London
BAA Gatwick

Gatwick Airport Outline Master Plan

Draft for Consultation
March 2005

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Drawings

This outline master plan has been issued for consultation, as a precursor to the preparation of a fuller version of the plan, which we aim to publish at the end of 2005. If you have any comments please send them to us as soon as practicable, and in any event no later than 30 June 2005, addressed to:

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Foreword

Gatwick Airport is integral to the economic and social life of the South East and the UK as a whole. It is the UK's second busiest airport, a major employer and critical to the country's tourism industry: more people begin or end their leisure travel at Gatwick than at any other UK airport.

Government policy endorses a continuing major role for Gatwick in the UK transport system over the next 30 years. This master plan sets out our first views on how the airport will fulfil this role.

The Government's capacity priority for London's airports is to maximise the use of existing runways. This plan addresses that priority, and the conclusions and policies set out in *The Future of Air Transport* White Paper, published in December 2003. It seeks to explain the scale and character of Gatwick's future growth and development as a single runway airport, delivering high quality facilities and services to air travellers. In line with Government guidance it also considers a scenario for Gatwick with two runways.

BAA remains fully committed to the legal agreement precluding the construction of a second runway before August 2019 – a policy stance likewise confirmed by the Government in the White Paper. Gatwick will consequently remain a single runway airport into the 2020s, if not beyond.

This plan sits firmly on the foundations laid in 2000/01 by our Sustainable Development Strategy and a subsequent legal agreement with West Sussex County Council and Crawley Borough Council – an agreement that was backed up by a memorandum of understanding between those councils and the seven others whose communities feel most impact of the airport's operation and growth.

The agreement was seen at the time as breaking new ground and we value the strength of the partnership achieved. It created the opportunity for open and honest discussions about environmentally responsible growth at Gatwick. The dialogue involved not only those councils and ourselves, but also our business partners, community groups and other stakeholders. It continues to be an important feature of the way we work with them, and we welcome their positive approach towards Gatwick's growth as a single runway airport, provided we remain properly attentive to environmental issues. This plan, currently in outline form, has been published in order to provide stakeholders with an opportunity to consider and comment on our thinking about Gatwick's future, and thereby inform further work on the plan. Once completed, it will not itself have statutory status, but it will inform the preparation of local authority policies.

The period of consultation continues until the end of June, and I hope that any organisation or individual with opinions on the plan's content will use this opportunity to let us know their views. Coming from an airline background, I understand the importance that our business partners attach to the opportunity to scrutinise our proposals; as a citizen, I appreciate the ways in which aviation can affect our lives, and in which the nearby presence of an airport can be troubling to local residents.

On a personal note, in January this year I became Managing Director of Gatwick Airport, following a year as deputy and a previous career in the airline and rail industry. I look forward to managing a growing and increasingly successful business at Gatwick and it is fitting that the airport's future should be the subject of the first major document published under my signature.

Paul Griffiths
Managing Director
Gatwick Airport Limited
March 2005

Summary

The character of Gatwick

S1 Gatwick, used by over 31 million passengers in 2004, is the UK's second busiest airport with a growing portfolio of scheduled, low-cost and charter European services and a variety of long-haul destinations. We intend it to be the most successful leisure airport in Europe, and an important gateway for business travel, and also that it should be acknowledged as a considerate neighbour and a great place to work. Future development, largely on land already in airport use, will focus on the quality as well as the capacity of airport facilities, to enable Gatwick to both grow and flourish.

Government policy

S2 In December 2003, the Government published a White Paper explaining its views about the need for airport development in the UK over the period to 2030. In common with other airport owners, BAA Gatwick was asked to prepare a master plan, explaining what the Government's policies will mean for the airport and its neighbours.

S3 The Government's capacity priority for London's airports is to maximise the use of existing runways, and that is the focus of this plan.
The White Paper also concludes that two new runways should be built in the South East, the first at Stansted in Essex. The Government supports the subsequent construction of a third runway at Heathrow, but only if stringent environmental limits can be met. An urgent programme of work is being undertaken to establish whether they can, but the White Paper has identified a second Gatwick runway as the alternative option for the development if a third Heathrow runway cannot be delivered.
The Government is expected to clarify its position on Heathrow by the end of 2006, when it reports progress on the White Paper's policies and proposals.

Gatwick's Sustainable Development Strategy

S4 Our master plan builds upon the studies underlying our Sustainable Development Strategy (SDS), published in July 2000. It explains Gatwick's economic and social benefits, underpinning jobs in the wider economy as well as offering employment at the airport itself, and it recognises that there is a variety of environmental impacts that need to be addressed. Our aim is to ensure that Gatwick's operation and development effectively addresses national, regional and local objectives for economically, socially and environmentally responsible development.

The SDS and the master plan

S5 Although the master plan will replace the SDS, the 144 commitments which set out how we will manage the impacts of the airport's growth will remain in force. However, the SDS remains in force only to 31 March 2009, while the master plan is setting the framework to 2030. Moreover, some of the commitments in the SDS have already been fully discharged. Therefore, we propose two things: first, to discuss with local authorities whether to update our commitments; and, second, in a year's time, to consider extending the current legal obligations associated with the SDS beyond their planned expiry in 2009.

Purpose of the master plan

S6 In line with Government guidance, the primary purpose of this plan is to look forward to 2015 and Gatwick's continued growth as a one-runway airport. Its second purpose, in far less detail, is to look onwards to 2030, when Gatwick could handle around 45 million passengers on one runway, or around 80 million if there were to be two runways.

Traffic forecasts

S7 We believe that maximum use of the runway will give Gatwick an annual aircraft movement capacity of around 280,000 flights a year and a passenger capacity of around 45 million passengers a year. Although we believe that we will reach 280,000 flights a few years before 2015, we believe that passenger throughput will be a few million short of the maximum by 2015. Passenger growth is lagging about four years behind the SDS's forecast of 40 million passengers by 2008/09, as a result of the effects of 9/11, SARS and the consequent change in the character of air traffic at Gatwick.

Employment forecasts

S8 Gatwick's operation brings benefits locally, and more widely to the region and the UK. Currently, around 25,000 people work at the airport and it supports perhaps 14,000 jobs elsewhere. On-airport employment is expected to grow to 27,300 by 2015. However, before the events of 9/11, Gatwick employed over 30,000 people.
The reduction in employment and the relatively small scale of the forecast increase in employment is attributable both to a change in the character of air traffic at Gatwick since 9/11 (ie the growth of low-cost airlines such as easyJet) and significant ongoing productivity gains in the civil aviation industry.

Outline of airport development: single runway

S9 This plan's consideration of existing and future airport development focuses on eight categories of land use:

- The airfield: the runway, taxiways and the extensive grass areas that surround them.
- Passenger terminals.
- Aircraft aprons and the terminal piers through which the vast majority of passengers enter and leave their aircraft.
- Cargo handling.
- Aircraft maintenance.
- Ancillary activities, such as hotels, vehicle depots and flight catering.
- Surface transport facilities: roads, car parks and facilities for coaches, taxis and rental cars.
- Strategic landscaping, notably along the north western boundary of the airport.

S10 In common with the SDS, the master plan seeks to accommodate Gatwick's single runway operation within the currently-defined boundary, but to do so with less development and redevelopment than was previously anticipated. There are regulatory and planning constraints which affect our ability to minimise land use, however. For instance, the airport's layout, and the maximum heights of buildings and structures, on and off the airport, must be compatible with specifications relating to safety and security on the ground and in the air. Even so, the land use plan for a single runway airport in both 2015 and 2030 closely resembles the current layout, with around 89% of land use being the same in 2030 as it is in 2005. This does not imply that there will be no development in those areas: some new buildings will be required, existing ones may be enlarged and ageing airport facilities will, over time, be modernised or wholly renewed. The most significant changes are:

- Minor works on the airfield, and more substantial ones affecting aprons and piers, to enable the new A380 aircraft to operate at Gatwick.
- Alterations to the terminals, to give annual capacity for around 25 million passengers in North Terminal and 20 million in South Terminal.
- An increase in the number of pier-served stands, potentially achieved by extending Pier 6 and/or by constructing a new Pier 7.
- The possible relocation of the cargo facilities to the western edge of the apron area, to make way for apron/pier development.
- Moving aircraft maintenance facilities from south to north of the runway, perhaps mostly after 2015, to eliminate the need for aircraft to cross the runway and so maximise runway capacity.
- Using the former southern maintenance zone for car parking and ancillary uses.

S11 The area available for airport use is 678 hectares. The proportion of that total in various uses now, and projected for the future, is as follows:

	2005 %	2015 %	2030 %
Airfield	33.19	33.19	33.19
Terminals	2.65	2.65	2.65
Aprons	21.68	22.57	24.19
Cargo	1.62	1.33	1.18
Maintenance	3.54	3.54	2.06
Ancillary	5.46	3.98	5.60
Surface transport	19.91	23.01	23.60
Strategic landscaped areas	7.67	7.67	7.67
Undeveloped	4.42	2.06	0

Surface access

S12 Our updated surface access strategy, published in December 2004, is a companion to this plan and contains a number of targets relating to the surface travel mode chosen by staff and air passengers. The most challenging, as in the SDS, is to increase from 31% to 40% the proportion of air passengers using public transport. The ability to achieve this depends on partnership with rail, bus and coach operators and, in our view will not be possible if the quality of the Gatwick Express rail service, currently under threat, is degraded.

Environmental impacts

S13 Gatwick is well aware of and seeks to manage its environmental impacts. So it is important to us that while the airport in 2015 will be used by around a third more passengers than in 2004, the impacts may be no greater than they are today. Some may indeed lessen, for example as a result of improved aircraft engine technology or the incorporation of mitigation measures in airport developments. Environmental issues were thoroughly studied by the SDS; we believe that much of that work, for example relating to ground noise, biodiversity and resource use, need not be repeated. This is because it considered impacts greater than, or comparable to, those likely to be caused by the development now foreseen by this plan.

S14 Two environmental issues, air quality and air noise, do require further consideration as part of this master planning process. There is concern that, in the absence of actions to reduce emissions related and unrelated to the airport, future off-airport levels of nitrogen dioxide could in a small part of Horley exceed Government limits. We are addressing this issue, although detailed modelling will await the outcome of Government technical studies, expected to be completed in 2006. In relation to air noise, we are commissioning an updated forecast for the year 2015, for inclusion in the final master plan, although we believe that noise in 2015 will be similar to the level in 2001.

Outline of airport development: twin runways

S15 The plan's consideration of a possible second runway assumes a location 1,035 metres to the south of the existing runway. Its precise position, and mode of operation, will need very thorough study, if and when a planning application is being prepared. Surface access and environmental issues will likewise require detailed study, as many will be significantly different from those of a single runway airport. It is clear that many new airport facilities, notably aprons and a third passenger terminal, could and should be located between the runways. However, we believe that we could avoid taking as much land as was suggested by the indicative boundary in the White Paper. Our plan therefore shows airport extensions totalling 627 rather than 667 hectares, taking in slightly more land to the west and south, but much less to the north, of the current boundary. This is especially important for the village of Charlwood.

S16 The consultation on the outline master plan continues until 30 June 2005 and, following further work, our aim is to publish a final version at the turn of the year.

1 Introduction

1.1 During the past 40 years, air travel has increasingly become a feature of our lives. It has created the opportunity for fast international travel at prices which, in combination with a general increase in the standard of living, have facilitated a previously inconceivable increase in people's choice of holiday destinations. Civil aviation has thus become a vehicle for social inclusion, through its transformation of the affordability of travel. It is expected to remain a growth industry for the foreseeable future.

1.2 Gatwick Airport's origins date back to 1930, but it was in 1958 that the modern airport began to be used, with the opening of the current runway and part of what is now the South Terminal. The runway has since been lengthened and supplemented by a shorter, standby, runway, which can be used if and when the main runway is closed, for example for maintenance. The South Terminal has been considerably extended since 1958 and was in 1988 complemented by the opening of the North Terminal. The airport's current business and existing facilities are more fully described in Chapter 4.

Planning for the future

1.3 Major airport operators need to plan their airport's future in close consultation with stakeholders, and in the context of the policies and regulations that govern or in other ways affect an airport's operation and development. That context is explained in Chapter 3 of this plan.

1.4 The plan's primary purpose, reflecting Government policy[1] and guidance[2], is to set out BAA's expectations as to the scale of the growth in activity at Gatwick over the coming decade, to explain the extent to which we believe the airport's facilities will need to be enhanced in order to accommodate that growth and to consider the economic, social and environmental dimensions of the airport's operation in 2015. The plan's secondary purpose is to look onwards to the year 2030, in much lesser detail.

1.5 The plan, currently in outline form, has been published in order to provide our many diverse stakeholders with an opportunity to consider and comment on our thinking, and thereby inform further work on the plan. Once completed, it will not have statutory status, but it will inform the content of the Local Development Framework being produced by Crawley Borough Council, and possibly those of neighbouring local planning authorities.

Future status of the BAA Gatwick Sustainable Development Strategy

1.6 The forerunner to this plan was our Sustainable Development Strategy (SDS), published in July 2000 following extensive consultation and debate. It will be superseded by this plan.

1.7 One particularly important aspect of the SDS was the inclusion of 144 commitments[3] providing stakeholders with assurances about our approach to Gatwick's management and development. In February 2001 a number of the commitments were converted to legal obligations in a Section 106 Agreement between BAA Gatwick, Crawley Borough Council and West Sussex County Council. Annual progress on the obligations and commitments is explained in a monitoring report, which is subject to an independent verification process.

1.8 Our commitments are referred to, but not fully reproduced, in this plan. They are being reproduced in a companion document (Sustainable Development Commitments) which will also draw attention to their current status, noting those which have been discharged and suggesting ways in which some might be updated, to align them with this plan's content and a 2015 time horizon.

1.9 Local authority support is a pre-requisite for any update of the commitments, and would need to be accompanied by an adjustment to the 2001 legal agreement. We will not necessarily pursue an immediate review as it could be addressed in conjunction with negotiations to consider extending the life of the legal agreement beyond March 2009, which we expect to start early next year in line with a requirement to do so by 31 March 2006.

1 *The Future of Air Transport* White Paper (Cm 6046, December 2003)
2 Guidance on the Preparation of Airport Master Plans (Department for Transport, July 2004)
3 One was made in a letter of 25 January 2001 rather than in the SDS itself

One runway, or two?

1.10 This plan's main focus is on Gatwick's certain future as a one runway, two terminal, airport. It seems likely that, by 2015, passenger numbers will be approaching the maximum for a single runway operation and, under this scenario, we assume that subsequent growth in the demand for air travel to/from the South East airports will be satisfied by passenger capacity provision elsewhere[4]. We do, nevertheless, foresee ongoing development at Gatwick during the 2015-2030 period, to satisfy changing customer needs and to deliver the objective of maximising the airport's single runway capacity. Gatwick's ultimate (2030) single runway land use plan reflects that objective and is an important influence on some aspects of the development before 2015. We therefore present the 2030 single runway plan first in this document, to provide the context for the 2015 plan.

1.11 The plan's alternative scenario relates to the provision of a second runway, south of the current airport, after 2019, in the event that the third runway at Heathrow is not deliverable in line with the proposals in the White Paper. The 2030 land use plan for that scenario is based on the assumption that maximum use of the twin-runway airport could be achieved by that year. However, from what we currently know, the same land use plan would be equally appropriate if maximum use of the two runways was not achieved until after 2030.

Plan implementation and review

1.12 Stakeholder engagement is important to the implementation as well as the preparation of this plan. We believe that dialogue with local communities should be an important and continuing part of running the business. Consultation also occurs when, before proceeding with a development, we seek planning permission, or formally consult the local planning authority (Crawley Borough Council). This process, which is one of the statutory controls on our business explained in Chapter 3, enables the council and other stakeholders to consider the fine detail of our plans, including any necessary impact assessment, for example in relation to environmental issues, construction activity or archaeology.

1.13 While we hope that this plan will prove to be an accurate portrayal of the future, it has to be recognised that the civil aviation industry is susceptible to significant and unforeseen change. A good example of this at Gatwick has been the recent change to British Airways' operation in North Terminal, reducing their range of long haul services in favour of more short-haul services, while easyJet have established a substantial no-frills operation in South Terminal. This sort of change can significantly affect an airport's development needs and plans.

1.14 Our business processes and plans must have the flexibility to address and adapt to changing circumstances, and stakeholders need to appreciate that we will probably need to make future adjustments to the content of this plan. We will have to pay particular attention to the ways in which Gatwick's role within the South East may be affected by the opening and use of substantial additional capacity at other airports.

1.15 The Government's intention that master plans should be subject to five-yearly review recognises that circumstances can change and that plans will alter. Emerging pressures for change may, however, sometimes require attention ahead of a formal review of the plan.

1.16 We will continue to place great emphasis on having an open, honest and consultative dialogue with stakeholders. Regular opportunities for discussion will be important, notably at the Gatwick Airport Consultative Committee (GATCOM), through meetings with airlines both individually and collectively, and through meetings with local authorities at both member and officer level. We will also ensure that information about the airport is easily and widely available, for example through increased use of our website.

4 Second Stansted runway, before 2015; third (short) Heathrow runway, after 2015; maximum use of one runway at Luton.

2 Economic and social considerations

2.1 Aviation is one of the UK's success stories, creating employment and spending millions each year on investment. It plays a crucial role in promoting growth in the productivity and competitiveness of the economy of the UK at both national and regional level. Gatwick, as the UK's second business airport, is a key contributor at both those levels and brings appreciable benefits to its sub-region – the Gatwick Diamond.

Airport employment

2.2 Airport and airport-related employment is generally categorised as follows:

- Direct, on-airport: employees of businesses whose activity is directly and solely related to Gatwick, based within the airport boundary.
- Direct, off-airport: as above, but with jobs based outside the airport boundary, eg related to flight catering, hotels, freight services, car parks and airline offices.
- Indirect: employment in firms supplying goods and services to the businesses at the airport.
- Induced: employment supported by the personal expenditure of those employed in the preceding three categories.

