



# A Second Runway for Gatwick

Updated Scheme Design Submission

# SD4

Mitigation Strategies

YOUR LONDON AIRPORT  
*Gatwick*



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# Executive Summary

Gatwick recognise that whilst aviation brings great benefits to the national and local economy it also has impacts on the local community in particular. Our overall approach – minimise, mitigate compensate – is designed to ensure that we are as sensitive as possible to local needs and avoid concerns today and in the future. We start from the great advantage of our location. This means that the number of people impacted by aircraft noise or by the construction of a second runway is of a huge order of magnitude lower than Heathrow. We do not underestimate the challenges ahead but they are nowhere near the order of complexity of tunnelling the M25, converting it to 14 lanes and introducing congestion charging for example. This paper sets out the measures we plan to take to ensure we can deliver the most economic benefits for the UK, London and the region at the least environmental cost.

This document comprises the Mitigation Strategies requested by the Commission in pursuance of its' objective to limit detrimental, and enhance positive impacts, on the environment and on local communities. The impacts of a second runway at Gatwick are an order of magnitude lower than those associated with the expansion of Heathrow. In short, we achieve all the benefits from expansion at Gatwick with far less of the negative impacts associated with Heathrow. Compared to Heathrow, Gatwick is in the right place as it can be built quicker, more cost effectively and with fewer adverse environmental and social impacts and greater scope to mitigate those that arise. Our track record speaks for itself – we are proactive and already avoid harmful effects, wherever possible, through innovative design and layout in our current operations. We wish to enhance this positive starting position by ensuring any mitigation required for expansion provides an opportunity to improve our sustainability performance and the benefits we can generate for our local communities, and the local and regional economy.

## Starting from a position of strength

Gatwick's mitigation case starts from an obvious position of strength relative to Heathrow as a result of its location, operational efficiency and strong sustainability performance. We deliver a world class passenger experience whilst being a good neighbour to our local communities and positive partner to our stakeholders. Our effects on neighbouring communities are of an order of magnitude lower than at Heathrow and have been proactively minimised and mitigated consistent with, new industry best practice. In addition, our positive working relationships with our stakeholders have enabled us to develop a series of enhancement measures which actively contribute to environmental sustainability and the socio-economic development of our local and regional economy.

A second runway at Gatwick represents a solution that maximises the benefits both nationally and for the local community whilst minimising the impacts. Gatwick's location and layout means that it has more limited environmental impacts than Heathrow and therefore is more suited to expansion.

In particular:

- Gatwick is situated in a semi-rural area with associated low population density. In comparison, Heathrow is located in the western edge of London with aircraft arriving and departing over the city with very large numbers of residents across London affected by noise from its operations. Even with a second runway at Gatwick, the number of people living within Gatwick's 57 Leq contour would be limited to 14,100 compared to some 240,000 within Heathrow's existing



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two runway 57 Leq contour today. Gatwick also became the first airport to consult on changes to its airspace which could reduce the number of people over-flown by up to 65%. This will occur regardless of anticipated improvement in aircraft technology and fleet performance which will continue to occur in the years ahead. The choice is between further increasing flights and the number of people exposed to noise under expansion at Heathrow, or facilitating expansion in the semi-rural location of Gatwick, with far fewer people over-flown by flights and affected by noise;

- Heathrow claim that the number of people affected by noise is falling. It is clear, however, that a third runway with an additional 260,000 aircraft landing and taking-off will produce more noise than a two-runway Heathrow without the additional take-offs and landings. The present measures to describe noise nuisance are considered to understate the true impact of noise at Heathrow. Many people are still significantly affected by noise outside the 57 leq contour. If the contour is expanded, the position is even more dramatic. For Gatwick in 2012 there were only 11,300 people within the 55 Lden contour whereas there were 725,000 within the same contour at Heathrow, over 60 times as many. The fundamental issue is to identify the difference in noise between a three-runway and a two-runway Heathrow as, given the overflying of London, it is clear that many more people will be affected. Gatwick has supplied the relevant information for its expansion, but Heathrow has so far failed to do so;
- Future expansion of Gatwick has been anticipated for some time, and as a result the area around the airport has been subject to a safeguarding directive. The consequent benefit of this is that there is limited development within the vicinity of the airport. Land for a third runway at Heathrow is not safeguarded and will result in very substantial impacts on homes, businesses and communities, in addition to the impact on local villages that Heathrow has already had as a result of previous failed efforts to deliver another runway there;
- The environmental effects of Gatwick expansion (2+2) are limited and the need to mitigate reduced because expansion will result in a more compact and efficient airport, which is achieved with limited additional land take. The design of the second runway builds on the existing compact layout of the airport to maximise the efficiency of operations. For example, locating the additional capacity between the two runways maximises the efficient operation of the airport by minimising taxiing distances. In comparison, the solution at Heathrow: has many points of entry and therefore complex way-finding; is spread out across 4-6 terminals and over 20 piers/satellite buildings; has complicated routings for taxiing aircraft resulting in poor operational efficiency today, and even poorer efficiency with a third runway; and
- Gatwick's proposals will deliver greater public transport connectivity to and from the airport for staff and passengers, achieving a higher public transport mode share than Heathrow, and the vast majority of the transport schemes required for Gatwick expansion are already committed.

