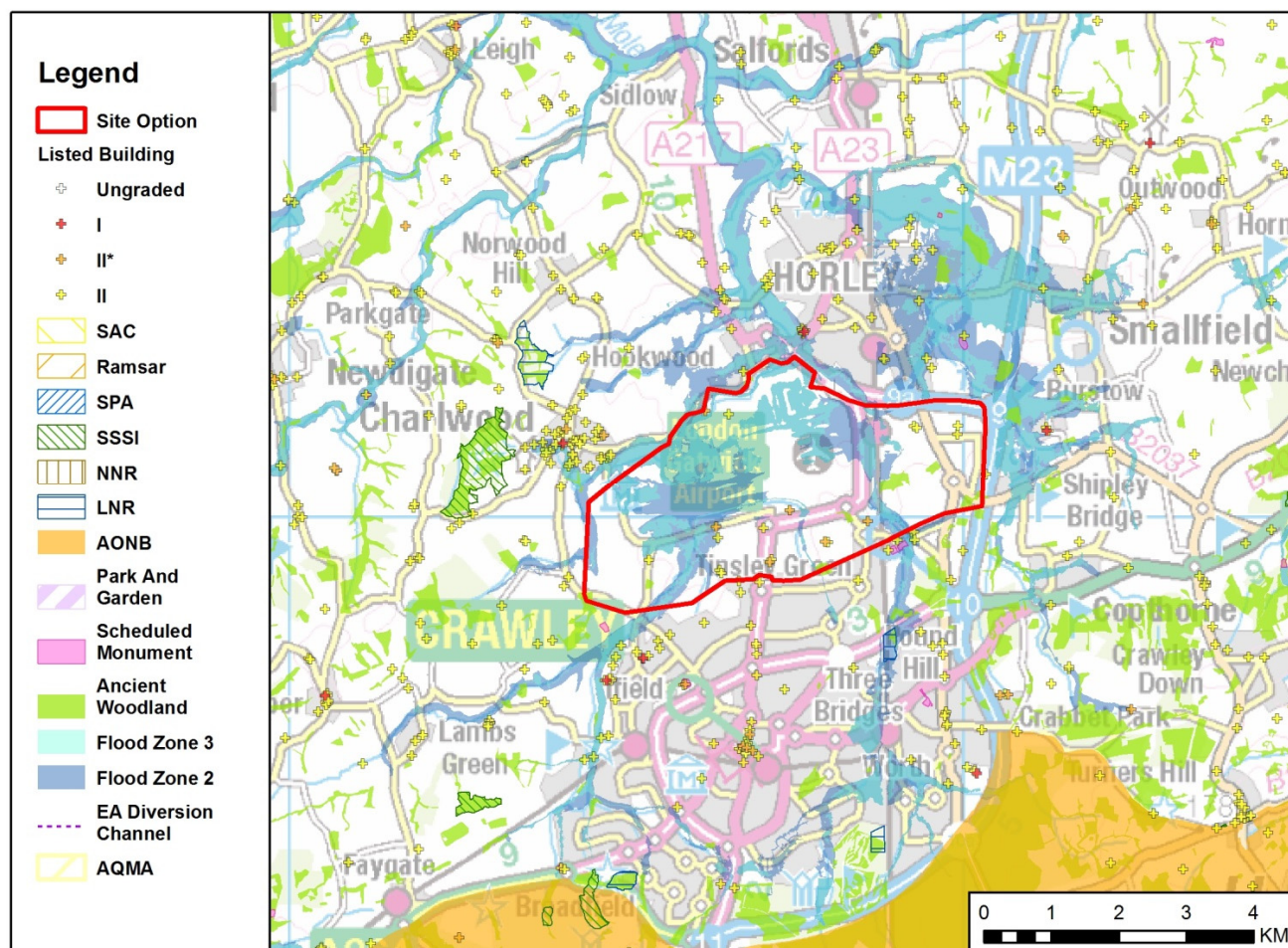
Net Noise: Net noise impact is based on increase in the 57 _{Leq} noise contour with 2 runway Gatwick, partially mitigated by improving aircraft technology. Although there is an overall increase in noise locally around Gatwick by 2030 with the second runway, in terms of the overall system benefits from aircraft technology would result in a reduction in the number of people affected with continued 2 runway Heathrow operation, independent of changes at 2 runway Gatwick.