2.3 Past employment trends at Gatwick have led some stakeholders to conclude that the ratio of direct airport jobs to annual passengers is around 1:1,000. The relationship is, in fact, a complex one, and the actual number of jobs at an airport can be significantly affected by such factors as:

- The proportion of flights operated with crews who work out of other airports.
- The proportions of flights serving different sectors of the market, eg operated by low cost as opposed to full service airlines.
- Whether the airport is a significant focus for aircraft maintenance activity.
- Whether local authority planning policies seek to concentrate direct airport employment within the airport, and/or to preclude the use of airport sites for other purposes.
- Productivity trends based on technological improvements, improved working practices, etc.

2.4 The SDS contained a BAA forecast that direct on-airport employment would increase from 27,184 in 1997 to 34,100 in 2008 (when passenger throughput was forecast to be 40 million). The other three employment categories were forecast to grow from 13,820 to 17,710 jobs, with the overall totals consequently being 41,000 and 51,810.

2.5 Direct on-airport employment was growing while the SDS was being prepared. It rose to a total slightly above 29,000 early in 2001 and, the following summer, is estimated to have reached a peak in the range 30–31,000. Since then the changes in Gatwick's airline mix have meant a significant improvement in staff productivity and, in the first quarter of 2003, the number of jobs in this category of employment had reduced to 24,628.

2.6 This substantial recent reduction, coupled with an assumed annual productivity improvement between 2003 and 2015, draw us to the conclusion that this category of employment will provide approximately 27,300 jobs in 2015. This is significantly less than the SDS's forecast of 34,100 in 2008.

2.7 We also believe that the growth in the other three employment categories by 2015 will be less than forecast by the SDS, with increases attributable to Gatwick's higher annual passenger throughput (between 40 and 45 million) being more than offset by productivity gains. There are also a number of other downwards influences on the forecasts, eg:

- A greater proportion of the hotel sector will provide budget accommodation, which needs fewer staff than higher grade hotels.
- Airline supply chains, particularly in the low cost sector, will on average be simpler and leaner than previously assumed, eg due to the reduced provision of full meals on short haul flights.
- The reduction in the forecast level of direct and indirect employment will lead to a pro-rata reduction in induced employment.

2.8 We consider that, compared with the SDS forecasts:

- Direct off-airport employment, particularly related to freight services and in-flight catering, will be lower.
- Indirect employment will be boosted by higher passenger numbers, but that increase will be more than offset by the longer timeframe for productivity gains.
- Induced employment should, as for the SDS, be calculated as equivalent to 24% of the total of the other three categories.

2.9 The following table summarises our conclusions, and compares them with information contained in the SDS. Our 2015 forecast is higher than that of 38,000 contained in the White Paper,

but it should be appreciated that the latter related to a forecast passenger throughput of 37 million[5].

	Data from SDS		2015 forecast
	1997 estimate	2008 (40m) forecast	
Direct on-airport	27,184	34,100	27,300
Direct off-airport	4,160	5,100	4,800
Indirect	1,720	2,580	2,400
Induced	7,940	10,030	8,300
Total	41,000	51,810	42,800

2.10 The conclusion to be drawn from our provisional forecasts is that the number of jobs clearly attributable to Gatwick's operation will not, in 2015, be much different from the SDS's assessment of the total that existed in 1997, and will be lower than the peak achieved in 2001. In the context of the expected growth in the population of the sub-region it is likely that there will be a slight reduction in the proportion of its economically active population whose jobs are dependent upon the airport.

2.11 If Gatwick remains a single runway airport after 2015 there will inevitably be a progressive reduction in the number of jobs at and related to the airport, as a consequence of ongoing improvements in staff productivity. The White Paper forecast a total of 33,000 jobs attributable to maximum use of the single runway in 2030, ie around 13% fewer than it forecast for 2015. We consider that such a scale of reduction, equivalent to a productivity improvement of less than 1% per annum, might prove to be conservative.

2.12 The White Paper employment forecast for maximum (83mppa) use of two runways in 2030 was for 49,000 direct employment jobs (42,000 being on airport) and 15,000 indirect jobs (which embraces BAA's induced category). We consider it unnecessary yet to prepare our own employment forecast for the 2030 twin-runway scenario, although we suspect it unlikely that a future BAA forecast would exceed the foregoing total of 64,000 jobs.

5 The Government forecast comprised 25,000 on-site jobs, 4,000 direct off-site and 9,000 indirect jobs (equivalent to the indirect and induced categories in BAA's forecasts)

Economic benefit

2.13 The airport job opportunities covered by the forecasts bring continuing benefit to the economy in a wide area around the airport – they provide variety in the job market, and support the jobs of other people (the induced employment category). An airport, while vulnerable to some job losses in times of recession, is also a very dependable contributor to employment opportunities in its local economy because most jobs are tied to the airport's actual site, rather than being capable of relocation to some other part of the UK or the world.

2.14 Our employment forecasts make no attempt to quantify the number of jobs in the UK supported by the success of the UK's civil aviation industry, to which Gatwick is a significant contributor. Tourism to the UK supports many tens of thousands of jobs in the hospitality sector, visitor attractions and retailing. Civil aviation also provides the UK with international links that can be a deciding factor when businesses and inward investors consider whether to establish or retain a presence in the UK. Many employers in the Gatwick Diamond sub-region, and to a lesser extent in a wider area embracing more of West Sussex and Surrey, and extending into south London, East Sussex and Kent, undoubtedly value Gatwick as one of the benefits of their location; without it, some of them might not be there.

2.15 The current labour supply in the South East Plan's Gatwick sub-region is of the order of 165,000, and could be 180-190,000 by 2030. Gatwick-related jobs are equivalent to about 25% of the current workforce and would, with two runways, represent perhaps 35% of the 2030 workforce. However, and very importantly, around 45% of Gatwick's employees live outside the sub-region, notably in the Brighton area, south London and places such as Redhill. Therefore the proportion of the sub-region's economically active population who currently have airport-related jobs is around 14% and would, with a similar dispersion of employees' homes, be around 20% with a two runway airport in 2030.

2.16 Some stakeholders believe that the local economy is over-dependent on the airport, and in need of diversification. We do not share that view, either in relation to the single runway or, if it were to be developed, a twin runway airport.

2 Economic and social considerations

Civil aviation is a strong sector of the economy and the great majority of jobs are geographically tied to airports and their localities. In comparison, other employment sectors such as manufacturing and financial services are vulnerable to "off-shoring" – the relocation of activity to lower-wage economies.

Housing

2.17 A number of local authorities are concerned about the adequacy of the supply of affordable housing and the demands that a growing aviation workforce would place on this. We have committed to make available our information on the size and character of the airport workforce, to assist consideration of local housing needs. BAA Gatwick does not itself own or have interests in land allocated for housing development.

2.18 Given the comparatively static level of airport-related employment, the airport is unlikely to be as great a driver of future growth in housing demand as may be some other sectors of the economy, such as retailing (in Crawley). We concluded in the SDS that the then anticipated growth of airport and airport-related employment would not require any greater level of housing provision than already existed or was planned. Given the lowering of our forecasts, and the slower pace of growth, our confidence in that conclusion has increased.

2.19 There is clearly a likelihood that the provision of a second runway at Gatwick, and the growth of airport related employment referred to in paragraph 2.12, would have an impact on the housing market, but not until the mid-2020s, needing then to be assessed in the context of other influences on the balance between labour supply and demand.

Social considerations

2.20 The single, most important, benefit that Gatwick brings to society is the opportunity it offers to many people to satisfy their need or desire to travel. It opens Britain to visitors, and enables UK residents to travel to Europe and more distant destinations, primarily for their holidays, as well as being important for journeys within the British Isles. Over the 25 year life of this plan Gatwick is likely to facilitate air journeys by over one billion arriving or departing air passengers – a billion journeys that are a key component in the expectations of modern society.

2.21 Social progress associated with Gatwick is not limited to the benefits realised by air travellers. The airport is an integral part of the infrastructure of South East England and in many ways influences the lives, and the livelihoods, of people living in much of Sussex, Surrey and neighbouring areas. Its influence on social progress is closely associated with employment and wealth creation and, for our neighbours, Gatwick's most manifest benefit is the jobs it creates, producing aggregate earnings in excess of £7 million per week for those working within the boundaries of the airport itself.

2.22 The SDS explored a variety of other ways in which we might make a positive contribution to the quality of life of the local community, building on a number of years of partnership work with local organisations and groups. In that context, recognising that people might welcome some further investment in community projects, but with a decision making process independent of BAA, we promoted the establishment of the Gatwick Community Trust. It came into existence in 2001 and receives annual funding from BAA Gatwick, which we are committed to provide at least until March 2009.

2.23 Our work embraces a variety of other initiatives, kept under review to ensure they continue to meet local needs. Many of these are set out in 15 community strategy commitments that featured in our SDS. They include:

- Joint working, eg with local authorities and economic partnerships.
- Developing educational projects which support the national curriculum.
- Re-skilling of the unemployed.
- Our own equal opportunities employment policy.
- Annual meetings of an airport employment forum.
- The involvement of our staff in community and environmental projects.

3 Statutory and regulatory context

3.1 There are functional and legal limits to BAA Gatwick's activities as an airport owner and operator. By way of example, responsibility for airspace policy and air traffic control respectively lies with the UK Government and National Air Traffic Services. This chapter outlines the principal controls and influences of relevance to Gatwick's operation and development.

Sustainable development

3.2 Gatwick's operation is and will continue to be managed and developed in the context of the Government's strategy for sustainable development. In 1999, in *A better Quality of Life*, this identified four objectives for sustainable development:

- Social progress which recognises the needs of everyone.
- Effective protection of the environment.
- Prudent use of natural resources.
- Maintenance of high and stable levels of economic growth and employment.

3.3 The Government published a new strategy, *Securing the Future*, on 7 March 2005, to which we will give thorough consideration while finalising this plan. The new strategy's 'purpose' shows how the Government will evolve its sustainable development policy – developing the earlier strategy, not departing from it. Five guiding principles are to form the basis of policy in the UK:

- Living within environmental limits.
- Ensuring a strong, healthy and just society.
- Achieving a sustainable economy.
- Promoting good governance.
- Using sound science responsibly.

3.4 The new strategy also specifies four priority areas for action:

- Sustainable consumption and production.
- Climate change and energy.
- Natural resource protection and environmental enhancement.
- Sustainable communities.

Airports policy

3.5 *The Future of Air Transport* White Paper is the principal policy document with which our plans for Gatwick need to align. The White Paper sets out a strategic framework for the development of airport capacity in the UK over the period to 2030, against the background of wider developments in air transport. Five statements drive the content of this plan:

- The first priority in the South East is to make best use of the existing runways
- The Government will not seek to overturn the 1979 planning agreement preventing construction of a second runway at Gatwick before 2019
- In case the conditions attached to the construction of a third Heathrow runway cannot be met, and since there is a strong case on its own merits for a new wide-spaced runway at Gatwick after 2019, land should be safeguarded for this.
- The option for two new runways at Gatwick is not supported
- The Government invites airport operators to bring forward plans for increased airport capacity in the light of the policies and conclusions set out in the White Paper.

3.6 Government airports policy will need to be reflected within the emerging new hierarchy of planning policy documents at regional and local level. Referring to airport master plans, the White Paper states that:

> The appropriate planning and transport bodies will need to take these into account, along with the policies set out in this White Paper, in their guidance, strategies and decisions, together with the need to protect any land required for future airport expansion and to provide the necessary airspace.

3.7 BAA Gatwick will closely scrutinise any policy documents, relevant to the airport, published by regional bodies, local authorities and other agencies. We will seek to ensure that they respect, and make reasonable provision for, the interests of the airport, its suppliers and its users, consistent with national policy.

Regional planning guidance

3.8 The context for local authority plans is set by the Government's regional planning guidance for the South East (RPG9), published in March 2001 and, since July 2004, incorporating a newly approved Regional Transport Strategy (RTS).
The RPG does not currently embrace the Government's airports policy, because it predates the White Paper's publication and the preparation of the RTS was by December 2003 too far advanced to take it into account. The RTS does, however, address the issue of surface access to airports, and identifies Gatwick as a regional gateway and, with Crawley, as a transport hub. Given that the RTS's content on

these matters is particularly relevant to the airport's transport strategy, further detail is left for Chapter 7 of this plan.

3.9 The South East England Regional Assembly (SEERA) has responsibility for preparing a Regional Spatial Strategy which, when approved, will replace the current RPG. SEERA's draft strategy, The South East Plan, was published for public consultation on 24 January and its two-stage submission to the Government is programmed for July and November this year. Final approval is expected in 2007, following a public inquiry in 2006.

3.10 The South East Plan will contain both regional and sub-regional policies, with Gatwick lying at the centre of one of the sub-regions. The draft plan does not address the possibility of further runway development at either Gatwick or Heathrow, and in fact includes no new policy references to Gatwick – it restates RPG9's airports policy, albeit with a minor modification to clause (i) of Policy T6[6], such that the draft policy states:

> Relevant regional strategies, Local Development Documents and Local Transport Plans should include policies and proposals that:
> - **i** support the development of Gatwick and Heathrow Airports within agreed levels of growth;
> - **ii** take account of airport operator master plans produced in accordance with the Aviation White Paper;
> - **iii** encourage Southampton Airport to sustain and enhance its role as an airport of regional significance.
>
> Airport Surface Access Strategies should set out ways of achieving a modal shift in favour of public transport.

3.11 The draft strategy for the Gatwick sub-region, while containing no policy references to Gatwick, does state that:

> - The presence of Gatwick Airport helps to underpin the economic health of the area and is one of the main generators of economic growth ...
> - A key issue is ... diversification of the sub-regional economy to reduce reliance on Gatwick Airport as the dominant economic factor.
> - Sub-regional policies need to support the continued operation and function of Gatwick Airport as an international business airport and transport interchange, subject to continued environmental safeguards and measures to continue to increase the proportion of public transport use to the airport.

Local authority policies

3.12 A number of local authority documents contain policies and statements applicable to Gatwick and its environs.

3.13 The West Sussex County Structure Plan 2001-2016 will remain in force until the South East Plan is approved by the Government. Its policy for Gatwick, NE19, is reproduced below.

> **(a)** Development, including car parking, to enable Gatwick to operate as a single runway, two-terminal airport should be permitted subject to environmental safeguards and providing that it is necessary for the airport's operation as a transport interchange between air and land transport and that it is located within the airport boundary. Development within the airport boundary which is not required for operational purposes should not be permitted. Increases in the level of car parking on Gatwick Airport should be permitted provided that they are compatible with the aims of encouraging the use of means of travel other than the private car. Increases in the level of off-airport car parking for air travellers and airport staff should not be permitted. New residential and other noise-sensitive development should not be permitted in areas most severely affected by noise.
>
> **(b)** District planning authorities will:
>
> **(1)** define the airport boundary which should include the land which is necessary for the safe and efficient operation of aviation; and
>
> **(2)** include policies in local plans to:
>
> **(i)** ensure that development which is required for the continued safe and efficient operation of the Airport is located within the airport boundary, including the allocation of land for operational use;
>
> (ii) safeguard non-operational land within the airport boundary for possible future operational use;
>
> (iii) if appropriate, allocate and safeguard land for airport-related development outside the airport boundary;
>
> (iv) ensure that the level of car parking on Gatwick Airport encourages the use of means of travel other than the private car with the aim of reducing the proportion of air travellers, staff and visitors arriving at and leaving the Airport by private car;
>
> (v) prevent any increase in the level of car parking off the Airport for air travellers and airport staff;
>
> (vi) ensure that all reasonably practicable measures are taken by the Airport

operator to minimise any harmful environmental or other consequences of the Airport's operation; and

(vii) restrict residential and other noise-sensitive uses within the noisiest forecast 66 Leq contour around Gatwick Airport and ensure that adequate sound insulation is provided for new residential development between the noisiest forecast 60 and 66 Leq contours.

3.14 The Crawley Borough Local Plan 2000 contains a variety of more detailed airport policies, since 2001 elaborated by Supplementary Planning Guidance relating to Gatwick. The council's position is in principle supportive of the airport development foreseen in our SDS. It is not detailed here, given that the Local Plan and SPG both have an end date of 2006 and will soon be superseded by a new Local Development Framework, due for publication in consultative draft form in autumn 2005.

3.15 Transport planning is the responsibility of county councils and in West Sussex is addressed in a Local Transport Plan (LTP) for the years 2001 to 2006. Consultation on the draft of a new LTP, for the following ten years (ie to 2016), is anticipated this spring.

3.16 A number of neighbouring local planning and highway authorities have policies that relate to Gatwick. They typically seek to preclude further use of off-airport locations for airport-related development such as car parks.

Development control

3.17 Airport development is subject to the normal processes of development control, as set out in town and country planning legislation, circulars and guidance. In common with owners of other property, BAA Gatwick is entitled to undertake various forms of permitted development at the airport[7], subject to the prior submission of a consultation (rather than a planning application) to the local planning authority. The entitlement does not include:

- Development on non-operational land.
- Non-operational buildings (ie ones unrelated to the movement or maintenance of aircraft, or the embarking, disembarking, loading, discharge or transport of passengers, livestock or goods).
- Development falling within the scope of the Environmental Assessment Regulations.
- The construction or extension of a runway.
- A passenger terminal with a floorspace greater than 500m^2, or the extension of our existing terminals (an entitlement to extend them has been fully exercised).

3.18 In cases where development does not qualify as permitted development it is of course necessary for BAA Gatwick to apply for and obtain planning permission before development can proceed.

Airport design criteria

3.19 The UK, as a signatory to the 1944 Chicago Convention, is required to operate its airports in accordance with internationally agreed criteria. In the UK, responsibility for ensuring this takes place is given to the Civil Aviation Authority (CAA). Airports operate in accordance with the terms of a licence issued by the CAA and, to obtain and retain that licence, they need to satisfy and continually adhere to the CAA's exacting safety-related standards. Those affecting the design of airports are finely detailed in a CAA publication, CAP168, and are subject to revision in the light of ongoing monitoring and review, including international co-operation to consider developments such as the introduction of new aircraft, for example the A380.