## Going from strength to strength

Our industry leading approach to constructing and operating sustainably, provides us with an excellent platform from which to design, construct and operate our proposed expansion. With the need for limited additional mitigation to facilitate sustainable expansion, we have also been able to focus on providing a suite of enhancement measures, to complement our established commitments, as set out in this document.

Gatwick's proposed second runway development benefits from:

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- A self-contained, level, predominantly greenfield site, on safeguarded land which has relatively low impacts on landscapes and communities and which does not require major modification of extant infrastructure;
- A compact three terminal design with over 50% of capacity in a new modular terminal located directly between the runways, resulting in very low taxi and transfer times, and supporting carbon reduction, noise and air quality management objectives. Heathrow proposes to transition from a relatively inefficient two-runway configuration to, in our opinion, a potentially even more inefficient three-runway layout;
- Strong surface access connections, which are being improved further in frequency, capacity and reliability as a result of already committed schemes which will be implemented before a second runway opens and deliver significant benefits to local communities, as well as passengers. Heathrow is dependent to a significant degree on non-committed rail improvements, and have only recently identified the need to introduce congestion charging without so far specifying how this will be done, whether it is deliverable or what it is meant to achieve;
- Fewer people impacted by air and ground noise than at Heathrow, whose location inevitably involves large numbers of flights over one of the world's largest cities. Gatwick has flight paths which avoid the major centres of population to the north and south of the airport, and the smaller population centres which are in closer proximity to the airport. We also have industry leading mitigation strategies, including our noise insulation and proposed council tax schemes;
- Better air quality performance than Heathrow, and continuing to maintain the present performance of zero breaches of air quality limits;
- Less risky, less disruptive, less complex, and a cheaper build than Heathrow, delivered more quickly. Importantly for London and the UK's air connectivity, construction at Gatwick can be undertaken without interruption to the operation of the existing airport. Heathrow's proposals appear likely to have significant impact on access to the existing terminals during the construction period;
- Strong stakeholder relationships through which we deliver our well regarded initiatives to enhance quality of life for local communities, including targeted investment in socio-economic, regeneration and environmental schemes at the community level, with particular focus on creating opportunity in areas of high socio-economic deprivation; and
- More acceptable and deliverable expansion. Heathrow's expansion would involve significant disruption to local communities in the form of land-take and exposure to environmental factors such as noise; thus augmenting already high levels of exposure and negative reaction from local communities and stakeholders. It is not apparent how these can be mitigated. In addition, Heathrow's proposals result in significant disruption to key parts of the road network and are likely to create further congestion on a network which has already met or exceeded capacity. In contrast, Gatwick's proposals build upon a low level of current impact, with projected limited additional impact to local communities, the environment and the transport network. In addition to avoiding significant impact, our mitigation will be clearly communicated and is eminently achievable.



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### Taking our responsibilities seriously

Gatwick recognises that avoidance is better than mitigation. We have systematically sought to avoid and minimise impacts to the environment and local communities through both our current operations and proposed expansion. Consistent with our current sustainable operations, the R2 Master Plan has avoided significant land-take and minimised populations overflown.

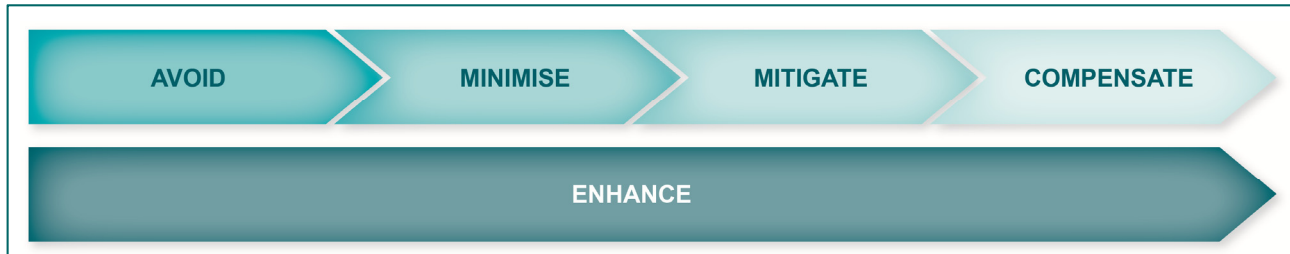
In conjunction with our commitment to robustly mitigating and compensating faraway impacts which remain, this reinforces our capability to deliver expansion with low social and environmental impact. Gatwick has also comprehensively addressed enhancement opportunities in line with our pledge to being a good neighbour and a responsible operator, to deliver a low impact, but high benefit, expansion proposal.