Designations

With the exception of listed buildings, no land take is required from any sites designated at the national level or above, nor is there any impingement on the Green Belt. Effects on designated sites are not perceived by the proposer to be a significant constraint, and mitigation would be developed as further environmental assessment work proceeds. Potential impacts on designated sites from surface access improvements have not been considered.

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<p>Ecology:</p> <ul style="list-style-type: none"> 1 SSSI located within 2km (Glovers Wood) but not directly affected. 11 pockets of Ancient Woodland located within the footprint. <p>Cultural Heritage:</p> <ul style="list-style-type: none"> 2 scheduled monuments beyond the southern boundary of the safeguarded area for the second runway but neither would be directly affected. 5 Grade II* and 7 to 10 Grade II listed buildings within the safeguarded area potentially lost. A number of additional listed buildings around the airport perimeter which could be at risk. 4 Conservation Areas in close proximity to the safeguarded area; the settings for these could be affected. 3 locally designated Areas of Archaeological Importance in safeguarded area. <p>Landscape and Townscape:</p> <ul style="list-style-type: none"> No national landscape designations affected. AONBs located 3km to south-east (High Weald) and 8km to north-west (Surrey Hills) are unlikely to be significantly affected due to existing screening. 			
<p>Climate Change</p> <p>Operational: Total greenhouse gas emissions are predicted to increase accompanied by greater passenger capacity. GAL have estimated that the total predicted 2040 emissions increase from 832,698 tCO₂e (base case with no second runway) to 1,533,413 tCO₂e but emissions per passenger reduce from 0.0208 tCO₂e (base case) to 0.0195 tCO₂e. Gatwick has set itself a target to reduce the airport's fixed asset carbon emissions by 50% (off a 1990 baseline) by 2020. Other benefits to aviation emissions are anticipated through a range of measures detailed in their Fly Quiet and Clean programme.</p> <p>Construction and demolition: Construction related carbon emissions are indicated as 0.69Mt in a central estimate based on runway, taxiway and terminal build. This is considerably lower than new hub construction, and is the lowest embodied carbon option of all the single runway growth footprints.</p>			
<p>Other Issues</p> <p>Water Resources and Flood Risk:</p> <ul style="list-style-type: none"> The airport is currently at risk of flooding from the River Mole and its tributaries 18% in flood zone 3 and ~34% in flood zone 2 totalling 730 ha (this includes part of the existing airport). A section of the Mole is culverted through the airport and the second runway would affect the unculverted section. The Environment Agency is currently implementing a number of flood risk management schemes in the Upper Mole catchment and Gatwick airport is contributing to the costs of these schemes. These include an allowance for a second runway construction. <p>Land Use and Development</p> <ul style="list-style-type: none"> No loss of Greenbelt. Loss of some agricultural land, but none classed as best and most versatile (ALC Grades 1 and 2). Approximately 900 ha of greenfield land would be lost; a larger area of undeveloped land than all the Heathrow options but less than the Stansted and Isle of Grain options. This is likely to include loss of local landscape and cultural heritage features, significant length of hedgerows (possibly with historic landscape value), protected species habitat, footpaths and archaeological interest. A number of sites in and around the airport have been identified as having minor or moderate potential for contamination. <p>Surface Access Improvements:</p> <p>Potential impacts related to all access improvements including widening of a 12km section of the M23.</p>			