3.20 Gatwick's facilities meet the CAA's requirements, and future development will continue to do so – indeed some development may be an obligatory response to the introduction of new or revised standards. While it is not appropriate for this plan to explain the standards in fine detail, it is noteworthy that they cover such matters as:

- The layout, separation and widths of runways and taxiways.
- Aircraft stand sizes and apron layouts.
- Airport fire service facilities.
- The height and design of buildings and structures.

Airport security

3.21 Airport security requirements are separately the subject of regulatory control, by the Department for Transport (DfT). They too can be a defining influence on the need for development, as well as

6 Clause (i) of Policy T6, as currently approved in RPG9, is to "support the development of Gatwick and Heathrow Airports within levels of growth agreed prior to the publication of the Aviation White Paper, though these will need to be reassessed in the light of the framework established by the White Paper".

7 The Town and Country Planning (General Permitted Development) Order 1995, Article 2 and Schedule 2 Part 18.

on the form and character of the airport facilities at Gatwick, a notable recent example being the requirement for total segregation of departing and arriving air passengers in the airport's airside areas.

Aerodrome safeguarding

3.22 Gatwick, in common with other major airports, is situated at the centre of a series of obstacle limitation surfaces which define, relative to the runway, maximum acceptable heights for buildings and other structures, such as telecommunications masts and wind turbines. Features in an airport's locality, notably higher ground such as that to the west of Gatwick, can constrain and consequently determine the usable length of a runway. The protection of these surfaces is undertaken as part of the Aerodrome Safeguarding process.

3.23 Safeguarding of Aerodromes[8] is a process of consultation between local planning authorities and airport operators. The process is intended to:

- Ensure that an airport's operation is not inhibited by developments, buildings or structures which might infringe the aerodrome's obstacle limitation surfaces.
- Protect visual flight paths, eg by ensuring that runway approach lighting is not obscured by development and that lights elsewhere cannot be a cause of confusion.
- Protect the accuracy of radar and other electronic aids to air navigation, eg by opposing wind farm developments whose turbine blades could generate an intermittent return on air traffic controllers' radar screens.
- Reduce the hazard from bird strikes to aircraft, associated with such land uses as waste disposal and sewage treatment, areas of water and with large landscaping schemes.

3.24 Local Planning Authorities are issued with safeguarding maps which enable them to identify those planning applications on which BAA must be consulted. As a consequence of this consultation process BAA may object to the proposal, not object or not object subject to the application of appropriate conditions.

3.25 Safeguarding issues related to the possible development of a second runway at Gatwick are addressed in Chapter 9.

Public Safety Zones

3.26 The risk of air accidents occurring within and in close proximity to airports has long been the subject of Government policy, through the definition of Public Safety Zones (PSZs) that extend backwards from a runway's landing threshold. Airfield design and safeguarding requirements respectively relate to the avoidance of collisions between two aircraft, or between an aircraft and, for example, tall telecommunications masts. PSZs are the means of identifying the area where the risk of an aircraft accident, while extremely low, may be such as to merit restrictions on the use of land.

3.27 The current PSZs date from 2002, and were defined following thorough Government study of the risk of death or injury to people on the ground in the event of an aircraft accident on take-off or landing at the UK's busiest airports[9]. The basic policy objective is that there should be no increase in the number of people living, working or congregating in PSZs and that, over time, the number should be reduced as circumstances allow.

3.28 The areas of Gatwick's PSZs are based on the 1 in 100,000 individual risk contours for the airport, based on forecasts about the numbers and types of aircraft movements in 2015. The PSZs represent a simplified form of the risk contours, close in shape to an isosceles triangle. The PSZ at the eastern end of the runway has a width of 440m at the runway end and a length of 4,075m; its counterpart, at the western end of the runway, has dimensions of 441m and 3,400m (dimensions to nearest metre).

3.29 The Secretary of State additionally wishes to see the emptying of all occupied residential properties, and of all commercial and industrial properties occupied as normal all-day workplaces, within an area of greater risk – the 1 in 10,000 contour. There are no such properties at Gatwick.

Environmental regulation

3.30 Gatwick operates within the context of a variety of nationally applicable policies and standards relating to the environment. They are described in relevant detail in Chapter 8 of this plan, which explores the scale and mitigation of Gatwick's potential environmental effects, to the year 2015. By way of example, the airport's operation and

8 The Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction 2002

9 DfT Circular 1/2002 – Control of development in airport Public Safety Zones

development needs to address such matters as:

- Air quality, which is subject to a variety of national limits, that relating to nitrogen dioxide (NO2) being of greatest consequence to the airport's operation.
- The water environment, which is the subject of discharge consents relating to airport drainage into the River Mole, set by the Environment Agency.
- Restrictions on the number and noise of flights at night, set by the DfT.

Economic regulation

3.31 Airport charges at BAA's three London airports are regulated by the CAA, and are normally reviewed at five-year intervals. The current regime covers the period until 31 March 2008 and, at Gatwick, permits BAA Gatwick in each of five years to increase its charges to airlines in line with the Retail Prices Index. The formula is set, following detailed CAA investigation and consultation with interested parties (primarily the airlines and BAA), to enable BAA's London airports to operate, and to finance a programme of capital investment, in a manner that satisfies airline expectations while meeting BAA's reasonable costs. The existing and potential profit from each airport company's other sources of revenue, notably retailing, is taken into account by the CAA when it decides the formula for setting the charges to be paid by airlines. This is the so-called 'single till' approach.

3.32 The regulated charges to airlines at Gatwick are billed as:

- A charge for each departing passenger, which in 2004/05 is £4.70 on domestic flights, £5.75 to Eire and £7.15 on other international flights, subject to a minimum of £90.
- An aircraft weight related charge on landing, within a range of £75 - £607.50 in 2004/05.
- An aircraft parking charge.

3.33 In 2004/05 the regulated charges paid by airlines for their use of Gatwick will have averaged around £4.43 per departing/arriving passenger.

3.34 Airlines also pay for the air traffic control services of the authorities responsible for the airspace through which they fly - National Air Traffic Services in the UK.

3.35 A Government tax, Air Passenger Duty, is paid direct to the UK Treasury and currently ranges between £5 and £40 per departing passenger.

4 The airport in 2005

4.1 This chapter describes Gatwick's current operation and the general scale, character and disposition of its existing facilities, to set the context for the significance of future airport development.

Gatwick's role and current scale of activity

4.2 Gatwick's current function is to serve as the UK's second gateway airport, with its operation very much aligned to the needs of travellers whose journey origins or destinations are in London, the South East and East Anglia. Fewer than 13% of Gatwick's passengers have origins or destinations elsewhere, over 5% of these being in the South West.

4.3 Gatwick currently offers the only direct air services to/from a variety of US gateway airports and is the South-East's only port of call for a number of US airlines. This reflects the air services agreement between the UK and the USA, which limits to two the number of each nation's airlines that can operate at Heathrow, and restricts the choice of US airports that they can serve.

4.4 As the UK's second busiest airport, and coincidentally the world's sixth busiest for international passenger traffic, Gatwick is a key component of the country's civil aviation infrastructure. In 2004 it handled 31.4 million air passengers, 251,129 aircraft movements and 218,267 tonnes of air cargo.

4.5 The general characteristics of Gatwick's passenger traffic in 2004 are noted below (provisional survey results, yet to be verified):

- 87.5% travelled on international and 12.5% on domestic services.
- 67.4% travelled on scheduled services and 32.6% on charters.
- 15.5% were travelling on business and 84.5% for leisure purposes.
- 13.6% were transfer passengers making flight connections at the airport.
- 75.7% were resident in the UK and 24.3% overseas.

4.6 The 2004 total of 251,129 aircraft movements comprised:

- 238,558 civil aviation flights for passengers (termed passenger air transport movements – PATMs), giving an average aircraft load of 131.6 passengers; PATMs also carried around 76% of Gatwick's freight.
- 2,931 civil aviation flights wholly for air freight (termed cargo air transport movements – CATMs); these were a mixture of long-haul flights by large aircraft (predominantly DC10s) and short-haul flights on domestic and Channel Island routes, mostly using turbo-prop aircraft.
- 2,506 flights by private (general aviation) aircraft and air taxis.
- 7,134 other flights, the majority (6,733) being by empty civil aircraft (positioning flights).

4.7 The number of flights by the most frequently used aircraft types, and the proportion they represented of flights at Gatwick, is listed below:

Boeing 737	103,129	41.07%
Airbus A319/A320/A321	51,999	20.71%
Boeing 757	24.974	9.94%
BAe 146 / AR1	13,284	5.29%
Boeing 777	12,123	4.83%
Boeing 767	11,268	4.49%
Airbus A330/A340	7,201	2.87%
Boeing 747-400	3,279	1.31%
DC10	2,741	1.09%
Embraer RJ	2,452	0.98%
Canadair Regional Jet	2,210	0.88%
A300-600	2,145	0.85%
Other jet aircraft	5,483	2.18%
Turbo-prop and piston aircraft	8,645	3.44%
Helicopters	196	0.08%

The existing airport layout - overview

4.8 The existing airport layout is shown on Drawings 1 and 2, the former illustrating eight broad categories of land use, and the latter showing the disposition of facilities in more detail.
The remaining subsections of this chapter focus on the eight land use categories.

4.9 The area available for airport activities and facilities is approximately 678 hectares, of which:

- 590 hectares (87%) is already developed or in use for airport purposes, but offers some opportunities for land use to be intensified or altered.
- 52 hectares (8%) form the landscape zone inside the airport's northern and north-western boundary, along the course of the River Mole.
- an undeveloped area of 37 hectares (5% of the total) is potentially available for development in the North West Zone, and would represent a 6% addition to the area already in airport use.

4.10 It may also be noted that:

- BAA Gatwick owns 74 hectares of land east of the railway, outside the designated airport boundary, which is currently defined as part of a strategic gap between the airport and Crawley.
- The airport boundary, as defined in the Crawley Borough Local Plan, includes 18 hectares inside that boundary, but outside the operational airport perimeter, of which some 12 hectares are owned by BAA.
- Approximately one hectare of BAA Gatwick's land, currently forming part of a staff car park, lies in Reigate and Banstead Borough Council's administrative area.

Airfield facilities

4.11 Gatwick's airfield extends over an area of approximately 225 hectares - a third of the land within our airport boundary. It contains the airport's main and standby runways, the northern parallel taxiway, and extensive grass areas surrounding these particular facilities. It is home to a variety of navigational and landing aids and also includes the airport's fire training area.

4.12 The airfield's layout and extent is very much a reflection of the design criteria and licensing requirements referred to in Chapter 3 of this plan. The runway/taxiway layout is already largely but not entirely compatible with the standards required to enable the Airbus A380 aircraft to use Gatwick, when it comes into service in 2006.

Passenger terminals

4.13 Gatwick's two terminal zones currently cover an area of approximately 18 hectares. They contain the North and South Terminals, parking areas for some airside vehicles and equipment and a variety of adjacent buildings, notably:

- Offices.
- Air/cabin crew reporting facilities.
- Baggage handling.
- North Terminal's airside coach station.
- South Terminal's boilers and chillers.

4.14 The approximate gross floorspace of the North and South Terminals is, respectively, 85,000m^2 and 160,000m^2. A large proportion of the floorspace is required for departures baggage sorting and for back-of house accommodation to support many of the functions within the building.

Aprons and piers

4.15 Gatwick's apron area, as defined in this plan, currently extends to 147 hectares. The vast majority of the area is laid out as aircraft stands and taxiways, its proportional use being approximately as follows:

- Aircraft stands: 35%
- Taxiways 54%
- Fuel farm 6%
- Piers, fire station, control tower, etc 5%

4.16 Current stand provision is shown in the table below, which also indicates the aircraft types suited to the stands.

	S	M	L	JW	JX	All
Pier 1	5	4				9
Pier 2	-	-	8	8	-	16
Pier 3	-	-	2	6	-	8
Pier 4	-	1	1	7	-	9
Pier 5	3	1	1	7	-	12
Pier 6	-	8	1	2	-	11
Remote	3	5	15	21	-	44
Total	11	19	28	51	0	109

Key:
S: Small - B737, BAE146
M: Medium – A319, A320, MD80, MD90
L: Large – B767, MD11, DC10
JW: Jumbo Wide – B747, B777, A330, A340
JX: Jumbo Extra Large – A380

4.17 Pier-served stands, attached to the terminals, generally enable passengers to enter and leave aircraft under cover, via air jetties. However, when a JW stand is configured for alternative use by two smaller aircraft (a MARS stand), a jetty is not normally provided for one of the aircraft, in which case passengers have a short walk in the open. This routing is sometimes chosen by airlines in preference to using an available jetty. Therefore some airlines may prefer the provision of some walkout stands, without jetties. These two routes to/from an aircraft constitute 'pier service', and the number of pier-served stands at Gatwick[10] is currently sufficient to achieve our standard that 90-95% of passengers at each terminal should receive pier service. This requires approximately 70% of aircraft to be pier-served. Buses are used

10 Once Pier 6 has opened for use, in Spring 2005

to transport passengers to/from aircraft on remote stands. However these stands are often used for parking aircraft between flights, and they are moved to a pier-served stand when their boarding time approaches.

4.18 The area defined on the plan also includes Gatwick's fuel farm (approximately 9 hectares), the airport fire station and NATS' control tower, all of which are key to aircraft operations.

Cargo facilities

4.19 The airport's Cargo Centre covers some 11 hectares. Its dominant feature is some 23,000m^2 of cargo shed floor space, complemented by office accommodation, areas for HGV loading, unloading and parking, and by open equipment parking areas.

4.20 Gatwick's current cargo throughput is around 30% below the peak (close to 320,000 tonnes per annum) achieved early in 2001. It is consequently likely that the existing facilities could accommodate a considerable recovery in the airport's cargo traffic without a requirement for additional capacity.

Aircraft maintenance

4.21 Over the years Gatwick has seen the establishment of a number of airline maintenance bases, although airline mergers and changes in British Airways' operation have led to some reduction in activity. Facilities currently exist at two locations within the airport, southside of the runway (16.5 hectares) and northside (7.5 hectares). British Airways is their principal occupant, with other interests being held by Thomas Cook, Das Air and FLS Aerospace (northside, currently out of use).

Ancillary activities

4.22 Gatwick's operation creates a need for a variety of office, hotel, industrial and other functions to be established within or close to the airport, to support the airport's and airline operations. Some of the functions, such as contractors compounds and maintenance depots for specialist airside vehicles, need to be within the airport boundary. Others, such as hotels, many office functions and the preparation of in-flight meals, can satisfactorily be located off-airport.

4.23 A number of separate on-airport sites, in aggregate utilising some 37 hectares, are home to such ancillary activities.

Surface transport facilities

4.24 Gatwick's surface transport facilities are varied, but principally comprise on-airport roads, car parks and facilities for coaches, taxis and car rental companies. In total they occupy some 135 hectares of airport land, around half being used for car parks.

4.25 The amount of public long-stay car parking within the airport is considerably less than required to meet current levels of demand, because capacity also exists in a number of long-established off airport car parks, run by specialist operators, and at many hotels. There is also a variable supply of spaces in unauthorised off-airport car parks, the closure of which is sought by the local planning authorities, but which has thus far proved impossible to eliminate. The latest (September 2004) data on public car parking is as follows.

Public short-stay (on-airport)		**4,100**
Public long-stay – total, of which:		**50,862**
On-airport	27,134	
Off-airport (authorised car parks)	16,668	
Off-airport (authorised, at hotels)	4,674	
Off-airport (unauthorised car parks)	1,492	
Off airport (unauthorised, at hotels)	894	

Strategic landscaping

4.26 BAA Gatwick's landholding currently includes some 126 hectares of strategic landscaping, the two key areas being land east of the railway, outside the airport boundary, and a broad area following the course of the River Mole, including Brockley Wood. The 225 hectare airfield is also generally open, with grassland comprising a majority of its area. Elements of formal and informal landscaping exist within the developed areas of the airport.

5 Forecasts

5.1 The demand for air travel arises for a multiplicity of reasons, but typically occurs as an aspect of business relationships, to reunite friends and relatives or to enable people to reach their holiday destinations. For many trips the lengthy travel times via surface modes rule them out as a practicable alternative to air travel, which may also be the only available means of public transport for many journeys.

5.2 The civil aviation industry offers a variety of service products in response to demand – from the rapidly growing 'no frills' sector of low cost travel to the first class luxury that is sought by a proportion of passengers using full-service airlines. Charter airlines remain very important for leisure travel, but serving a more varied market than the inclusive tours with which they were originally associated. Specialised air freight and parcels services are also key to the global economy, and can be the lifeline for some communities and businesses.

5.3 BAA will shortly publish up-to-date forecasts of traffic at its three London airports, in its Capital investment Programme (CIP). The final version of this plan will include relevant detail from the new forecasts for Gatwick.

5.4 Gatwick's throughput in any particular year will depend on the characteristics of its traffic and be influenced by occurrences elsewhere, eg:

- 'Open skies' for UK-USA air services at Heathrow.
- A release of additional capacity on Heathrow's existing pair of runways.
- The opening of a second Stansted runway.
- The opening of a third Heathrow runway.
- Substantial additions to passenger capacity at Luton.
- Definitive decisions not to proceed with one or more of the changes above.

5.5 Forecasts of Gatwick's traffic consequently need to be interpreted with a degree of caution. There may be individual years when the generally upwards trend in passenger numbers could be halted, or perhaps reversed, for example if a segment of Gatwick's traffic moved to Heathrow. The tight supply of airport capacity in the South East should, however, quickly drive a return to growth, albeit with a possibility of some change in its characteristics.