Gatwick works with, rather than around, the local community. Gatwick's operations mean it inevitably has impacts in the surrounding area and as a result it strives to recognise its responsibilities and work with the community to be a good neighbour. Good neighbour relations at Gatwick have been founded on good communication and corresponding cooperative efforts. The airport's relationship with surrounding local authorities, county councils and businesses is strong. The consultative committee GATCOM is made up of key community stakeholders from across the region. The committee enables a regular dialogue and debate around issues, concerns or requests for support with all those organisations that have an interest in the airport. According to the CAA, GATCOM sets the benchmark for consultation and relationship partnership between an airport and its neighbours. Gatwick will build on this success as our expansion plans progress to ensure any mitigation measures maximise opportunities for local communities and businesses.

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Our approach is based on the following steps:

FIGURE 1: OUR MITIGATION HIERARCHY



- **Avoid** potential harmful effects to the environment and local communities wherever possible through our design development and operational processes;
- **Minimise** unavoidable effects, building upon our already inherently low impact operations;
- **Mitigate** residual effects to reduce their negative impact;
- **Compensate** those affected by residual negative impacts; and
- **Enhance** neutral or positive effects to support sustainable economic growth and quality of life.

Many of our mitigation and enhancement plans have a common purpose spanning multiple disciplines, so we adopt a fully integrated approach.

It is our contention and firm belief that:

- Both in our current and proposed expanded operations, Gatwick has avoided significant impacts to the environment and quality of life of local communities, and systematically minimised the nature and scope of those impacts which could not be avoided.
- The environmental and social impacts of Gatwick's current operations and those under our second runway proposal are, an order of magnitude lower than those associated with Heathrow expansion. Put simply, 2+2 is a very much better solution from a sustainability perspective than 3+1. The remaining unavoidable impacts are appropriately mitigated and compensated through our best practice approach to design, construction and operation;
- Gatwick has identified measures to comprehensively enhance the benefit which expansion can bring to local communities, the regional economy and nationally;
- Gatwick's industry leading sustainability performance will ensure we maintain this low-impact, high-benefit approach during expanded operations; and
- Expansion at Gatwick would bring significantly greater benefits than Heathrow, particularly through enhanced competition, sustainable economic growth, and protecting quality of life;

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FIGURE 2: GATWICK'S APPROACH TO INDUSTRY LEADING SUSTAINABILITY PERFORMANCE



### Key elements of our approach

Gatwick's industry leading approach to sustainability performance can be summarised as follows;

- We have adopted a strategic and systematic approach to the design, construction and operation of the Second Runway, to avoid and minimise impacts to the environment and local communities, and to ensure it is consistent with our established commitment to industry leading sustainability performance and Second Runway Sustainability Strategy.
- The innovative, compact and efficient design of the apron and taxiways enables rapid turnaround of aircraft, and the proximity and good connectivity between terminals enhances operational efficiency, with emissions savings, ground noise and other benefits.
- We are committed to ensuring we develop and integrate best practice and innovation, and our Master Plan preserves the flexibility to accommodate future advancements in technology, operational practice and regulatory environment.
- We are committed to working with all stakeholders to further minimise our noise and emissions, to minimise our carbon footprint, and to optimise our use of energy, water and other natural resources and have set out how we will achieve this.
- We have established robust governance, strategy and delivery mechanisms with which to deliver best practice compensation measures. Our industry leading operational performance continues to enhance our ability to avoid, minimise and mitigate impacts and, therefore, reduces the future need for compensation. This involves the forthcoming development of an External Stakeholder Review Group to inform our ongoing strategy development and drive continuing improvements in sustainability performance.
- We focus clearly not just on minimising and mitigating potential negative impacts but on identifying opportunities to enhance the sustainability of our proposals and performance. To this end, we proactively engage with our stakeholders, and have developed close partnership working with them.
- We continue to explore and capitalise upon new opportunities for collaboration and are seeking to progress the development of two new partnership mechanisms: a Responsible Retailers Forum, (working with Gatwick's retailers to drive forward performance enhancements), and a Sustainability Performance Programme with our airlines and operators to align corporate responsibility and sustainability initiatives to maximise benefits through joint delivery.

Our Mitigation Strategy comprises those measures identified and adopted by Gatwick to-date. We will continue to evolve and integrate further measures in collaboration with the Commission and with our stakeholders, as we progress its development.

#### Outcome:

Gatwick presents the most sustainable business case for airport expansion.