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PEOPLE

Housing Land required has been formally safeguarded since 2003. The number of residential and commercial properties to be lost could be up to 200. The industrial area of Lowfield Heath would be lost.	Demolished ~200
Vulnerable Groups <ul style="list-style-type: none"> There are few 'most deprived' ward areas in the local authority areas around Gatwick. The Index of Multiple Deprivation (IMD) score, averaged within 5km of the airport, is 14.4, compared to populations more affected by deprivation around Heathrow (IMDs of 18.7 to 20.8) and the Isle of Grain (26.1), and to the less deprivation affected populations around Stansted (7.5). A second runway at Gatwick would be unlikely to provide employment for many in areas of major deprivation. 6 schools/educational facilities are located within the overall airport footprint. 	
Quality of Life and Health <ul style="list-style-type: none"> Approximately 56,290 and 147,509 people are located within 2km and 5km respectively of the airport. Some additional noise impacts over the base case without the 2nd runway, but these would avoid the more densely populated settlements closest to the airport (Crawley, Horley, East Grinstead, Horsham). Around 4,800 people newly impacted by noise compared to 1,700 at Stansted or 34,800-37,500 for a 3rd runway at Heathrow, 12,400 for 5 runway Stansted and 1,200 for the Isle of Grain new hub airport. Some change to character and setting of surrounding settlements from increased aircraft noise, traffic and surrounding ancillary development. Areas affected by ground noise would extend further from the airport than at present with varying degrees of impact on parts of Charlwood, Povey Cross, Horley, North Crawley and Ifield. Possible additional benefits to the current accessibility and connectivity through new surface transport infrastructure and also from improved local services. Significant benefits to local area as contributor to economic wellbeing and supporting social and economic objectives in wider area. 	
Wider Social Impacts Benefits to Gatwick Diamond economic sub region and wider support to South and East London, South Coast and east to Kent.	

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COST

Capital Cost	£ bn	2030	2050
Promoter estimates £8.2bn.	Airport	3-4	5-7
	Access	1-2	1-2
	Other	~1	~1
	Total	5-6	7-9
	Risk	2-3	3-4
	Optimism Bias	3-4	5-6
	Risk Adjusted Total	10-13	14-19
Key Risks			
<ul style="list-style-type: none"> Surface access. Construction within congested operational environment. River Mole Diversion. Potential for unknown further environmental costs. 			
Risk and Contingency Allowances			
40% contingency adopted for all costs. 50% optimism bias applied.			
Surface Access Costs			
Surface Access Costs based upon M23 Junction upgrades, M23 widening and new access roads. Cost analysis assumes all rail upgrades are committed schemes funded by others.			
Other Off-Airport Costs			
Mitigation and/or compensation required to ensure flood risk storage requirements are met. Allowance of £0.1bn included within independent cost estimate for river diversion and flood attenuation. Additional allowance of £0.5bn has been included to cover typical mitigations measures.			

OPERATIONAL VIABILITY

Capacity	Net	Airport	Net	Forecast Usage of Maximum Capacity	
Increase to existing airport capacity and enabling operations to be conducted in a more resilient manner.	Runways	2	1	2030	2050
	ATM	502,500	222,500	70%	97%
	pax	84	34	60%	90%
Resilience, Reliability and Efficiency					
The widest spaced runway modelled here offers the potential for fully independent parallel approaches, offering the most resilience and reliability of any possible configuration.					
Safety					
Although, of the three options proposed by GAL, the widest spaced option requires the fewest number of runway crossings to access the southern runway, crossing of the northern runway would be necessary. This reduces capacity, but also reduces the safety of operations, although this type of operation is standard and acceptable. There does not appear to be any need to overfly significant population centres on final approach or immediately after departure.					
Scalability					
Additional capacity could be developed if required with a 3 rd and further runways to the north of the aerodrome.					
Airspace					
The proposal would not require significant airspace design. The boundaries of the London terminal manoeuvring area (LTMA) and Gatwick's SIDs, STARS and interfaces with en route airspace would be amended to include the second runway. However, given the long-term nature of the options and the likely airspace and air traffic management developments under SESAR, restructuring could be achieved as part of the on-going development process. There would not need to be any change of international boundaries.					

DELIVERY

Timescale
Enabling legislation 2015-2019 with construction commencing after 2019 leading to opening in 2025.
Commercial Deliverability
Independent high level assessment suggests that, to meet the full debt requirement, aero yield may have to be increased by between ~110% and 135% and indexed at 2.5% per annum thereafter, depending upon the level of contribution to surface access costs. Alternatively, without indexation, an increase of between 170% and 210% may be required.
Aeronautical yield index relative to Heathrow Q6 to breakeven: 1.3.
The borrowing requirement is large and above precedent for finance to be raised in the context of a wholly privately funded, single transaction. Without a clear economic rationale it is unlikely that the remainder of the funding would be attractive to external investors or third party debt providers so the Government subsidy may need to be sizeable.