5.6 Past experience demonstrates the changes that can happen. For example, during a recession, any aircraft slots given up by Heathrow airlines trimming their services are seized by Gatwick airlines, further strengthening Heathrow's position over Gatwick. This was partly the cause of Gatwick's loss of traffic in 2001–03. The airport's return to growth was bolstered by a significant influx of low cost services. This shows the way in which the airport's mix of airlines and air services can undergo significant, unforeseen, change.

5.7 Our SDS's forecasts, which did not foresee the aviation recession of 2001–03, anticipated that the airport's annual passenger throughput would reach 40 million in 2008/09, with some 280,000 aircraft movements using the runway. Our forecasts of passenger growth have slipped by around four years (our April 2004 CIP forecast a throughput of 40.5 million in 2013/14), but our projections of Gatwick's ultimate capacity for aircraft movements and passengers have not materially altered.

5.8 This chapter considers forecasts for aircraft movements, air passengers and air cargo tonnage at Gatwick. Employment forecasts are to be found in Chapter 2, while Chapter 6 includes various forecasts specific to particular facilities, eg aircraft stands and airport related car parking.

Aircraft movements

5.9 The capacity of Gatwick's single runway is the most significant constraint on the ultimate scale of activity at the airport. Given the current average daytime hourly declared capacity (48), and assuming that the number of night flights (23:30 – 06:00) will be no greater than the current government cap on numbers[11], the runway theoretically has annual capacity for around 323,000 aircraft movements. Its usable capacity is, however, rather less, given that airline demand for runway slots will never be a perfect match for capacity, eg because there is less demand for air travel in winter than summer, and some hours of the day are less suited to airline requirements than others.

5.10 Runway utilisation at a capacity constrained airport such as Gatwick is, however, very efficient, and we judge that the runway's usable annual capacity (maximum use, as advocated by the Government) lies in the range 275-283,000 air transport movements (passenger and cargo).

11 Restrictions on night flights are explained in chapter 9.

The upper end of this range would cover (but not necessarily be reliant upon) the possibility of our achieving a slight increase in the average hourly movement rate, particularly in peak periods.
Of the residue of around 40-48,000 slots, unused by ATMs, it can reasonably be assumed that around 5,000 will be used for other movements, such as the positioning of empty aircraft.

5.11 Our capacity forecast is higher than that (260,000 ATMs) assumed by the Government in the studies that preceded the White Paper. We think that lower figure is conservative, because total movements on Gatwick's runway exceeded that level in 2001, reaching 261,164 movements (252,911 ATMs) in the 12 months to 31 January 2001. They remained very close to that level, with evident potential for further growth, until the abrupt downturn in slot demand following the terrorist atrocities of 9/11.

5.12 We expect that the number of ATMs will be at or close to 272,000 per annum from 2010.
Our 2004 forecast of runway use in 2013/14, taken as a proxy for that for 2015 and contrasted with actual use in 2004, is:

	2004	2013/14
Passenger ATMs	238,558	272,000
Cargo ATMs	2,931	3,000
General aviation / air taxis	2,506	
Other	7,134	5,000
Total	251,129	280,000

5.13 Our final master plan will consider the sensitivity of our forecast, in the form of higher and lower cases for 2015. They will take into account possible variations in Gatwick's traffic, for example affecting the airline mix and the relative proportions of long and short haul services.

5.14 The future numbers of aircraft movements are within the capacity of the airspace serving Gatwick, although changes will be required to service the use of new runways within the South East. The air noise section of Chapter 8 also refers to this issue.

5.15 Over the ten-year period there will be an upwards trend in the average passenger capacity of aircraft, although medium and smaller aircraft types will continue to be predominant. The A380, which will offer considerably more capacity than the current largest aircraft, could well operate around a dozen daily flights to/from Gatwick by 2015. The aircraft mix is critical to our plans for future stand provision, and is further referred to in Chapter 6.

5.16 In conjunction with the upwards trend in average aircraft size there is a prospect of improved load factors (the percentage of seats occupied). This is well demonstrated by recent changes at Gatwick; while the loss of some long haul services has reduced the average capacity of aircraft, load factors on short haul routes have been driven upwards by airline competition. Although a decrease in average aircraft loads seemed likely, it actually increased from 128.3 in 2000 to 131.6 in 2004.

Air passengers

5.17 Forecasts of growth in passenger numbers at Gatwick reflect the constraint of the runway's capacity, as the number of aircraft movements edges closer to the number of runway slots available at times that are commercially suitable for airlines. By the end of this decade the progressive increase in the average number of passengers per flight, rather than additional aircraft movements, will become the main driver of growth in passenger numbers.
We expect that our forecast for 2015 passenger numbers will build on that of 40.5 million in 2013/14 (2004 CIP), ie to be in excess of 40 million but less than the maximum use capacity of around 45 million.

5.18 Gatwick is expected to maintain its strong bias towards leisure travel, and to be the starting or finishing point for most of its users' air journeys.
The proportion of transfer air passengers will be considerably lower than the 28% contemplated by the SDS – it is currently around 14%. The following non-transfer passenger mix will underlie our forecasts.

Country of residence / journey purpose	2003/04 actual (%)	2015 forecast (%)
UK business	11.1	11.0
UK leisure	65.2	69.0
Foreign business	7.1	6.0
Foreign leisure	16.6	14.0

5.19 Given the expected predominance of leisure passengers and the progressive blurring of the distinction between charter and scheduled airlines (some charter airlines now operate scheduled services) we no longer consider it meaningful to publish forecasts that differentiate between scheduled and charter traffic or, indeed, between full service and low cost scheduled airlines. Our sensitivity testing will, however, reflect differing, commercially confidential, assumptions as to airlines' respective shares of Gatwick's future traffic .

Air cargo

5.20 The cargo tonnage handled at Gatwick in 2004 was 218,267, a considerable reduction on an annual peak of around 320,000 tonnes, achieved in spring 2001. The decline is largely attributable to the changes in British Airways' operations at Gatwick, which reduced the overall cargo-carrying capacity available on air services to/from the airport.

5.21 The SDS foresaw Gatwick's annual cargo rising to 500-550,000 tonnes, strongly influenced by the prospect of growth in British Airways' capacity. This is no longer a valid assumption, although we do expect some growth in long haul cargo capacity, on scheduled flights. Runway capacity constraints will prevent an appreciable increase in freighter flights such as those flown by Das Air. An average annual increase in cargo tonnage of 3.3% would lift throughput to around 330,000 tonnes in 2015.

Forecasts for 2030

5.22 It is both difficult and currently unnecessary to prepare detailed forecasts of activity at Gatwick in 2030. However it is clear from the White Paper that the unconstrained demand for air travel to/from the South East's airports in 2030 will, at 300 million, exceed the scale of capacity provision that the Government considers to be acceptable. With one new runway at Stansted, another at Heathrow, a substantial addition to Luton's capacity and maximum use of Gatwick's single runway, the four main airports could accommodate around 275 million passengers a year - assuming that planning applications and permissions deliver capacity in line with the Government's expectations.

5.23 It is consequently reasonable to conclude that demand will, by some margin, be sufficient to support the full use of a single Gatwick runway in 2030, and we consider that a passenger capacity estimate of 45 million is reasonable for that year. The Government's estimate (46.5 million), or indeed a slightly higher one, could be achievable if the South East airport system were to become seriously capacity constrained, for example if the combined capacity of the other airports fails to deliver to the expectations in the White Paper.

5.24 Assuming that an annual capacity of around 275 million passengers is available at the four main South East airports in 2030, Gatwick's single runway share of the total will be around 16.4%, compared with its 24.7% share of traffic in 2004. The relative decline in Gatwick's importance may result in some market-led adjustments to its role within the airports system, eg a further reduction in long haul services and/or a contraction of its passenger catchment area, but such changes do not give us cause to doubt Gatwick's potential to accommodate some 45 million passengers per annum.

5.25 If Gatwick, rather than Heathrow, were to be the location for the second of the region's two new runways it would, based on Government estimates, have an approximate 29% share of the four airports' capacity. In the context of the overall forecasts of demand it is possible that Gatwick could in 2030 be used to its full potential, ie around 80 million passengers per annum[12]. BAA does, however, consider it premature for this plan to attempt detailed forecasts of the most likely actual scale and composition of Gatwick's traffic in that year, given that there is currently no firm Government policy in favour of a second runway's development. Capacity availability at Heathrow, Stansted and Luton in 2030 will also have a discernable influence on Gatwick's use.

12 Government studies prior to the publication of the White Paper indicated a capacity of 83 mppa for its favoured runway operation at Gatwick. Such a capacity remains a possibility.

6 Land use at a single runway airport

6.1 The various land uses at a single runway Gatwick Airport in 2015 and 2030 will largely be predetermined by the airport's existing layout. However, while the use of most of the land will be unchanged, buildings and facilities will be upgraded or renewed so that they meet the future needs and expectations of Gatwick's users and our business partners.

6.2 This chapter sets out our thinking on the future use of land at Gatwick with one runway. Associated surface access and environmental issues are respectively addressed in Chapters 7 and 8.

The 2030 "end state" land use plan, for a single runway operation at Gatwick

6.3 To ensure that Gatwick is developed in the most effective way in the years ahead, it will be important that any decisions on land use and facilities take into account what we currently believe will be the ultimate layout of the airport in 2030. So, before we describe our plans for the year 2015, we set out our thinking about the ultimate pattern of land uses which should be planned at Gatwick, assuming it remains a single runway airport. We also explain how and why it is different from the concepts set out in the SDS in 2000.

6.4 Our prime objective is to ensure that any facilities developed support the maximum use of the runway. Other important objectives are:

- To contain our developments within the existing airport boundary (as defined in the Crawley Borough Local Plan 2000), excepting that our other land holdings east of the railway will as now be partly used for drainage infrastructure and environmental projects. Some businesses, for example flight caterers and car parks, will choose to operate from sites outside the airport boundary.
- To maintain a two terminal operation, able to adapt readily in response to changing regulatory, airline and traveller needs and expectations.
- To plan an apron/pier layout capable of delivering pier service to 90-95% of air passengers.
- To make adequate provision for other airside or part-airside activities, notably cargo handling and aircraft maintenance, in locations that have no negative impact on the runway's hourly capacity.
- To ensure that our surface access infrastructure, notably roads, on-airport car parks and facilities for buses and coaches, accommodates user needs safely and efficiently, to support a strategy to encourage increased use of public transport by both passengers and staff.
- To ensure that airport development is planned and implemented with regard to its local communities, to optimise economic and social benefits and to mitigate and, as far as possible, minimise its environmental impacts.

6.5 Our SDS sought to address such objectives and included 14 land use commitments. However, in comparison with this plan, the SDS forecast a greater proportion of movements by the largest aircraft types, flying long haul services and spending longer than average at the airport between flights. Their requirement for pier-served stands was a significant influence on the planned scale of apron development and the SDS contained two concepts for new piers which, immediately prior to 9/11, were in course of refinement into a single, hybrid scheme. In common with one of the concepts, it focused on the provision of a 'T' shaped satellite pier, largely west of the existing aprons. It is probable that the extended apron area could, over time, have accommodated a growth in Gatwick passenger numbers from its single runway higher than the 40 million a year for which it was initially being planned.

6.6 We now believe that, in the context of two runways at Stansted and three at Heathrow, Gatwick will not as a single runway airport assume the same significance for long haul flights by full service airlines. We have consequently concluded that our 'end state' land use plan for Gatwick can favour a more compact layout of pier-served stands than anticipated by the SDS. The layout allows for an additional pier (Pier 7), but smaller than the satellite foreseen by the SDS, linked to North Terminal. It also provides the opportunity for an extension of Pier 6 to the west. North Terminal will be enlarged to enable it to handle a majority of Gatwick's annual passenger traffic, probably around 25 million (56%) compared with at most 20 million at South Terminal.

6.7 A number of options for Pier 7 are possible and will need to be examined in detail prior to a final decision on its configuration and precise location. One option, illustrated on Drawing 5, would minimise the pier's distance from North Terminal by siting it on land currently occupied by the cargo area, which would be re-provided further to the west. Such a pier would probably be aligned

east-west, encircled by taxiways and connected to the terminal by passenger walkways, either underground or via a bridge. A second option, not illustrated but no less feasible, would retain the cargo area in its current location and develop Pier 7 beyond the western edge of the apron (where cargo would otherwise go); it would be likely to have an airside tracked transit system to transport passengers to/from North Terminal.

6.8 A key issue addressed by our 2030 land use plan is the desirability of eliminating the need for aircraft to cross Gatwick's runway. Because most of Gatwick's aircraft maintenance facilities are south of the runway this happens frequently and reduces the runway's capacity. A single aircraft crossing the runway denies an aircraft the opportunity to land or take off, which creates a 2% reduction in hourly capacity. Delaying an aircraft from crossing the runway can also in turn delay its departure on a flight from the airport, or leave an aircraft awaiting maintenance parked on a stand, blocking its use to other aircraft.

6.9 The SDS considered this issue and, largely in response to British Airways' desire to move their maintenance facilities from south to north of the runway as quickly as possible, showed land use plans that provided for this to occur before 2008. Now, British Airways are not seeking to move their facilities, at least partly because the scale and character of their Gatwick operation could be materially affected by the availability of a third runway at Heathrow (a baseline assumption if Gatwick is to remain a single runway airport).

6.10 However it remains the case that the capacity and efficiency of Gatwick's single runway operation is compromised by the need to allow aircraft to cross the runway. It is our intention that maintenance activity should over time migrate from south to north of the runway since we do not have the option of eliminating runway crossings by curtailing the activity itself. We must be able to accommodate the routine servicing of aircraft and the repair of minor defects; we must also allow for larger repairs of more serious problems, such as replacing an engine damaged by a birdstrike. Gatwick can also be expected to remain the home base of many aircraft, and our plans must allow for the prospect that one or more airlines will wish to operate a maintenance base for their fleet, or to arrange for another locally based airline or contractor to look after their interests.

6.11 As in the SDS, the new northern maintenance zone is shown as far west as it can be, to avoid the risk of crowding and compromising the ultimate layout of apron and cargo facilities, particularly in the context of the airside land requirements that would be associated with the possible development of a second runway. However, whereas the SDS anticipated that the total area required for aircraft maintenance would be 21-24 hectares, we now believe that a lesser allocation, of 14 hectares, should satisfy long term needs, mainly because we do not expect British Airways to require as much land at Gatwick as they proposed in 2000 or, indeed, as they occupy now.

6.12 For some of Gatwick's neighbouring communities the intended use of this location for aircraft maintenance facilities is undoubtedly the most controversial aspect of our land use planning, primarily because of the potential visual impact of large aircraft hangars. There is, however, no alternative to carrying out much maintenance activity under cover. Hangars sized for large aircraft will inevitably be large buildings, although not necessarily of the scale previously envisaged by British Airways. It will be critical that such developments are carefully screened and landscaped to minimise their impact.

6.13 Given that the southern facilities are owned and operated under a number of ground leases, some of which run into the 2020s, the migration process may not be complete much before 2030. It is possible that little change will have occurred before 2015, unless an airline currently lacking a Gatwick base should wish to establish one.

6.14 In 2030 Gatwick's landside areas will continue to be extensively used for surface access infrastructure (primarily roads and car parks) as well as accommodating a variety of ancillary land uses such as hotels, offices and vehicle workshops. Landside areas will include substantial amounts of landscaping, notably alongside the River Mole.

6.15 Our land use plan separately identifies the areas used for surface access, ancillary and strategic landscaping purposes. However, over the 25 year time horizon there may be some unforeseeable adjustments to their areas, for example siting a new hotel in an area currently used for car parking. There is also uncertainty as to the precise subdivision of greenfield and brownfield development

sites between ancillary and car parking uses. Justifiable increases in capacity for car parks will be achieved by use of vacant land within the airport boundary (in the NW Zone and in the current southern maintenance area) and, if appropriate, by intensifying the use of existing car parks (eg by decking and/or introducing a greater proportion of block-parking).

6.16 Our conclusions in relation to the main land uses are listed below, and illustrated in Drawings 3 and 5, which respectively show the approximate disposition of land uses at Gatwick in 2030, and an illustrative (not definitive) layout of apron facilities:

- The airfield remains much as currently defined, with its single runway and the adjacent standby runway.
- The current terminal zones are considered to be generally adequate to contain enhanced terminal capacities of around 25mppa (North) and 20mppa (South).
- The current apron area is enlarged, to provide a supply of stands suitable in number and size for the future aircraft mix at Gatwick, and capable of delivering pier service to 90-95% of passengers at each terminal. The illustrative layout, including its depiction of a Pier 6 extension, the location of Pier 7 and a reduction in stands on a new Pier 1 (to facilitate a new taxiway layout), is an example of what might exist in 2030 and does not represent a chosen end state.
- Provision is made north of the airfield for a single 14 hectare zone for aircraft maintenance, located on the western side of the NW Zone so as not to constrain the alternative layout options for cargo or pier development in the area to its east.
- Capacity for cargo handling will be provided in line with demand, either within the existing zone or within a new one of around 8 hectares, compared with the current area of 11 hectares and that of 17 hectares allowed for in the SDS (the latter option being that assumed for the purposes of Drawings 3 and 5).
- Landside areas total around 250 hectares, largely comprised of the existing allocation but with the addition of the current southern maintenance zone and some land in the NW Zone.

The airport in 2015 - overview

6.17 We expect the disposition of land uses at Gatwick in 2015 to be substantially the same as that in 2005, excepting the likelihood of development in the NW Zone, to provide additional aircraft stands, car parking capacity and, potentially, to begin to establish the new aircraft maintenance area on its western side.

6.18 Our capital plan does not currently foresee a start on the development of North Terminal's additional pier (Pier 7), or the prior relocation of the cargo area, before 2015. This may, however, need to be advanced, subject to the precise nature of traffic growth and its composition.

6.19 The land use plan for 2015 is to be found as Drawing 4, while Drawing 5 includes an illustrative (but not definitive) layout of apron/terminal facilities. The remainder of this chapter provides a more detailed commentary on each use. The sizes of the various areas delineated on the 2015 plan, together with those for 2030 (drawing 3), are given in the tabulation below, and compared with the current situation (Drawing 1).