# 1.Introduction

**SD4 Mitigation Strategies is one of a suite of documents that form Gatwick's updated scheme design submission to the Commission.**

Our Mitigation Strategy shows how all the Commission objectives will be met through demonstrating that;

- Gatwick's second runway scheme has systematically avoided impacts to the environment and local communities resulting in lower land-take, lower populations overflown, lower operational impacts and lower adverse impacts overall than Heathrow
- Through innovative design and operational practice, Gatwick has minimised what impacts could not be avoided , with the result that that there are no significant adverse impacts that cannot be readily mitigated;
- Where compensation is required, it is applied through best practice management systems;
- Highlight that Gatwick has greater potential to realise social, economic and environmental enhancement and stronger sustainability performance throughout operations, in line with our current practice;
- The mitigation strategy will, as a minimum, meet prevailing best practice standards, and will introduce further innovation and exemplary standards of sustainable airport management through the construction, initial operations and mature operations phases; and
- The Commission's objectives will be met.

The Strategy draws together Gatwick's mitigation and enhancement plans which address the Commission's objective to limit detrimental and enhance the positive impacts of the scheme. Importantly, where we do not mention specific mitigation measures (such as steeper approaches for landing aircraft) it is not because we are unwilling to consider or implement them. It is simply that the case for doing so at Gatwick is less compelling and the benefit limited. We believe, however, that the Commissions analysis should take account of these measures where it is both feasible and appropriate to do so. In addition, we will continue to build upon our mitigation strategy over the coming months and of course, we will advise the Commission of any additional measures we propose.

### Mitigation hierarchy

Whilst Gatwick has sought to avoid and minimise impacts wherever possible, inevitably, development of any kind will give rise to some impacts which are unavoidable and which still require mitigation and compensation, despite being minimised. Consistent with our current approach, Gatwick has adopted industry leading mitigation, compensation and enhancement measures to ensure we continue to deliver strong sustainability performance with expansion.

This Strategy reflects our tiered approach to delivering best practice mitigation and enhancement through:

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FIGURE 3: TIERED MITIGATION AND ENHANCEMENT APPROACH



- **First Tier - Design Mitigation & Enhancement** relates to those measures that have already been accounted for in the design and selection of our preferred second runway master plan, also known as ‘embedded’ mitigation and enhancement.
  - These measures are summarised in **Chapter 2** of this report.
- **Second Tier - Principal Mitigation & Enhancement** relates to the package of operational and other mitigation and enhancement measures that form part of our core proposals and which will be implemented throughout the life of the project; from the commencement of construction (~2020) to the year of opening of the second runway (~ 2025) through to the mature operational phase (2040 and beyond). These Principal Mitigation & Enhancement measures meet and in most cases exceed the minimum level which would strictly be necessary to mitigate the adverse effects of the development. They include many exemplary, innovative and state-of-the-art features which will be implemented in accordance with our Second Runway Sustainability Strategy and wider governance.
  - Second tier mitigation and enhancement measures are introduced in **Chapter 3** through its summary of headline measures, and elaborated upon in **Chapter 4 – 15** through addressing the individual objectives of the Commission and how measures have been identified to support fulfilment of these.
- **Third Tier - Further Mitigation & Enhancement** relates to other mitigation and enhancement measures which will be introduced as the project progresses, subject to further feasibility studies and/or negotiations with third party organisations.
  - Third tier mitigation and enhancement measures are introduced in **Chapter 3** through its summary of headline measures, and elaborated upon in **Chapter 4 – 15** through addressing the individual objectives of the Commission and how measures have been identified to support fulfilment of these.

### Meeting the Commission’s objectives: Signposting & Headline Summary

The summary signposts the reader to the headline measures identified under each of the Commission’s prescribed subject areas and objectives (from Framework table 4.1) and where further detail is provided in the report. Underpinning delivery of measures against each of these objectives is the Second Runway Sustainability Strategy and suite of topic specific strategies, action plans and policies. These strategies are interlinked and complementary, serving to enhance our governance and performance in the individual areas and overarching sustainability.

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### Local Economy Impacts

**Objective:** “To promote employment and economic growth in the local area and surrounding region”

**Objective:** “To produce positive outcomes for local communities and the local economy from any surface access that may be required to support the proposal”

Our Strategic Argument, Airport Master Plan, Engineering Plans, Surface Access Strategies and Local Economy Impacts appendix set out the full details of our assessment and proposals in enhancing the positive contribution Gatwick makes to its local economies, in fulfilment of the Commission’s ‘Local Economy Impacts’ objectives. **Chapter 4** of this report details our mitigation and enhancement measures, which include:

- Delivery of 22,000 jobs and £1.73 billion in benefits to the local and regional economy. This equates to a circa 50% increase in the number of new employment opportunities with the operation of the Second Runway;
- Commitment to a range of employment initiatives including apprenticeships and training through the Life-Long Employability Programme and local supply chain initiatives, in cooperation with our stakeholder partners;
- Commitment to working towards 40% local procurement of supplier workforce and will continue its engagement with local businesses, to maximise the benefit which we can generate to local economic growth through expansion;
- Commitment to working with local authority study group and partner authorities on regeneration schemes including developing benefits to the Gatwick Diamond, South London and the South Coast; and
- Commitment to financial support for infrastructure related to housing growth as a result of the development.