	Areas in hectares		
	2005	2015	2030
Airfield	225	225	225
Terminals	18	18	18
Aprons	147	153	164
Cargo	11	9	8
Maintenance	24	24	14
Ancillary	37	27	38
Surface transport	135	156	160
Strategic landscaped areas	52	52	52
Undeveloped land	30	14	-
GAL land, east of railway, outside boundary	74	74	74
Total	752	752	752

The airfield - 2015

6.20 The airfield is a fixed component in future land use planning. It cannot be materially reduced in size, given safety-related rules on the extent of the open area needed around the runway and taxiways. Conversely, however, the airport's growth will be achieved without need for any material increase in the size of the airfield, as its layout is in large measure already suited to future operational needs. However we will need to make adjustments to the taxiway layout at its eastern end, over a distance of approximately 1,000 metres, to suit it for use by the A380 (which has a wider wingspan than aircraft currently in use). There will also be some minor modifications to the runway itself, and we will periodically need to update the various navigational and other technical aids, to ensure that they facilitate maximum runway use.

6.21 In addition to works to enable A380 operations at Gatwick the period to 2015 is likely to see capital investment in the resurfacing of both the main and standby runways.

Passenger terminals - 2015

6.22 The terminals' ageing facilities require an ongoing programme of refurbishment and renewal, and we are committed to the provision of improved levels of customer service to Gatwick's users. Our intention is that each terminal should have a comparable character and be equally attractive to users. We also need to be able to respond to individual airlines' particular requirements for facilities. Changing passenger expectations, demanding higher standards of service, and the need to support the full utilisation of capacity available from Gatwick's single runway operation, will also justify a variety of alterations and extensions to facilities.

6.23 North Terminal is the smaller of the two terminals and will have the greatest need for extension, probably on its southern side. However, growing use of new technologies, notably in the realm of check-in and security, could significantly alter the character of parts of the terminals, and facilitate more efficient use of some floorspace. While some extension is likely before 2015, the terminals' ultimate configurations and floor areas are unlikely to be complete within the 2015 time horizon. Given the high density of terminal land uses, the additional land needed for any extensions will be insignificant in comparison with the overall scale of the airport land use, and the aggregate area required for the terminals and allied facilities is not expected to increase.

6.24 The main focus of our investment in the terminals to 2015 is expected to be on security systems, replacing much mechanical equipment (eg escalators and baggage systems) and reconfiguring and refurbishing the terminal interiors. The latter will ensure that their operational and commercial areas remain up to date, efficient in use and support the provision of high standards of service.

Aprons and piers - 2015

6.25 Our provisional base case and high forecasts of the number and sizes of stands which we expect to require in 2015 are tabulated below, and compared both with existing provision and with the SDS forecasts for 2008. Our forecast allows for enough stands for aircraft that have recently landed and/or are being prepared for departure and also for some that may be parked at the airport for longer – perhaps for several days. It also recognises that we need to provide the terminals with stands catering for their separate peaks in demand.

	2005	SDS	2015 - provisional	
	supply	forecast (2008)	Base case	High
Small	11	7	11	11
Medium	19	26	23	26
Large	28	36	23	23
Jumbo-wide	51	50	37	51
Jumbo x-large	-	-	6	6
Total	109	119	100	117

6.26 These provisional forecasts signal the possibility of Gatwick needing fewer aircraft stands in 2015 than are currently provided in 2005. However they do not imply that the aggregate apron area could be reduced, given the need to introduce around six extra large stands into the layout, for the A380, and to widen a number of taxiways to make them fit for its use. While the location of aprons and piers will broadly correspond with current circumstances, stand layouts will be modified in many areas, both to facilitate A380 operations and to maintain a mix of stand sizes suited to the needs of the aircraft using each terminal. We will also want to retain flexibility in the layout, such as offered by the provision of MARS stands suitable for use either by one of the largest aircraft types, or by a pair of small/medium aircraft. The precise need for change often only becomes apparent at short notice, and it is consequently quite likely that the layout of stands in 2015 may differ slightly from that illustrated on Drawing 5. A more significant variation, affecting taxiways as well as stands, will occur if the illustrative extension of Pier 6 (see below) is not found to be the preferred means of adding to pier service.

6.27 In comparison with the current layout, the major changes shown on the drawing are associated with provision for the A380 aircraft and, separately, with the extension of Pier 6. The former involves taxiway modifications to give wingtip clearances enabling the A380 to taxi to/from stands on Piers 2, 3 and 4; the creation of A380 stands and pier infrastructure will occur when required by actual operations. Associated changes at the eastern end of the airfield (see paragraph 6.20) necessitate a reconfiguration of the remote stands south of Pier 6.

6.28 The 2015 illustrative layout is based on an assumption that additional pier service before that date will best be accomplished by extending Pier 6 westwards. Such an extension, if further studies show it to be the best solution, will have to be preceded, as illustrated on Drawing 5, by a number

of significant changes to the apron layout, to create a pair of parallel taxiways in place of the existing single taxiways to the west and north of the control tower. This work is itself expected to be preceded by the provision of around four remote stands in the NW Zone, and others close to the control tower, to compensate for stands lost to make space for the additional taxiways. Completion of the taxiways then enables the removal of one of the pair of taxiways to the east of the control tower, creating room for the westwards extension of the stands served by Pier 6, and likewise of the Pier itself.

6.29 In addition to the provision of facilities for the A380 and the possible extension of Pier 6, the major apron/pier investment foreseen over the period to 2015 will address any necessary concrete renewal, the provision of additional (remote) stands, loading bridge replacements and the refurbishment of facilities and décor in the piers themselves, notably Pier 3. The replacement of Pier 1 is also being considered, and may include modifications to its stand layout; however, given that design work has yet to commence, Drawing 5 does not attempt to show how the current layout might change, other than indicating the prior provision of one additional medium stand on the pier's southern side.

Cargo area - 2015

6.30 As noted in paragraph 4.20, in 2000 Gatwick's existing cargo facilities handled a tonnage (320,000) approximately 50% greater than in 2004. It is consequently possible that they will be adequate to handle a return by 2015 to a similar volume of cargo as in 2001.

6.31 It does not currently appear likely that the cargo area's relocation will need to have commenced prior to 2015, if it should be required as a precursor to the development of Pier 7. It is anyway probable that some upgrading of the cargo area's facilities will occur prior to 2015, possibly including partial redevelopment of existing buildings.

Aircraft maintenance - 2015

6.32 Given the scale of operations at Gatwick, provision for aircraft maintenance will remain a feature of the airport's future operation. As has been noted in paragraph 6.9, British Airways no longer have immediate plans to move their maintenance activity into an entirely new facility in Gatwick's NW Zone, but we must be prepared to accommodate the needs of other Gatwick operators. Such a requirement will potentially initiate the development of the new northern maintenance zone before 2015, but it is currently impossible to predict the extent of such development or the degree to which the current southern maintenance area may have reduced in size by that year. We will during the course of this year be thoroughly reviewing the short/medium term future of Hangar 7, which is north of the runway but on a site that is incompatible with our 2030 land use plan; our conclusions will be reported in the final master plan.

6.33 Given the uncertainty as to the pace of the migration of aircraft maintenance from south to north of the runway, our 2015 land use plan replicates the current zoning of the maintenance areas south and north of the runway, and shows the new northern zone as available for maintenance development. That may be initiated before 2015, and there is a prospect that a proportion of land in the southern zone will by then be used instead for other purposes, such as car parking.

6.34 The one specific aircraft maintenance project in our 2005 CIP is the provision of a ground run pen for aircraft engine testing. This is the subject of an obligation in our 2001 legal agreement, and we had anticipated that it would be completed in 2004. Our planning applications for its designated site and, subsequently, for an alternative location have, however, both been questioned by several local authorities and other parties, and we are currently undertaking a further review of our proposals. We expect matters to be resolved this year, and will report the outcome in the final master plan.

Ancillary activities - 2015

6.35 Gatwick's growth will be accompanied by some increase in ancillary activities. In the context of local authority planning policies, which tend to prefer on-airport to off-airport sites as a location for airport-related businesses, it will be necessary for BAA to have land available for such businesses as may need them, subject to the negotiation of mutually acceptable leases with prospective tenants. The development of additional hotels is one possibility.

6.36 Given that opportunities exist for some businesses to find off-airport sites, the land area required for additional ancillary activities within the airport is uncertain. However, the aggregate area is expected to be less than the current 37 hectares, because the requirements of contractors' compounds will reduce and some intensification of use of existing sites may be appropriate, eg the provision of additional hotel facilities within Le Meridien Hotel's car park. Given this uncertainty,

the ancillary areas shown on the 2015 plan exclude the current contractors' compounds but replicate the other current areas. Any additional areas are likely to be found by re-allocating land designated for surface transport uses, and/or using land in the southern maintenance zone for alternative uses.

Surface transport uses - 2015

6.37 The key component of Gatwick Airport's surface access infrastructure is its road network, to which no major changes are currently foreseen during the period to 2015. There are, however, likely to be a variety of modifications, for example to address any local congestion. We have a commitment to make a financial contribution towards the costs of minor Highways Agency improvements to M23 Junctions 9 and 9A (the latter being the entrance to the South Terminal area).

6.38 Car parks occupy much of the landside area and we plan to provide additional capacity before 2015. Our forecasting methodology, fully explained in our transport strategy, assumes that we will be successful in achieving greater use of public transport by air passengers and staff. Our forecasts of the required scale of car parking will be subject to ongoing review to reflect any material changes in air passenger characteristics or our employment forecasts, and to reflect any change in the ability of public transport services to deliver our targeted increase in their modal share. We currently forecast that the required scale of car parking provision in 2015 will be:

- 51,350 long-stay spaces, of which we will need to provide 30,000 on-airport if the off-airport supply remains at the current authorised level of around 21,350 spaces.
- 2,600 short-stay spaces at South Terminal.
- 2,120 short-stay spaces at North Terminal.
- A total of around 10,000 staff parking spaces, either in common user or tenants car parks.

6.39 Our capital investment plan will provide for the refurbishment of our existing short stay car parks, the provision of additional short stay capacity at North Terminal and for increased long stay capacity. We may not, however, necessarily consider it appropriate to maintain the simple split of public provision between short-stay and long-stay facilities - there could be demand for another type of intermediate product, similar to business parking at Heathrow. We will also explore opportunities to convert any surplus staff car parking to public long-stay, as well as considering options for intensifying the use of existing car parks, by block parking or over-decking, rather than relying only on new surface level car parks in the NW Zone. We may also consider making temporary use of the new northern maintenance zone for car parking, until such time as maintenance development commences.

6.40 The space requirements of other surface transport facilities are unlikely to increase significantly in future, although the relocation of such facilities as the coach and taxi feeder parks will be considered if there is a prospect of surface access and land use benefits from doing so. We do, however, have two projects firmly in prospect:

- South Terminal Interchange – which will upgrade the quality of the coach station and the upper and lower forecourts and, in doing so, introduce new traffic management systems/procedures, and changes in the allocation of road space to different users, to resolve current problems of congestion.
- The upgrading/replacement of the tracked transit system between the North Terminal and the rail station.

Landscaping - 2015

6.41 Landscaping will in 2015 remain a key feature of most publicly accessible areas of the airport. Whereas past planting schemes have been variously formal and informal in nature, we are likely in future to place the emphasis on more formal styles of planting, to impart a similar character to public areas, assist way finding and to avoid the security and safety risks that can be associated with blocks of bushy planting.

6.42 The most substantial landscaped area within the airport boundary, along its north-western and northern side, will remain the River Mole corridor - a broad buffer of planting, the river floodplain and earth mounds totalling around 52 hectares. It includes Brockley Wood, and about three hectares between the wood and the river, reserved for possible use for balancing ponds. Outside the airport boundary we own some 74 hectares of countryside, east of the railway. Further reference to landscape and biodiversity issues, and to our various commitments in that regard, is to be found in Chapter 8

7 Surface access (2015)

7.1 The scale of aviation activity at Gatwick has a direct bearing on the demand for road and rail travel to and from the airport. Staff, air passengers and people accompanying or meeting air passengers account for the great majority of journeys, but some people visit the airport for other reasons, and there is goods traffic associated with the airport's supply chain and the air cargo operation.

7.2 The importance of surface access to airports was recognised in the July 1998 Government White Paper, *A New Deal for Transport*, which required major UK airports such as Gatwick to set up an Airport Transport Forum and to produce a surface access strategy. Guidance on both was published in July 1999, and included the following forum objectives:

- To draw up and agree challenging short and long term targets for increasing the proportion of journeys to the airport made by public transport.
- To devise a strategy for achieving those targets, drawing on best practice available.
- To oversee the implementation of the strategy.

7.3 BAA Gatwick's transport strategy was published, following consultation, in June 2000. It has recently been the subject of thorough review and was replaced by an updated strategy in December 2004. In common with its predecessor, and so as not to anticipate the completion of this master plan, the latest strategy relates to the period of Gatwick's passenger growth to 40 million per annum (2012/13). It will, in the light of the consultation on this draft plan, be extended to cover the period to 2015 and republished, as a companion document to the master plan, around the end of this year. This chapter of the plan will also be updated, to reflect any material changes to the transport strategy.

7.4 In addition to Government guidance, the draft South East Plan both informs and is informed by our transport strategy. Paragraphs 1.33 and 1.38 of section D4 of that plan respectively note that:

- Airports have become major transport interchanges and traffic generators, attracting a range of related and non-related developments. The concentration of this economic activity and high level of accessibility means that airports should be treated as regional hubs in their own right in addition to their role as gateways.
- Gatwick Airport is the second busiest airport in the United Kingdom, with the potential to accommodate up to 40m passengers a year. The surface access strategy has set a challenging target to maximise the use of public transport in recognition of the extensive network of rail and bus links serving the airport that endows Gatwick with a high level of accessibility. Priority should be given to extending the Fastway network, improvement works to Gatwick Station and the Brighton Main Line, and the enhancement of public transport linkages with the Sussex coastal area, in particular the area to the east of Brighton. Gatwick's access targets are geared to enable the airport to grow to its committed capacity.

7.5 Policy T6 of the draft South East Plan, slightly modifying that added to RPG9 in July 2004, requires that relevant regional strategies, local development documents and Local Transport Plans should include policies and proposals that support the development of Gatwick Airport within agreed levels of growth, and should take account of airport operator master plans produced in accordance with *The Future of air Transport* White Paper. It also expressly states that airport surface access strategies should set out ways of achieving a modal shift in favour of public transport.

Gatwick Airport transport strategy

7.6 Our transport strategy recognises that transport is central to the delivery of our sustainability agenda and that the management of road traffic at the airport will contribute to air quality management, reduce congestion and provide a better environment for air passengers and staff. Its key objective is to support the responsible and profitable growth of Gatwick Airport by providing a choice of creative transport solutions for passengers and staff that cut congestion and benefit air quality.

7.7 Provisional survey results indicate that, in 2004, Gatwick's non-transfer air passengers made the following choice of mode for their surface journeys to/from the airport:

- 51.7% by private car.
- 2.3% by hire car.
- 15% by taxi.
- 6.8% by bus or coach.
- 24% by rail.

7.8 Our Sustainable Development Strategy (SDS) target, linked to an airport throughput of 40mppa, was that 40% of Gatwick's passengers should use public transport. We now face a number of increased challenges in reaching that target – uncertainty over the future of the Gatwick Express, continuing delays to Thameslink 2000, general growth in road traffic and some uncertainty as to the Government's future transport investment priorities. The proportion of air passengers using public transport has altered little in recent years, although unfavourable changes in the passenger mix (a growing proportion of UK-resident leisure travellers) will have been having a downwards influence on its use. Staff use of public transport has been boosted by the new Fastway service, and its forerunner Gatwick Direct, in Crawley. The significant reduction in staff numbers, which was unforeseen by the SDS, has separately had a strong downwards influence on staff road trips.

7.9 Partnership working is essential to achieving our strategy's objective given that, while we have responsibility for on-airport facilities for buses and coaches (but not for the rail station), the provision of public transport services is the responsibility of a variety of operators. There are some notable recent success stories – the introduction of new trains for the Gatwick Express and many Southern Railway services, the Oxford "Airline" express coach service and, of particular relevance to staff, the Gatwick Direct bus service and Fastway, both of which have been part-funded by BAA.

7.10 The Gatwick Express service, established in 1984, is of particular importance, with the key features of a clear identity backed by branding and information, dedicated station platforms and other facilities, ample on train baggage capacity, high standards of performance and security, good frequency and, by no means least, a short journey time to and from London. It is a cornerstone of our surface access strategy and fundamental to our assessment that the use of public transport by 40% of air passengers, although very challenging as a target, is attainable at Gatwick in around ten years time. The 40% target is being supplemented by an interim one of 36% in 2008; both are subject to no degradation of the Gatwick Express service.

7.11 The overall target is also supported by five targets for the transport corridors in which we feel there is the greatest opportunity to make a significant impact on mode share.

Corridor	Passengers using public transport	
	2002 actual	2012 target
Central London	85%	90%
Kent	6.7%	10%
M3	12%	15%
Brighton	32%	40%
Sussex Coast	15%	20%

7.12 Our strategy also contains three staff-related targets:

- 20% of airport staff living in Crawley/Horley to use local bus for travel to work within 3 years of core Fastway completion (currently 15%).
- 45% of airport staff living in Croydon, Bromley and Merton using public transport for travel to work (currently 40%).
- 30% of airport staff living in Brighton and on the Sussex Coast using alternatives to private car for travel to work (currently 25%).

7.13 Finally, there are two targets relating to the number of road trips:

- Morning peak hour road trips should not exceed 7,850 in 2012/40mppa.
- The number of morning peak hour Gatwick related road trips to/from Crawley and Horley should not exceed 1,000 in 2012/40mppa.

7.14 Public transport operators, together with representatives of local authorities, airline representatives, businesses and other interested parties, have a significant stake in surface access infrastructure, operations and opportunities at Gatwick and/or in its vicinity and they contribute to the work of our Transport Forum. Its discussion, and that at its Steering and Task Groups, informs our decisions about investment to support the implementation of our strategy. This includes our use of the funds from a public transport levy, averaging around 25p per transaction in our public car parks, and £10 per annum on a staff parking pass. Our original proposal was to maintain the levy until March 2009, but we have agreed to extend it at least until the airport's annual throughput reaches 40 million. This is on the proviso that the local highway authority does not seek to impose its own levy on vehicles leaving or entering the airport.

7.15 The quality of the rail station, particularly its waiting areas and the lack of escalators to/from platforms 5 and 6, falls short of many people's expectations. The station's shortcomings are currently mitigated by the allocation of almost all of the Gatwick Express services to platforms 1 and 2. Its service timetables also mean that the vast majority of passengers can board a waiting train, up to 15 minutes prior to departure, rather than needing to wait on the station. It nevertheless remains important that the rail industry should make major improvements to Gatwick station, to do justice to its UK gateway status and complement BAA's airport investment programme. In contrast with the situation at Heathrow, where BAA owns the rail infrastructure and the train operating company, and receives the income from its operation, BAA neither owns the station nor operates the trains at Gatwick and consequently cannot justify financial participation in station improvements. We will, however, actively assist Network Rail and the Train Operating Companies in their consideration of future investment needs at the station, and support their case for necessary funding.

7.16 Our 33 transport commitments are unaltered by the latest strategy, which specifies around 36 actions on which we will now focus our attention. Readers of this plan wishing to see their full detail, and a great deal of supporting information, should refer to the full transport strategy document, available on our website. The actions generally build upon the commitments of which some, such as our financial contribution to Fastway, have been discharged. Together, they include:

- Preparing a site travel plan, dealing with the whole airport, to which individual companies can sign up in place of preparing separate plans.
- Developing a strategy and implementation plan for actively managing staff car parking demand across the airport.
- Maintaining our levy on car parking, to finance transport initiatives.
- Closely working with rail, coach and bus operators to secure greater knowledge and public use of existing services and identify opportunities for adding to their frequency and the network, particularly in relation to the corridor targets previously identified.
- The publication of public transport information, with a particular emphasis on web technology.
- Developing the South Terminal coach station with a view to achieving a longer term vision of a more integrated transport interchange.
- Working with the transport operators and SEERA to develop and promote Gatwick as a regional multi-modal transport interchange.
- Contributing to the Highways Agency's costs in improving M23 Junctions 9 and 9A, and effecting capacity improvements to North Terminal roundabout.
- Airport access restrictions at Povey Cross.
- Cycling and walking.
- Monitoring and review.

8 Environmental impacts and mitigation (2015)

8.1 This chapter of the plan considers the environmental impacts of the airport's operation in 2015, including issues associated with the development at the airport over the preceding decade. Other dimensions of the sustainability agenda have been referred to in Chapters 2 (Economic and social considerations) and 7 (Surface access).

8.2 The character and scale of Gatwick's environmental impacts in 2030 is not a matter for detailed consideration in this plan – the time horizon is too great and, operating as a single runway airport, the probable variation from 2015 impacts too small, for the results of detailed analysis to be robustly different from those for 2015. With Gatwick's runway at or very close to its maximum use in 2015, and passenger numbers not far short of their potential, the prospect of environmental impacts being worsened by airport growth after that year seems small. However, improved aircraft engine technology may help to reduce noise and emissions, and road vehicles are likely to show gains in fuel efficiency and reduced emissions, all of which can give us a degree of optimism that the environmental impacts of a single runway Gatwick could in 2030 be slightly less than in 2015.

8.3 Environmental issues were studied in detail, and were the subject of public consultation, while the SDS was being prepared; they were reported in the SDS and various appendices thereto. Local authorities and other key stakeholders indicated their broad acceptance of the then anticipated development of Gatwick, to handle 40 million passengers in 2008/09, subject to the requirement that the airport's environmental impacts should be properly addressed through such activities as described in the SDS's commitments, and the legal obligations subsequently derived from some of those commitments.

8.4 This master plan focuses on different expectations of Gatwick's growth, with the airport not now expected to handle 40 million passengers until around four years later than indicated in the SDS, and with the prospect of a slightly higher figure in 2015. However there are various ways in which we believe our past studies reached conclusions about the Gatwick's environmental impacts that remain relevant to stakeholders' understanding of the airport's impacts in 2015. This is because there are ways in which Gatwick's facilities in 2015 will be smaller than those whose impacts were considered by the SDS. The mix of aircraft types forecast to be using Gatwick could also support a reduction in some impacts of aircraft operations in 2015, compared with the impacts of the aircraft mix the SDS predicted would be using the airport by 2008/09.

8.5 The rest of this chapter looks in more detail at the following issues:

- Air quality.
- Air noise.
- Ground noise.
- Landscaping and visual impact.
- Biodiversity.
- Management of the water environment.
- Energy use.
- Water consumption.
- Waste management.
- Land take and heritage.

Air quality

8.6 Air quality is affected by emissions of chemicals and particles arising from both human activity and natural sources. In the UK, emissions are predominantly a result of the combustion of fossil fuels. Road traffic is the single largest contributor of fine particulates (PM_{10}) and nitrogen oxides (NOx), although other sources, eg power generators, domestic and industrial boilers and industrial processes, also produce these pollutants. NOx emissions from the combustion of fossil fuels are converted to nitrogen dioxide (NO_2) by a complex series of atmospheric reactions. It is the resultant NO_2 which is of concern, due to its potentially adverse effects on health. Like NO_2, PM_{10} is also associated with adverse health effects. Because of this, the Government has set a series of objectives for atmospheric pollutants. These are set out in the UK National Air Quality Strategy (NAQS) and are based on the principle that polluting emissions and ambient air must not cause harm to human health and the environment.

8.7 Airports are a complex source of air pollutants, consisting of many individual mobile and stationary sources. The pollutants emitted from airports fall into three principal categories, relating to aircraft operations, road vehicles and miscellaneous activities such as boiler houses and fire training exercises.

8.8 While aircraft noise is the issue of greatest personal concern to many residents living close to

Gatwick or in areas regularly over-flown by aircraft, airport-related emissions, mainly from aircraft engines, are one of the most significant of Gatwick's environmental impacts. They are understandably of particular concern to Reigate and Banstead Borough Council, given that the airport's greatest impact on local air quality is in nearby areas of Horley, which have been designated as an Air Quality Management Area (for NO_2). We have made financial contributions towards the council's monitoring programme and, since 1992, have been continuously monitoring air quality at the airport.

8.9 As part of the work on the SDS, our consultants undertook an evaluation of 1996/97 air quality around Gatwick and projected it forwards to 2008. They considered emissions from all airport sources, including road traffic on public roads (both related and unrelated to Gatwick). Their work focussed on NO_2 and particulate matter because:

- They are across the entire UK the two pollutants least likely to achieve the NAQS objectives.
- Airport activities are expected to contribute a clearly identifiable level of emissions.
- Monitoring of carbon monoxide since 1995 and of benzene and 1,3-butadiene since 1998 had shown that concentrations at Gatwick were already well below the NAQS objectives.
- Modelling of carbon monoxide in 1996/97 had also shown that concentrations were well below the NAQS objectives.
- Airports are not major emitters of lead or sulphur dioxide.
- The effect of ground level ozone concentrations is a national and regional issue and is being considered at this level rather than locally.

8.10 The detailed studies undertaken for the SDS have more recently been supplemented by further work, notably the preparation of an emissions inventory and dispersion model for 2002/03, and an emissions inventory for 2010. Further modelling work has been deferred pending the outcome of Government studies, announced in the White Paper. We understand that those studies are embracing all aspects of emissions inventory compilation as well as air quality modelling methodology. The outcome of this work is expected to have applicability to future inventory and modelling work at Gatwick and will consequently influence its timing. It seems unlikely in the circumstances that it will start this year.

8.11 All recent work, including Reigate and Banstead Borough Council's continuing study and monitoring of air quality in Horley, confirms that PM_{10} and NO_2 are the two airport-related emissions that need consideration.

8.12 Current concentrations of PM_{10} are well within the limit, expressed as an annual mean, of 40µg/m^3. For example, an annual mean value of 26.5µg/m^3 was measured at the airport monitoring station in 2003. Future concentrations of PM_{10} in the area also appear likely to be well inside the UK limit.

8.13 Studies of future NO_2 concentrations in Horley also need to be considered against an annual mean limit of 40µg/m3. Calculated 2002/03 annual mean NO_2 concentrations were below 40µg/m^3 at virtually all residential properties around the airport, but they did exceed that level at a few properties in the south of Horley. Measured mean levels at two monitoring stations in the nearby area of Horley in 2003 were below the limit. The airport is far from being the only contributor to NO_2 in the area, with non-airport traffic, particularly on the A23 and the M23 spur, a significant source. Emissions from aircraft engines will, however, increase during the period to 2010. Given the inventory of on and off airport contributors to NO_2 it would be complacent to assume that, without action to reduce emissions, there is no risk of the annual mean limit value being exceeded in a small area of Horley in 2010.

8.14 Our SDS commenced the process of emissions reduction, by including 31 commitments describing actions that we would take to manage air quality. These included:

- The provision and use of fixed electrical ground power (FEGP) on aircraft stands.
- The restricted use of ground power units (GPUs) and aircraft auxiliary power units (APUs).
- The introduction of preferential airport charges for aircraft fitted with engines using low emission technology.
- Encouraging the use of cleaner airport vehicles.
- Rebuilding the fire training facilities to use mainly Liquid Petroleum Gas (LPG) in place of kerosene.

8.15 Our transport strategy's objectives and actions, to reduce peoples' reliance on private cars for airport journeys, are also important, by reducing vehicle emissions relative to those which would occur if there was little or no modal shift away from car use.

8.16 We expect that, in 2015, NO_2 is still likely to command greatest attention. However, some aspects of the situation at Gatwick may not be very different from 2010. For example, some quantities in

the emissions inventory will be similar, given that our 2010 inventory was based on a forecast of 280,414 aircraft movements – a number which is unlikely to be significantly exceeded in 2015, although the mix of aircraft will be somewhat different.

8.17 We are currently drafting an air quality action plan for the airport, which will be explained in the final version of this plan.

Air noise

8.18 The term air noise refers to noise from aircraft that are airborne or on an airport runway during take-off or after landing. The Government has responsibility for the control of air noise around Gatwick, and likewise around Heathrow and Stansted, as a consequence of it having designated the airports for that purpose under section 80 of the Civil Aviation Act. It is consequently the DfT that formally decides the location of Noise Preferential Routes (NPRs) for aircraft departures, and which sets departure noise limits and the night movements limit and night noise quotas for the airports.

8.19 National Air Traffic Services (NATS) is responsible for air traffic control in the UK, and their team at Gatwick also direct activity on the ground at the airport, ie movements on the runway and taxiways. NATS and the CAA are the Government's principal advisors on the use of UK airspace and on possible future changes in its allocation between the many flows of air traffic, for example to accommodate the growth associated with new runway development.

8.20 The total air noise to which local communities are exposed over a given period depends on the noise emitted by individual aircraft and the total number of aircraft movements (arrivals and departures) in that period. An overall measure of air noise exposure can be depicted by noise contours, and noise footprints relating to particular aircraft types can depict single events. The DfT's responsibilities extend to the publication of a contour map for each summer's daytime activity (an average for 92 days), usually in the spring of the following year.

8.21 The DfT's current departure noise limits, which apply at a point 6.5 km from the start of an aircraft's take off, came into force in February and March 2001. The DfT's other principal measure to limit noise is its night restrictions regime, which places ceilings on the number of aircraft movements and the noise exposure (measured in quota count (QC) points) which can occur in each summer and winter season - respectively seven and five months in length. The current numerical limits, which apply to the period between 11.30 pm and 6 am, are 11,200 movements in summer and 5,250 in winter. The DfT is currently preparing proposals for the night regime that will be in force from winter 2005/06 to summer 2011. We expect to report the outcome of the DfT's consultation in the final master plan.

8.22 BAA Gatwick's Flight Evaluation Unit (FEU) gathers and analyses data about air noise and, more extensively, about the tracks of all aircraft flying to and from the airport. Such data enables us to consider and respond to the complaints and questions we receive from people who are in some way troubled by overflying aircraft. It is also used to study the consistency of piloting procedures and, through joint work with NATS and airlines, to identify and implement opportunities to lessen the overall impact of Gatwick arrivals and departures on the communities that are overflown.

8.23 Although BAA Gatwick's degree of direct control over the noise climate is limited, our SDS contained 15 commitments to address the monitoring and reporting of air noise and a variety of ways of lessening its impacts. In summary, they included:

- The reduction in the area contained within the daytime 16 hour 57 dB Leq contour.
- Monitoring air noise.
- A residential noise insulation grants scheme.
- Setting differential airport charges to encourage airlines to operate quieter aircraft types.
- Penalising aircraft that infringe DfT noise limits.
- Seeking a voluntary ban on scheduling of QC4 aircraft operations in the night quota period.
- Working with stakeholders to identify and encourage the use of flying procedures that minimise noise heard at ground level.
- The use of reverse thrust by arriving aircraft.

8.24 In autumn 2004, in line with a requirement in the White Paper, we published a consultation on proposals to offer acoustic insulation for noise sensitive buildings, such as schools and hospitals, within the 63 dBA Leq contour, and to offer relocation assistance to householders living within the 69 dBA Leq contour. We are currently considering the responses to the consultation, and will report the outcome in the final master plan. We will likewise report on our proposals for residential acoustic insulation, which are currently being prepared.

8.25 Air noise forecasts produced for the SDS indicated a potential for the area of the daytime 57

Leq contour almost to halve between 1996 and 2008, from 90.7 km^2 to 45.9 km^2. In summer 2003 the actual contour enclosed an area of 46 km^2 – an area slightly smaller than would have been likely if the number of flights had not since 2001 been reduced by the cutbacks that followed 9/11. In the future we consequently expect the number of aircraft movements on an average summer day to increase slightly above recent levels, with a potential impact on the noise contours that may not be entirely offset by further reductions in the noisiest aircraft types using Gatwick.

8.26 The studies that informed the preparation of the White Paper included a forecast that maximum use of Gatwick's single runway in 2015 would result in an area of 52 km^2 falling within the daytime 57 Leq contour. Drawing 6 depicts that forecast. During 2005 we will commission our own contour forecast for 2015, for the final master plan. Given that a potential daytime 57 Leq contour area of 53.7 km^2 was signified by a recent update of our air noise forecast for the 40 million passenger airport, it does seem likely that our new forecast will suggest a slight worsening of the noise climate compared with that experienced in summer 2002 and 2003. It should be appreciated that minor refinements in the CAA's forecasting methodology, for example to take account of the terrain around Gatwick, are having a small upwards influence on contour areas, relative to those forecast by the slightly less sophisticated model used in the past.

8.27 The air noise contour forecasts assume that the current pattern of air routes around Gatwick will stay the same. In reality, however, the development of a second runway at Stansted is likely to require significant changes in the use of airspace over the South East and East of England before 2015. This means that some aircraft routings to and from Gatwick, and some for aircraft from other airports flying over Sussex and Surrey, could be affected. The details of any changes will not be known for some years, but it is possible that they may not affect the flightpaths very close to Gatwick, which most determine the shape of the 57 Leq noise contour.

Ground noise

8.28 Noise generated other than by aircraft in flight or taking off or landing is termed ground noise. The main sources of airport ground noise are:

- Taxiing aircraft.
- Aircraft APUs.
- Testing (ground running) of aircraft engines.
- Mobile ground equipment such as GPUs.
- Road vehicles within and travelling to and from the airport.
- Construction.

8.29 Airport ground noise exists in the context of off-airport noise sources, termed background noise. Generally, the most dominant contributor to the noise climate in residential areas is road traffic. Around Gatwick, airport ground noise is potentially audible within a limited radius of the airport boundary, particularly at night. Taxiing noise is by far the most significant airport source although engine testing at settings above idle (high power) can generate higher noise levels than taxiing, but it is of comparatively limited duration and infrequent.

8.30 One aspect of the SDS's preparation was an assessment of ground noise issues associated with the airport's operation in 2008 (40 mppa). That assessment informed various commitments in the SDS. Seven specifically addressed the ground noise issue; six air quality commitments, and one relating to air noise also supported action to manage ground noise. They relate to such matters as:

- The provision and use of FEGP supplies on aircraft stands.
- Night-time activity.
- The provision of a ground run pen (paragraph 6.34 refers to the current status of this project).
- Consideration of the need for noise barriers in association with new development materially affecting ground noise.
- Ground noise modelling, monitoring and reporting.

8.31 The SDS assessment work related to ground noise from aircraft taxiing, aircraft APUs and mobile equipment, and separately to aircraft engine testing and road traffic. Its outputs were related to 26 locations in the airport's vicinity and indicated that, over the period to 2008, there would be small increases in airport-generated ground noise compared to 1997, typically between one and two decibels during the day, around three decibels during the evening and around one decibel at night. Our consultants advised that such changes would be difficult to notice, especially over a ten year period.

8.32 However, for some residents, mainly in the Charlwood to Povey Cross area, larger potential additions to ground noise, up to around ten decibels, were forecast, because of the extensive operational development then planned in the airport's North West Zone, and with no allowance for the benefits of mitigation measures to reduce

exposure to ground noise. A comparison against benchmark noise levels derived from Government guidance[13] indicated several areas where ground noise levels would be higher than benchmarks:

- South eastern fringes of Charlwood.
- Locations between Charlwood and Hookwood.
- The southern part of Horley Gardens estate.
- Locations on the south side of the airport.