### Surface Access

**Objective:** “To maximise the number of passengers and workforce accessing the airport via sustainable modes of transport” and,

**Objective:** “To accommodate the needs of other users of transport networks, such as commuters, intercity travellers and freight”

Our Surface Access Strategies document and Surface Access technical appendix set out the full details of our surface access assessments and proposals. These demonstrate how Gatwick, along with already committed major improvements to road and rail access will positively enhance provision of sustainable modes of transport and access to these for the wider community as well as passengers and employees, in fulfilment of the Commission’s ‘Surface Access’ objectives. **Chapter 5** of this report details our key mitigation and enhancement measures, which include:

- Building upon our already UK leading performance, commitments to increased targets for public transport and sustainable modes to 60% of passengers and 50% of staff travelling to and from the airport;
- Accelerated deployment and support for passenger and staff use of hybrid and electric vehicles;



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- Expanded capacity and increased number of direct destinations served via already committed and planned schemes for road and rail improvement;
- Creation of Gatwick Gateway transport interchange for local community and airport user benefit;
- Consolidated freight in Gatwick Direct, a single location directly connected to A23 / M23;
- Investigation of rail freight feasibility, including during construction;
- Provision of coordinated network of local road, pedestrian and cycle routes; and
- Commitment to Local Highway Development Fund and Public Transport Levy.

### Noise

**Objective:** “To minimise and where possible reduce noise impacts”

Being located to the South of London with aircraft landing and taking off to/from the East and West, means that the number of people affected by aircraft noise is comparatively small. This is in stark contrast to Heathrow.

Heathrow claim that the number of people affected by noise is falling. It is clear, however, that a third runway with an additional 260,000 aircraft landing and taking-off will produce more noise than a two-runway Heathrow without the additional take-offs and landings. A frequent criticism in relation to aircraft noise is that the 57 leq noise contour is not an adequate guide to the nuisance caused to local communities. Many have suggested that the 54 leq or the 55 Lden are a better guide. In 2012 there were 11,300 people within the 55 Lden contour at Gatwick and 725,000 people within the same contour at Heathrow, highlighting that noise nuisance at Heathrow is on a significantly greater scale than Heathrow acknowledges. The fundamental issue is to identify the difference in noise between a three-runway and a two-runway Heathrow as, given the overflying of London, it is clear that many more people will be affected. Gatwick has supplied the relevant information for its expansion, but Heathrow has so far failed to do so.

Our Airport Master Plan and Surface Access Strategies documents and Air and Ground Noise appendices provide full details of our noise assessments, and how the R2 design and proposed operation will avoid, minimise, mitigate and compensate noise impacts in fulfilment of the Commission’s ‘Noise’ objectives. Our established approach to noise mitigation is set out in our Environmental Noise Directive (END) Action Plan 2013 - 2018. **Chapter 6** of this report details our key mitigation, compensation and enhancement measures, which include:

- Continued work with relevant authorities to innovate in aircraft performance, airspace management and airfield operations;
- Our Airport Collaborative Decision Making (A-CDM) programme, unique Fly Quiet & Clean (FQC), noise track keeping system (CASPAR) and state-of-the-art precision based satellite navigation (PRNAV) will be extended and continually improved, thereby bringing substantial changes in the way the airport operates for local communities, stakeholders and airport management. We are confident that we can continue to improve our noise performance;
- Provision of noise bunds, walls and landscaping in sensitive areas of the boundary;
- Working with members of GATCOM to explore the possibility of including a ground run pen (engine testing facility) in our master plan to reduce impact of engine testing noise;

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- Provision of annual £1,000 (index linked) Council Tax contribution for affected residents within 57 dBA Leq contour; and
- Continuing implementation of our recognised innovative noise insulation scheme in Europe, which has been expanded by reducing the noise boundary for the scheme and extending the area covered 15km to the east and west of the airport. We are not aware of any other airport in the world offering a scheme of this magnitude.

### Air Quality

**Objective:** “To improve air quality consistent with EU standards and local planning policy requirements”

Our Airport Master Plan and Surface Access Strategies scheme design element documents and Air Quality appendix sets out the full details of our air quality assessment against relevant standards and policy requirements and how Gatwick has avoided, minimised and mitigated impacts, whilst actively enhancing air quality, wherever possible, in fulfilment of the Commission’s ‘Air Quality’ objectives.