8.33 The scale of airside activity forecast for that 2008 (40 mppa) ground noise assessment was broadly similar to that now anticipated in 2015. However, there are a number of changes to the aircraft mix and the use of land which we believe will mean these communities will face less of an impact than originally forecast. For example:

- While the number of runway movements in 2015, which determines the scale of activity on taxiways and stands, is likely to be very similar to that assessed for 2008, there will be differences in the aircraft mix, notably fewer B747s but more wide-body twins (B777, A330), which could reduce taxiing noise.
- The reduction in the number of aircraft expected to be based and maintained at Gatwick means that aircraft engine testing will be less frequent than previously forecast.
- The reduced extent of airside development in Gatwick's NW Zone will reduce both the scale of aircraft activity, and the number of ground noise sources/events, previously foreseen there.
- The significant reduction in the expected number of on-airport employees will considerably lessen the previously forecast number of staff-related road trips to/from the airport, and so reduce their contribution to road traffic noise.

8.34 Passenger-related road trips will, however, be greater in 2015 than forecast for 2008, primarily because of a reduction in the forecast proportion of transfer passengers. Such traffic is overwhelmingly concentrated on the M23 and the Gatwick Spur, with a majority entering/leaving the airport at Junction 9A. As a noise source, it lies close to few local communities and the increase in busy hour air-passenger related road trips, offset by the reduction in staff-related trips, is insignificant when considered in the context of previous (2008) forecasts of airport-related road traffic, and the growing number of other vehicle trips on the road network. The insignificance of any change in noise impact is reinforced by the SDS's conclusion that the future road traffic contribution to background noise was very small and that, comparing 2008 forecasts against the then existing road traffic noise, the increase would be less than one decibel on all of the surrounding roads - an imperceptible change.

8.35 Given these various considerations we are not inclined to update our ground noise assessment for the purposes of this master plan. We believe that the community impacts are likely to be relatively less significant than those described in the SDS. More importantly, we also recognise that future airport developments will, if they have a material adverse impact on a local community, need to take on board ways of mitigating that impact. For example, a development will not secure planning permission if a ground noise impact is considered likely to be unacceptable.

Visual impact

8.36 The SDS reported on landscape and ecological issues, which we address in this plan under the headings of visual impact and biodiversity. So far as the former is concerned there were, and remain, three principal issues:

- Changes in view which local residents and others, such as walkers and motorists, may experience as a result of airport development.
- Potential light pollution which may be experienced by local residents.
- Changes in the landscape character of the area, both on and off airport.

8.37 For changes in view, the SDS recognised that views of airport structures, including hangars, the control tower, terminal buildings and hotels, were already experienced from some surrounding areas. This remains the case, with the Pier 6 bridge being a significant new feature of the airport. The visibility and significance of particular structures depends on the location of the viewer and, from more distant viewpoints, the airport can merge into the more extensive adjacent urban areas of Crawley or Horley.

8.38 The SDS's assessment of future change in visual impact paid particular attention to British Airways' proposal for a large aircraft hangar in the NW Zone, and to the midfield satellite. Our consultants concluded that, while these would create changes in the view from the escarpment to the north and west of Gatwick, the new structures would be fairly distant and be seen in the context of the existing airport, such that the changes would not be significant. In nearer views, from the west, the upper part of the proposed hangar would be clearly visible above the tree line, which was a matter of grave concern to many local residents.

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Following the publication of the SDS we undertook further studies of means of mitigating that nearer visual impact and agreed to increase the height of the earth bund alongside the River Mole, if certain developments occur in the NW Zone.

8.39 This plan no longer anticipates the development either of British Airways' four-bay hangar or of the midfield satellite, and it is accordingly reasonable to conclude that changes in the views of the airport will be less significant than those previously studied. Development within the NW Zone, particularly of hangars, still has the potential to be contentious locally, and will need to be carefully considered when development proposals are being prepared. Some heightening of the River Mole bund will undoubtedly be required as and when apron or hangar development occurs in the zone.

8.40 The second significant visual impact is related to airport lighting at night, which has been the subject of study since publication of the SDS. Given the necessarily extensive guidance lights on and approaching the runway, and the safety-related requirement to illuminate aircraft aprons, landside roads and car parks, light pollution cannot be eliminated. From some directions it merges with the more extensive skyglow above Crawley and Horley, but there are also very localised impacts on some nearby properties.

8.41 The light pollution impacts of the airport layout illustrated in this plan are in many ways similar, and should certainly be no more noticeable, than those associated with the SDS's land use plans. There are some aspects of this plan's layout, such as the more compact apron area, which are likely to prove positive – eg by reducing the extent of the areas lit from tall masts.

8.42 In addition to a commitment relating to the bunding study and the need for a lighting strategy, the SDS contained commitments relating to on-airport landscaping and urban design and to the case for off-airport planting.

Biodiversity

8.43 The SDS identified the development of Gatwick's NW Zone as constituting a local nature conservation impact. It included proposals to enhance biodiversity, particularly in the countryside area to the east of the railway, and along the River Mole corridor (including Brockley Wood), already much enhanced by a then recent river diversion. Four of its commitments related to such issues:

- Biodiversity enhancement and management.
- Translocation of trees/hedgerows.
- Tree replacement (two for every one lost due to development).
- Financial support for the Horley Crawley Countryside management project.

8.44 The impacts and opportunities associated with the implementation of this plan, for a single runway airport, are inherently the same as those explored in the SDS. We remain fully committed to the maintenance of bio-diverse habitats in and alongside the River Mole, and likewise in areas of countryside that we own to the east of the railway.

Management of the water environment

8.45 The term water environment refers to all aspects of natural watercourses, covering such matters as their physical characteristics and the chemical and biological quality of the water they contain.

8.46 The volume of water discharged into local water courses is governed by rainfall and the nature of the surface on which it falls. Gatwick Airport has a large impermeable surface area and thus rainfall runs off quickly, rather than gradually sinking into the soil and either recharging groundwater or percolating slowly into rivers and streams. After prolonged periods of wet weather, when the ground itself becomes saturated, it is likely that runoff will be equally rapid from undeveloped and developed land.

8.47 In order to manage flood risk at times of heavy rainfall, Gatwick's drainage system incorporates a number of storage reservoirs (balancing ponds) which are used to regulate the rate at which rainwater is discharged into the River Mole and other water courses, in accordance with an Environment Agency discharge consent. The only significant occurrence of airport flooding was in 1968, before much of the current drainage infrastructure had been constructed. In 2001, when there was widespread flooding in the region, the Gatwick Stream flooded a short section of the A23 beneath South Terminal, due to excessive flows from its off-airport catchment area.

8.48 There are a number of airport activities which have the potential to cause pollution of local water courses if those activities are not properly managed:

- De-icing of aircraft and airside areas.
- Vehicle and aircraft washing.
- Aircraft and vehicle maintenance.
- Run-off from construction sites.
- Aircraft refuelling (spillages).
- Waste and cargo handling.
- Fire training.

8.49 BAA Gatwick's surface drainage system and balancing ponds are also used to ensure water quality is maintained:

- Firstly, a number of interceptors are located in the drainage system.
- Secondly oil separation tanks and settlement tanks are installed in Pond D to remove any oil.
- Finally, water passes through an aeration pond for conditioning before discharge. However, if pollution levels are unsuitable for discharge to the River Mole, the water is diverted to a holding lagoon for treatment at the Crawley Sewage Treatment Works prior to discharge into the Gatwick Stream (a tributary of the River Mole).

8.50 The SDS included nine commitments relating to water quality, one of which repeated an air quality commitment. They relate to:

- Drainage of the NW Zone.
- Discharge consents.
- Communication to improve understanding and awareness amongst the airport community.
- Monitoring the volume and quality of water discharged from the airport, and reporting quality indicators.

8.51 High standards of water quality management remain a key aspect of our environmental agenda. Their importance was brought into sharp focus in 2002 by a regrettable pollution incident affecting the River Mole. The potential drainage impact of airport development proposals will be closely scrutinised by the Environment Agency and we will meet any agreed requirements for additional balancing capacity and pollution control.

Waste management

8.52 Waste is generated from a number of sources at Gatwick, notably from aircraft arriving at the airport, catering outlets, offices, shops (packaging), construction activity and from vehicle and aircraft maintenance. Such sources generate seven categories of waste:

- Inert (soils, hardcore, concrete, glass).
- General non-putrescible (paper, cardboard, plastic etc).
- Scrap metal.
- End of life vehicles.
- Electrical and electronic equipment.
- General putrescible (food waste, vegetable matter, trees and bushes).
- Hazardous waste (including lamps and fluorescent tubes, used oils, flammable liquids, batteries).

8.53 BAA Gatwick's strategy for waste is based on the three core principles of the Government's sustainable waste management strategy:

- Best Practicable Environmental Option (BPEO) - the option which provides the most benefit/least damage to the environment as a whole, at acceptable cost, in the long and short term.
- The waste hierarchy - reduce, reuse, recover (recycle, compost or energy recovery), dispose.
- The proximity principal - the disposal of waste should be as near to its place of production as possible.

8.54 We use a waste contractor to collect and recover/dispose of waste from the terminals, aircraft operations, engineering and property accommodation. Our waste management facilities include a Central Airport Recycling Enclosure (CARE) where a degree of segregation is possible. Other waste producers (primarily tenants with ground leases) employ separate contractors. All aircraft food waste is classified as international waste by Defra and is thus kept separate from other cabin waste and is returned to the aircraft catering companies for disposal.

8.55 The SDS contained seven commitments relating to waste management, covering:

- Measurement of waste tonnage.
- Waste management infrastructure.
- Communication to improve performance.
- The supply chain.
- A construction waste strategy.
- Reporting.

8.56 We are committed to reducing the waste generated from the airport's operation. Over the past four financial years (ie comparing 2000/01 with 2003/04), the proportion of waste recycled has been increased from 10.4% to 19.7%, and it remains our intention to further reduce the proportion of waste going to landfill, following the hierarchy of reduce, reuse, recover.

Energy use and climate change

8.57 It is widely acknowledged that the world is experiencing climate change and that global warming, principally attributable to an increase in the proportion of carbon dioxide (CO_2) in the atmosphere, is likely to continue for the foreseeable future. Aviation's influence on the situation is principally associated with emissions at altitude, ie while aircraft are flying between airports rather than when they are at or in close proximity to any particular airport. It is, consequently, an issue requiring multinational governmental attention,

rather than one that can be meaningfully addressed by piecemeal action at individual airports. BAA and a number of airlines are strongly in favour of bringing aviation into an international emissions trading regime, to enable aircraft emissions to be traded against reductions in emissions from other sources, notably power generation and heavy industry. This approach is favoured by the UK Government .

8.58 BAA Gatwick's emphasis, in addressing the issue of climate change, relates to the ground level emissions attributable to the operation of airport facilities. These are CO_2 emissions from the burning of fossil fuels in boilers that provide space heating at the airport and, more significantly, emissions elsewhere that are attributable to the generation of electricity consumed at the airport. Emissions from surface transport are another source and our air quality action plan includes measures to reduce transport-related emissions.

8.59 BAA is committed to reducing CO_2 emissions from its airports. To do this the group has set itself an objective of reducing CO_2 associated with airport energy use by 110,000 tonnes, compared to the 'business as usual' forecast for 2010. This equates to 1990 levels minus 15% across the group. Gatwick has a significant role to play in ensuring the group objective is met, which we will elaborate in the final master plan.

8.60 The SDS contained eight commitments relating to climate change, addressing:

- The reduction of CO_2 emissions.
- More widespread metering of energy use at different points of consumption.
- Evaluation of the case for a combined heat and power (CHP) installation at Gatwick, and the use of renewable energy.
- Energy saving measures in new developments and in relation to existing uses.
- Energy saving awareness initiatives.
- Reporting.

Land take and heritage

8.61 This plan's land use proposals for a single runway airport in 2015 and, for that matter, in 2030, show the containment of airport development within the currently defined airport boundary. It consequently appears unlikely that the maximum use of Gatwick's runway will be dependent upon the acquisition by BAA of additional land for airport development, or that there will be any loss of heritage sites.

9 2030 twin runway layout

9.1 This chapter of the plan contains BAA's thinking on Gatwick's future, if the Government decides it should be developed with a second runway and full range of supporting airport facilities. It has been prepared in response to the Government's conclusions in the White Paper which, in relation to runway development at Gatwick, can be summarised as follows:

- The Government will not seek to overturn the 1979 planning agreement preventing construction of a second runway at Gatwick before 2019.
- There is a strong economic case for additional runway capacity at Gatwick.
- The option for two new runways at Gatwick is not supported.
- Of the two southern runway options there is, on balance, a stronger case for the wide spaced runway.
- That, following the development of a second runway at Stansted, the Government's clear preference is for a third runway at Heathrow, but it cannot be certain when, or whether, the conditions attached to such a runway's development might be met (those conditions relate to air quality, the noise climate and public transport access to the airport).
- The option for a wide spaced runway at Gatwick should be kept open and BAA should take steps to safeguard the land needed for that option.
- BAA should put in place a scheme to address the problem of generalised blight resulting from the runway proposal.

9.2 BAA will be led by Government policy and agrees that it is currently appropriate to keep open the option for a wide spaced runway to be developed at Gatwick after 2019. Our position, ie one which may ultimately see us proposing to develop a second runway, is consistent with the then British Airports Authority's position in the 1979 legal agreement with West Sussex County Council, when the 40 year limit to that agreement clearly left open the possibility of runway development after 2019.

9.3 BAA's policy will be to bring forward proposals for a third runway at Heathrow, if Government studies confirm its acceptability and it is economically viable. This plan's consideration of the general form and broad implications of a second runway's development at Gatwick should not, therefore, be construed as a statement of BAA intent to build such a runway. However, if future Government policy should confirm that Gatwick is a preferred site for runway development, we will be prepared to bring forward detailed proposals, in a planning application, as and when it is clear that they would satisfy a demand for air travel and that we would be able to set airport charges at a level sufficient to remunerate the costs of development and of the subsequent operation of the enlarged airport.

A twin runway layout

9.4 The White Paper indicates that this plan should relate to the provision of a wide spaced runway, rather than one close to the existing runway. Wide spacing implies that the centrelines of the pair of runways should be no less than 1,035 metres apart, which is the minimum separation facilitating independent mixed mode runway operations, when both runways can handle a mix of arriving and departing aircraft. The separation of mixed mode runways is often greater, to increase the area between them available for other airport facilities and, potentially, to enable all aircraft-related infrastructure (taxiways, stands, maintenance) to be focussed there.

9.5 In the case of Gatwick the existing apron area will be available, in conjunction with North and South Terminals, to provide the aircraft stands, and the passenger handling capacity, supporting around 55-60% of a mixed mode twin runway operation. A runway separation of 1,035 metres will give a developable area between the runways that will be sufficient to accommodate the necessary increase in overall stand supply, terminal capacity and, if appropriate, additional cargo handling and aircraft maintenance facilities. There will also be scope for it to accommodate a proportion of additional landside facilities.

9.6 If runway separation were to be less than 1,035 metres it would be operationally necessary to have segregated mode operation, when arriving aircraft are handled on one runway and departing aircraft on the other, although procedures might enable some mixing of arrivals and departures on one of the runways. This offers less capacity if only because, while the hourly demand for arrivals and departures slots is not evenly split, constraints on its allocation between the two runways potentially leaves some slots unused. Also, unless all aircraft stands can be located between the pair of runways, some loss of capacity occurs when the time interval between movements on one runway needs to be extended, to allow aircraft to taxi across it because it is the other runway that they must use either to land or to take off.

9.7 Segregated mode operation is consequently best supported by a land use plan that locates all aircraft stands and other aircraft-related activities between the pair of runways, and avoids any need for aircraft to taxi across either runway. It is probable that, in order to have sufficient space to accommodate all those facilities between the runways, such a layout would require the runways to be further apart than 1,035 metres. In reality, as exemplified by Heathrow (where the runways have a 1,416 metre separation but T4 is situated to their south), compromises in layout planning can be acceptable at an airport with segregated mode runways, although they will have an impact on capacity.

9.8 The greatest compromise arises if a pair of segregated mode runways have a close parallel layout, eg as considered and rejected by the Government's studies of Gatwick. This creates a situation in which there is no land available for development between the runways, and the location of aircraft stands consequently requires around half of the aircraft to taxi across one of the runways before taking off or after landing. For Gatwick, the Government studies indicated that, compared with maximum use of the airport's single runway, a close parallel pair of segregated mode runways would produce less than half of the capacity increase offered by the option for mixed mode use of wide spaced runways.

9.9 The process of preparing detailed plans for a Gatwick runway development, and the assessments of its impacts, should begin no earlier than five or six years before the intended start of construction. This is because a longer timeframe potentially lessens the reliability of some of the assumptions and outputs, relating both to the airport and to the context within which its development would exist, eg the volume of other road traffic. Given that construction of a second runway is precluded before August 2019, detailed planning would be premature if started much before 2014, leading to the prospect of the runway (if permitted) being brought into use in 2023/24. The preparation of detailed plans and impact assessments will be neither necessary nor appropriate unless planning permission is actually sought for a second runway.

9.10 This detailed planning and assessment work would consider a range of issues in fine detail and define the precise layout and characteristics of the airport facilities for which planning permission should be sought. The planning application would need to explain the scale and character of the airport operation that the airport facilities would eventually support, and explain why the proposed layout is preferred over alternative options. It would take into account the economic, social and environmental consequences of development, including means of minimising or mitigating the adverse impacts.

9.11 The work would particularly need to include consideration of the appropriate length for a second runway, its separation from the existing runway and the mode of operation of the pair of runways, including the possibility that the mode of operation might not be constant throughout the 24 hours of each day. Such matters can then expect to be subjected to very thorough scrutiny at a public inquiry. Planning permission, if granted, might then modify certain aspects of the original development proposals, eg to increase the scale of mitigation of an environmental impact.

9.12 The nature of the planning application process precludes the use of this master plan to predetermine the precise form of a twin runway development at Gatwick. By way of example, if BAA were in this plan to evaluate a number of second runway options, and justify the choice of one particular option, that decision would not eliminate the need for options again to be identified and evaluated as part of the planning application process in perhaps ten or more years time, when future circumstances might lead to a different conclusion.