**Chapter 7** of this report details our key mitigation and enhancement measures, which include:

- Commitment to maintain our current performance of zero breaches of air quality limits, confirmed by modelling of second runway impact whilst maintaining air quality conditions that are well within legal requirements;
- Commitment to a set of increased targets for public transport and sustainable modes which comprise 60% of passengers and 50% of staff travelling by sustainable modes by 2040;
- Aim to phase out aircraft Auxiliary Power Unit (APU) usage, with all stands being provided with fixed electrical ground power (FEGP); improve ground operational practices such as efficient aircraft taxiing; promote/ support zero or ultra-low emission vehicle use by airport support contractors and public transport operators; and
- Supporting industry research and innovation into the use of alternative fuels for aircraft and undertaking a review of how we can further utilise preferential charging to encourage improved fleet performance, with the benefits this bring to noise reduction, amongst other performance factors.

### Biodiversity

**Objective:** “To protect and maintain natural habitats and biodiversity”

Our Engineering Plans and Surface Access Strategies scheme design element documents and Biodiversity Appendix sets out the full details of our biodiversity assessment and proposals. They identify how Gatwick has avoided, minimised and mitigated impacts, whilst ultimately enhancing biodiversity in fulfilment of the Commission’s ‘Biodiversity’ objectives. **Chapter 8** of this report details our key mitigation and enhancement measures, which include:

- Continuing our award winning approach to biodiversity management and retention of Biodiversity Benchmark status;
- Coordinated approach to minimise impact on habitats and work with Natural England and other authorities to achieve appropriate arrangements for mitigation and compensatory habitat;
- Removal of River Mole from Culvert with associated habitat benefits; and
- Re-providing woodland at the rate of 2:1 for non-ancient woodland and 3:1 for ancient woodland with the objective of achieving a net gain in woodland provision.

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### Carbon

**Objective:** “To minimise carbon emissions in airport construction and operation”

Our carbon, energy and waste assessments are set out in our Engineering Plans document and in our Carbon Report and other appendices. These topics are strongly inter-linked, and mitigation has therefore been considered together to maximise opportunities for synergies between the topics, noting that the Commission has not set a specific objective relating to energy or waste. The documents set out how Gatwick has avoided, minimised and mitigated carbon emissions through the R2 design, and how operational practice will ultimately deliver carbon neutrality, in fulfilment of the Commission’s Carbon objective. **Chapter 9** of this report details our key mitigation and enhancement measures, which include:

- Implementation of a zero carbon energy strategy including an integrated approach to managing airport energy, waste and water resources;
- Target for reduction in emissions on a per passenger basis;
- Target to achieve BREEAM (Building Research Establishment Environmental Assessment Methodology) Excellent for the new terminal building and piers with the reduction in carbon, waste and energy use this generates;
- Building on learning from the London Olympics construction delivery process to achieve a strategy which will reduce construction carbon;
- Commitment to maintain 96% on site recycling for demolition;
- Creation of a central 'Construction Consolidation Centre' (CCC) - just in time materials delivery - utilisation of reverse logistics i.e. return of unused material, packaging and pallets;
- Creation of an Energy Centre and a large photovoltaic array – target of carbon neutrality, and a continued commitment to investigate the most sustainable ways of achieving this, for example considering woodchip biomass, boilers fuelled by biogas derived from digestion of airport waste;
- Undertaking a case study with local councils and operators on joint waste disposal measures to supply the Energy Centre and maximise our energy from waste generation;
- Working in partnership with local councils and operators to explore the feasibility to export excess power to local community/district heating initiatives;
- Exploring opportunities beyond 2030, for Hydrogen fuel cell combined heat and power (CHP), Anaerobic Digestion, Piezo Electric Technology, and Nanotechnology use;
- On site crushing plant and filtering - to enable onsite material reuse - direct processing of materials on site e.g. concrete; asphalt; brick; timber;
- Waste food processing plant and biomass boiler - during construction phase - Food waste used to produce hot water for use in the welfare accommodation or concrete batching plant;
- Anaerobic digestion facility to generate biogas to the airport Energy Centre that incorporates waste from the sewerage systems, runway de-icer and community waste streams; and
- A 'Biogas to Vehicle Fuel' facility for the airport bus and vehicle fleets using the anaerobic digestion facility.

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### Water and Flood Risk

**Objective:** “To protect the quality of surface and ground waters, use water resources efficiently and minimise flood risk”

Our Engineering Plans and Surface Access Strategies scheme design element documents and Water and Flood Risk Appendix set out the full details of our assessments and proposals. They illustrate how Gatwick has avoided, minimised and mitigated flood risk and impacts to protect water quality, whilst also enhancing sustainable resource use and flood resilience for the benefit of our local communities and operations, in fulfilment of the Commissions’ ‘Water and Flood Risk’ objectives.