9.13 We believe that the process of identifying the area of land potentially required for a second runway's development at Gatwick is currently best served by assuming a runway separation of 1,035 metres which:

- Enables mixed mode operation, if that is found to be most appropriate.
- Offers the highest capacity potential and accordingly minimises the risk of our underestimating the airport's future land requirement.
- Ensures that, if segregated mode should ultimately feature in Gatwick's operation, its hourly capacity will not be compromised by an inability to accommodate between the runways all the additional apron areas attributable to the second runway's development.

9.14 Our land use plan assumes that the new runway will be of similar operational length to the existing runway, but allows for its western end to be some 315 metres west of the position indicatively shown in the White Paper, so as to increase the

distance between its eastern end and the railway. Having runways of comparable length is essential if the option for segregated mode operation is to be kept open, and also to enable the new runway to be selected for use at times when only a single runway may be needed, eg at night.

9.15 Based on that runway position, our land use plan adopts the principles that:

- There is a need for a third passenger terminal.
- The zoning of facilities for the single runway airport, north of its runway and west of the railway, remains largely valid for a twin runway airport, into which it can be incorporated largely unaltered.
- The area required for landside airport facilities to the east of the railway needs to be substantially extended, primarily for car parking and road access to the new (third) terminal, but the airport's development does not require the Crawley sewage treatment works to be relocated out of the extended landside area.
- The third terminal and its apron areas can satisfactorily be accommodated within the area between the runways.
- Land between the runways, west of that required for aprons, could if necessary be used to supplement that available for cargo and aircraft maintenance facilities, but its main use could be for landside activities, such as staff car parking.
- A strip of land, west of the railway and south of the new runway, is required for airfield purposes and for a landside area containing a perimeter road, service corridor and space for an effective landscaped buffer between the airport and adjacent properties.

9.16 In identifying the extent and boundary of the area likely to be required for a second runway and related airport facilities:

- We are not proposing within that boundary to make any allowance for the relocation of businesses unrelated to the airport, that will require new sites as a consequence of the compulsory acquisition of property within the new boundary, eg in Lowfield Heath.
- We have not attempted to identify the possible land requirements of highway works along or connecting to the M23 to the east of the indicative boundary, since junction design and location will be dependent upon design capacity (unknown at this time) and the precise location of the airport facilities being served by the highways.

9.17 The broad land use zoning is illustrated on Drawing 7, while Drawing 8 highlights the existing and illustrative future airport boundaries. In comparison with the indicative boundary in the White Paper:

- We do not foresee a need for a substantial north-westwards extension of the airport, across the Charlwood to Hookwood road. However an extension of the airport boundary is shown at the western end of the existing and new runways, for airside and landside perimeter roads, for the slight westerly shift in the position of the new runway and to contain the 1:10,000 risk contour areas. This would also partly compensate for the significant reduction in land-take to the north west.
- The new southern boundary has been slightly adjusted, to enable the airfield to contain the protected areas around the runway's Instrument Landing Systems and to provide a 60 metre wide landside corridor along the edge of the airport.
- The boundary the east of the railway corresponds with that indicated in the White Paper.

9.18 There are a variety of potential scenarios for distributing airlines and passengers between the three terminals, but it is inappropriate to prefer any one of them at this early stage. The scenarios could see the third terminal handling a traffic mix comparable with that of the airport as a whole, or its use might be more focussed, for example on services using small/medium sized aircraft. Depending on the chosen split of traffic, the probability is that the combined throughput of the North and South Terminals would lie in the range 40-50 mppa (with North being the larger) and that of the third terminal in the range 30-40 mppa.

9.19 Our focus of attention in defining the boundary has been on the needs of the airport with wide-spaced runways. However the area it encloses to the south of the existing airport would also be BAA's preferred area for apron and other development, south of a second runway, if a close-parallel runway layout were ever to be reconsidered for Gatwick. This is because:

- With new apron areas south of the airfield rather than to its north (extending the existing aprons), the capacities of the two runways would be in better balance - with all aprons to the north, 50% of runway movements would have to cross the (existing) northern runway, diminishing its capacity, whereas there would be no crossing aircraft affecting the new runway's capacity.
- If the new apron development was north of the airfield it would involve a greater loss of existing airport facilities than would be the case with development to the south, for example to enable the creation of adequate taxiway capacity to serve a concentration of all stands in one zone.
- A third terminal would, in terms of surface access, be preferable to the south of the airport, closer

to the rail station. It would also better manage road traffic and avoid excessive flows on the M23 spur and roads in and beyond the North Terminal area.
- Airport expansion to the north would take land from the Green Belt and could create issues around the alignment of the River Mole.

9.20 The total land area contained within the twin runway boundary is 1,305 hectares, compared with the area of 678 hectares related to the single runway operation. The additional area required for the second runway and related facilities (627 hectares[14]), which represents a 92% addition to the current total, is some 40 hectares less than that indicated in the White Paper.

9.21 The final version of this plan will identify the approximate number of properties inside the indicative extension of the airport, taking into account any adjustments to the boundary that might be made in the light of this consultation. The White Paper, referring to its indicative boundary, suggested that the number of residential properties lost as a consequence of development might be fewer than 200. We believe that the number, while greater than 100, will certainly be less than 200.

Future runway safeguarding policy

9.22 The purpose of aerodrome safeguarding has been explained in Chapter 3 of this plan. There are limitations when applying this process in preserving the capability of a future runway. Identifying the extended airport boundary is fairly straightforward but the application of safeguarding beyond that boundary is much more difficult, particularly where the design of the runway is some way off and flexibility needs to be maintained to accommodate specific circumstances which might arise in the future.

9.23 In formulating a policy for aerodrome safeguarding of future runways, BAA has considered how best to retain the flexibility to deal with different development scenarios while remaining flexible enough to deal with a specific runway design as definition is achieved. We consider it prudent to safeguard for a second full length runway with its centreline 1,035 metres to the south of the existing runway. A new safeguarding map, endorsed by the CAA, will be lodged with the local planning authorities (LPAs) at the same time as the finalised master plan. The map will be subject to review every five years in line with the review process for the master plans, as specified in DfT guidelines.

9.24 LPAs will use the new map as a filter for deciding which planning applications should be sent for assessment. BAA will receive and assess the applications against the constraints for the existing runway and against those for a second runway, and the impacts from each will be recorded separately. If there are impacts with an existing runway these will be dealt with as is the case currently, in that BAA might object, not object or not object subject to the imposition of appropriate conditions.

9.25 Where an impact with the potential second runway is identified, BAA will notify the LPA of the potential clash and advise whether any changes can be made to remove the conflict. If appropriate BAA will work with the LPA and developer to explore the issues in more detail. For as long as a planning application for the second runway has not been approved and its design remains uncertain, BAA does not intend to object to any development proposal that conflicts with the aerodrome safeguarding constraints associated with a second runway. BAA's response will simply seek to inform the LPA and developer that, should the BAA proceed with developing a second runway at the airport, then there is a likelihood that it will conflict with the development outlined in their planning application. The aim is to ensure that the developer is fully aware of the timing, implications, risks and potential outcomes if they proceed with their plan.

9.26 Any development carried out which conflicts with aerodrome safeguarding criteria might still be subject to a potential Compulsory Purchase Order at a later date. In extreme cases BAA could still elect to object to a proposal if it considered the overriding circumstances warranted this course of action.

9.27 There are a number of advantages in adopting this policy:
- BAA would not be objecting unnecessarily to proposals which could prove to be acceptable in the future, as a runway design develops.
- Very few objections are likely for developments proposed prior to a definitive runway design being agreed and permitted.
- Developers will be fully informed of the issues when considering whether to proceed with their own development. It is worth noting that any development that infringes safeguarding criteria may not automatically need to be removed.

14 This includes 74 hectares east of the railway, falling outside the airport boundary as currently defined in the Crawley Borough Local Plan 2000, which is in BAA Gatwick's ownership

It will depend on many factors such as predominant traffic type, method of runway operation, location, height, adjacent obstacle environment and regulatory considerations. A risk assessment would be undertaken to determine the likely requirements during the detailed design of the future runway.

- Developers would remain protected in that should the runway go ahead they would be compensated at that time under the Compulsory Purchase Order mechanism.
- The safeguarding associated with future runways will be linked to the master plan review process. As definition is reached on the need for a future runway and the detailed design develops, this will be incorporated into the revised master plan and at the same time the appropriate safeguarding can be undertaken in conjunction with the LPA.

Surface access

9.28 The adequacy of surface access infrastructure to serve the needs of a greatly increased number of air passengers, alongside other user groups, is known to be a matter of particular concern to many stakeholders over a wide area. The overall scale of airport related demand, and air travellers' choice of transport mode, will be strongly influenced by such factors as the proportions of transfer and foreign-resident air passengers.

9.29 It is, in 2005, inappropriate to do much more than acknowledge that surface access issues will be a significant factor in the debate about a second Gatwick runway. There is considerable uncertainty about the context in which a second runway's opening would generate growth in airport-related journeys. For example, if road user charging were to be widely in force it could significantly affect the pattern of demand on the road network. We are seeking consultants' perspective on a number of matters and will report any key issues when this plan is finalised. Some, such as the stopping up of rights of way within the area required for airport development, will be of mainly local significance. Also locally, but of strategic significance to the local highway authorities, will be the need to identify a route along which a section of the A23 can be re-aligned, and there will likewise be a need to decide how the enlarged airport can best be connected to the M23. We anticipate that airport highway access issues will also need to be addressed in the context of realising improvements to the wider, strategic surface access needs of the local area.

9.30 It is also likely that a second Gatwick runway will only be allowed to be built if public transport services and rail infrastructure, including any agreed improvements thereof, are considered sufficient to serve those needs. Gatwick's current rail station will undoubtedly need to be enlarged, and perhaps relocated, if the airport is to have a third passenger terminal and a much increased passenger throughput.

Environmental impacts

9.31 It is indisputable that a second Gatwick runway would have adverse environmental impacts, of concern to local residents, local authorities and others with an interest in such matters. It would also offer social and economic benefits, to which reference has been made in Chapter 2 of this plan, and which are not further referred to here. All these sustainable development issues would need to be debated.

9.32 It will be for the planning application process to give detailed consideration to the variety of environmental impacts associated with the development and subsequent operation of a second runway at Gatwick. This plan's purpose is to provide an early indication of the extent and broad land use of the development which may be the subject of a planning application, with detailed planning and environmental studies being undertaken only when, and if, it becomes appropriate to prepare a planning application.

9.33 Aircraft noise is the impact of perhaps greatest interest to local planning authorities, given their potential need to take it into consideration when allocating land, and considering planning applications, for housing. Estimates of future noise exposure around Gatwick and other airports were an element of the studies undertaken to inform the preparation of the White Paper, and they were subsequently updated and published by the CAA[15]. BAA sees no need to supersede the CAA's estimate of the air noise attributable to a twin runway operation, which was based on a forecast of 486,000 PATMs (carrying 76 million passengers) in 2030. Details are tabulated overleaf, and the contours depicted on Drawing 9.

15 Revised Future Aircraft Noise Exposure Estimates for UK Airports; ERCD Report 0308, CAA, December 2003

Leq (dBA)	Area (sq km)	Population (000)	Households (000)
>54	138.6	29.6	11.9
>57	84.0	13.2	5.2
>60	52.5	4.6	1.7
>63	33.1	1.8	0.7
>66	19.3	0.5	0.2
>69	9.9	0.1	<0.1
>72	4.8	<0.1	<0.1

9.34 Other environmental and related issues which will require thorough consideration include:
- Ground noise.
- Emissions and air quality.
- The water environment.
- Resource use.
- Biodiversity.
- Visual impact.
- Archaeology.
- Heritage.
- Loss of existing properties and land uses.
- Construction impact.

Blight

9.35 As previously noted, the government has stated that BAA should put in place a scheme to address the problem of generalised blight resulting from the runway.

9.36 In September 2004 we published a consultation document, *Protecting Against Blight*, containing proposals to protect the value of properties in communities close to the airport against blight resulting from a possible new runway.
The consultation period ended early in January, and an independent analysis of the responses is to inform our decision as to the precise form of the scheme to be introduced at Gatwick. The timing of our decision will, however, be affected by the need to have regard to the outcome of a Judicial Review of a scheme announced for Stansted in 2004.

9.37 The final master plan will report on the scheme that should by the end of 2006 be in place at Gatwick.

10 Next steps

Consultation process

10.1 The publication of this outline master plan marks the start of a crucial step in the process of preparing the final plan for the airport – public consultation. You may be reading a copy of the document that we have formally sent you, or you may have obtained it from our website, but in either case we would welcome any comments you may have, no later than 30 June 2005.

10.2 We would particularly like to receive responses to the questions that we pose in paragraph 10.5, below. Before finalising the master plan we will of course consider all comments that we receive.

10.3 If any aspects of the plan puzzle you, or if you are wondering whether we can provide any additional information on particular matters, please ask, using the postal or email address that appears on the rear cover of this document.

10.4 We will also be pleased to meet with representatives of local authorities and organisations or businesses with an interest in Gatwick's future, if some form of presentation and discussion would be helpful to their consideration of this outline plan.

Questions to consultees

10.5 As indicated above, we will welcome any comments relevant to the content of the master plan, but it would be particularly helpful if consultees' responses could include answers to the following questions.

Q1 *Do you agree with the plan's overall structure and general level of detail? If not, why not?*

Q2 *Do you agree with the analysis (Chapter 2) of the economic and social benefits of Gatwick's current and future operation? If not, why not?*

Q3 *Do you agree with analysis of the statutory and regulatory context set out in Chapter 3? If not, why not?*

Q4 *Does Chapter 4 provide a sufficiently detailed description of Gatwick's current operation and facilities? If not, in what respects do you suggest it should be elaborated?*

Q5 *Do you have any comments on our expectations of future traffic growth, as set out in Chapter 5?*

Q6 *Are there any aspects of our land use plans in Chapter 6, relating to maximum use of Gatwick's single runway, which you particularly support or oppose? If so, please give your reasons.*

Q7 *Do you agree with the principles of our transport strategy for the airport, summarised in Chapter 7? If not, please explain any particular matters that concern you.*

Q8 *Do you agree that a dedicated airport express rail service is a vital component of Gatwick's current and future surface access provision? If not, why not?*

Q9 *Does Chapter 8 strike an appropriate balance in its coverage of environmental issues? Are there any which you believe have been omitted or in respect of which you disagree with our conclusions? If so, please give your reasons.*

Q10 *If the Government rules out a third runway at Heathrow and concludes that a second runway should be built at Gatwick after 2019, do you agree with the approach we propose for taking this project forward? If not, please explain your reasons.*

Q11 *Do you have any comments on the general disposition of land uses within a twin runway airport that is explained in Chapter 9 and illustrated on drawing 7, and are there any locations where you suggest that our definition of the indicative boundary for the enlarged airport might be altered from that shown on drawing 8? If so, please give your reasons.*

Evaluation

10.6 Following the consultation period we will carefully consider all the comments that we receive, and reach a judgement as to whether they can be reflected in the final version of the plan. We would like the opportunity to meet with some respondents to discuss particular aspects of their comments, and explore our emerging thinking on the manner in which we might alter or add to the content of the master plan. If we cannot respond positively to consultees' suggestions we will explain why.

10.7 We will in any event wish to maintain a regular dialogue with principal stakeholders, including airlines, local authorities and GATCOM. We will arrange a programme of meetings throughout this year, in order to keep them informed of progress on the plan and ensure that we are familiar with their perspective on matters.

10.8 Quite apart from our consideration of responses to the consultation, and our wish for ongoing dialogue with stakeholders, there are a variety of work areas that we need to pursue irrespective of responses to this consultation. Of particular note, and without signifying any order of priority, these are:

- Publishing our forecasts of Gatwick's air traffic in 2015, for inclusion in the final plan.
- Extending the time horizon of our surface access strategy from 2012/13 to 2015, to align it with the master plan.
- Forecasting 2015 air noise.
- Completing our air quality action plan.
- Preparing an emissions inventory for 2015 and modelling NO_2 and PM_{10} concentrations in that year; the timing of this work will be dependent on the completion of government studies.
- Considering and, if appropriate, responding to consultations issued by the Government and by regional and local authorities, if they have a bearing on the statutory and regulatory context within which Gatwick operates. Examples are:
- Night flights.
- The South East Plan.
- The West Sussex Local Transport Plan.
- The Crawley Local Development Framework.
- Announcing and introducing schemes for home relocation assistance and the insulation of noise sensitive (non-residential) buildings.
- Announcing proposals for a residential noise insulation scheme.
- Working with consultants to identify any significant surface access issues associated with the operation of a twin runway airport in 2030 that might usefully be added to the final plan.
- Announcing and introducing our scheme to address blight attributable to the scenario for a second runway's development at Gatwick.
- Subject to local authority agreement, undertaking a review of the 144 commitments included in the SDS, to bring them up to date and, where relevant, to align them with the master plan's 2005-2015 timeframe.

The full master plan

10.9 Our aim, by the end of 2005, is to complete our revision of the outline master plan, in the light of the consultation and to reflect such further work as we need to undertake. We will then publish the resultant document. However, given the Government's programme for air quality studies, and other work to inform its decision as to whether it can give broad policy support to the provision of a third runway at Heathrow, we will subsequently need to add to or amend our plan, to report our conclusions on air quality at Gatwick in 2015 and, potentially, to report any significant government policy announcements. Such an update could be left until our master plan becomes due for a five-yearly review (in 2010), but we would welcome stakeholders' views as to whether we should update the plan, in relation to those two matters, as soon as we are able to do so – probably in 2007.

If you would like this document in an alternative format please call us on 0800 731 4247. Alternatively a fully accessible version of this document can be found on our website

www.baa.com

This outline master plan has been issued for consultation, as a precursor to the preparation of a fuller version of the plan, which we aim to publish at the end of 2005. If you have any comments please send them to us as soon as practicable, and in any event no later than 30 June 2005, addressed to::

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