**Chapter 10** of this report details our key mitigation and enhancement measures, which include:

- Implementing an investment programme of up to £30 million to provide best in practice flood resilience measures throughout Gatwick’s operations which will protect our local communities downstream of the airport;
- Removal of River Mole from culvert with associated habitat benefits;
- Design of river diversion to eliminate local flood risk on and off airport and ensure that there is no increase in flood risk to surrounding communities as a result of the development, including consideration of climate change;
- We are evaluating a range of options for wastewater treatment which link with reducing use of potable water and managing surface water runoff;
- Working towards no additional demand for water above a 2010 baseline/the volume of water supplied in 2010;
- Target to achieve BREEAM (Building Research Establishment Environmental Assessment Methodology) Excellent for the new terminal building and piers with the reduction in water use this creates; and
- Working with local stakeholders to introduce a Community Flood Risk Forum, to provide ongoing communication and dialogue with our local communities.

### Place

**Objective:** “To minimise impacts on existing landscape character and heritage assets”

Our Airport Master Plan, Engineering Plans and Surface Access Strategies scheme design element documents and Place, Waste, Energy and Geo-environmental appendices set out the full details of our assessments and proposals. They demonstrate how Gatwick has avoided, minimised, mitigated and re-provided for impacts to landscape and heritage assets, whilst also delivering enhancements, wherever possible, in fulfilment of the Commission’s ‘Place’ objective. **Chapter 11** of this report details our key mitigation and enhancement measures, which include:

- Designing the airport boundary and road and river diversions to minimise land-take, and to avoid several sensitive receptors including ancient woodland, listed buildings, two scheduled monuments, and residential areas.
- Retaining an important historic building - the Grade II\* Beehive, within airport boundary through a deliberate design decision;
- Working to retain and incorporate other listed buildings falling within the development boundary into the Master Plan wherever possible, for example the Beehive (Gatwick’s original terminal building) is retained; and

## SD4 Mitigation Strategies

- Implementation of Landscape Strategy with measures such as noise bunds, noise walls and wider landscaping treatments around sensitive parts of the airport perimeter, to reduce noise, visual and related impacts.

### People

**Quality of Life Objective:** “To maintain and where possible improve the quality of life for local residents and the wider population”

**Community Objective:** “To manage and reduce the effects of housing loss on local communities” and “To reduce or avoid disproportionate impacts on any social group”

Our Airport Master Plan, Engineering Plans and Surface Access Strategies scheme design element documents and our Quality of Life and Community appendices set out the full details of our assessments and proposals. They illustrate how Gatwick has actively avoided, minimised, mitigated and compensated for impacts to housing and community amenities, whilst systematically identifying enhancements to improve the quality of life for our local communities and wider region, in fulfilment of the Commission’s ‘People’ objectives. **Chapter 12** of this report details our key mitigation and enhancement measures, which include:

- The Gatwick Life-Long Employability Programme is being developed with stakeholders to provide new schemes to support schools education, an expanded skills development programme, apprenticeships, scholarships and supporting return-to-work, less able and mature sections of population;
- Investment in local transport infrastructure to enhance rail capacity and ensure that airport traffic does not have significant impact on local roads;
- Improvement of Junction 9 of M23 enhancing links between the motorway, Crawley and Horley via the re-aligned A23;
- Local communities will benefit directly from Gatwick Gateway transport interchange;
- Maximising the financial benefit to local communities from the second runway development, for example through the Council Tax Scheme and Charitable Trusts and Foundation;
- Housing loss minimised as development is primarily on safeguarded land and does not affect the major centres of population to the north and south;
- Gatwick has voluntarily developed schemes to minimise the risk of blight; and
- In line with our commitment to being a good neighbour, Gatwick is also committed to working in partnership to provide support for the relocation of community assets impacted by expansion, mitigating disruption to access to community amenities.

## SD4 Mitigation Strategies

### Delivery

**Objective:** “To actively engage local groups in scheme progression, design and management”

Our Engineering and Development Strategies, Construction Programme and Risk Profile, Programme Risk Management, Construction Delivery and Transition, Engagement Strategy and Engagement Charter appendices set out the full details of our assessments and proposals in fulfilment of the Commission’s ‘Delivery’ objective. They detail how Gatwick has actively engaged and consulted with local groups in an inclusionary and positive process, building upon our established positive relationships with stakeholders. **Chapter 13** of this report details our key mitigation and enhancement measures, which include:

- Commitment to maintain and develop the active engagement already underway and ongoing with the public and local stakeholders based on genuine, meaningful and credible consultation and involvement;
- Development and implementation of an Engagement Charter which defines how we will engage with the local community, local stakeholders and existing owners and occupiers of land that will be affected; and
- Commitment to ensuring engagement informs the development and implementation of the Sustainable Construction Strategy and Second Runway Sustainability Strategy during construction and operational phases.

### Operational Efficiency

**Objective:** “To build flexibility into scheme design”

Our Airport Master Plan and Engineering Plans scheme design element documents and Operational Efficiency – Master Plan appendix set out the full details of our assessments and proposals to enhance flexibility within the R2 scheme design, in fulfilment of the Commission’s ‘Local Operational Efficiency’ objective. **Chapter 14** of this report details our key mitigation and enhancement measures, which include:

- Capitalising upon the in-built flexibility to respond to the full range of future scenarios for the evolution of the aviation market across all current and potential future market segments, as set out in SD1 Strategic Case;
- Adopting an innovative approach to the new terminal and pier infrastructure permitting fully flexible passenger flow, ranging from full self-service to fully staffed check-in;
- Implementation of flexible baggage operations permitting fast Minimum Connection Times for transfer passengers;
- Integration of flexible stand and gate room designs capable of flexing to suit airline operational models;
- Design of flexible apron tailored for very fast LCC turnaround time; and
- Flexible allocation of space in the Master Plan for development of replacement commercial and employment land, and potential to relocate those businesses affected by the development to an enhanced location directly accessible from M23 / A23 and Gatwick Gateway.

The following chapters provide further detail on Gatwick’s response to providing mitigation and enhancement strategies for maximising delivery of the Commission’s objectives.



# 2.Design mitigation and enhancement

As previously set out in **Chapter 1**, design, mitigation and enhancement relates to those measures that have already been accounted for in the design and selection of our preferred second runway master plan, also known as ‘embedded’ mitigation and enhancement.

This section summarises design features incorporated within the other Tier 2 scheme design elements, including SD2 Master Plan, SD3 Engineering Plans. Key aspects include:

- Our existing operational master plan can largely accommodate expansion within the physical and social constraints of our current operational footprint, avoiding and minimising negative impacts to quality of life on local communities and the environment, from the outset;
- The requirement for land-take is, therefore, limited and will largely take place within the established safeguarded area - actual and perceived impacts are lessened by this fact;
- The compact nature of the new terminal, runway, taxiways and other aspects of the airfield layout brings inherent benefits in terms of operational efficiency, passenger transfer times, and reduced noise, carbon and land-take impacts;
- The compact nature of the second runway master plan acts to minimise the loss of residential and community buildings;
- The airport boundary and road and river diversions have been designed to minimise land-take and to avoid several sensitive receptors (e.g. areas of ancient woodland, listed buildings, residential areas, two scheduled monuments, water treatment infrastructure). An important historic building - the Grade II\* Beehive, is retained within airport boundary through a deliberate design decision;
- Landscaped noise bunds, noise walls and other landscaping treatments around sensitive parts of the airport perimeter will reduce noise, visual and related impacts;
- The safeguarding of non-airport commercial space to the east of the railway provides the potential for us to provide replacement premises for displaced business;
- Our established voluntary schemes (Home Owner Support Scheme (HOSS) and Property Market Support Bond (PMSB)) minimise the risk of, and compensate for the impacts of blight for residential and certain commercial properties prior to commencement of the Compulsory Purchase Order (CPO) process;
- The opportunity to divert rivers in a wide/ open channel rather than in culvert delivers significant potential enhancements to water quality, aquatic and terrestrial biodiversity of the River Mole (thereby helping to meet Water Framework Directive objectives);
- The river diversion scheme will ‘future proof’ the airfield and surrounding areas from risk of flooding in the future and there will be a net reduction in flood risk downstream of the airport. Our overall flood attenuation scheme will be designed and maintained to cater for the worst case scientific predictions about climate change. This will be implemented in conjunction with the Environment Agency, following their advice on best practice guidance and using appropriate design criteria;

## SD4 Mitigation Strategies

- Development of a new Energy Centre, which involves a joint feasibility study with local Councils to identify joint waste disposal and the exploration of opportunities to link into local district heating initiatives, with the benefit to local communities which this generates;
- The river diversion scheme accommodates a multifunctional 'linear park' creating environmental, landscape, community and leisure benefits;
- The Gatwick Gateway will serve the airport and the local community, particularly by means of a new integrated sustainable transport facility, creating a high quality interchange around the station, accessible for all;
- The R2 proposal, including surface access, has been designed to ensure that local vehicle, pedestrian and cycle access to local settlements and community facilities is maintained whilst ensuring that non-local traffic uses the main road network;
- We have designed an integrated network of cycle, pedestrian and sustainable transport routes and facilities as part of the Master Plan. For example, a new traffic-free section of National Cycle Route 21 will be provided, which would maintain the integrity of this national route and connectivity between settlements to the north and south of the airport on the eastern side.

Further detailed mitigation and enhancement measures are set out in our accompanying documents, collectively demonstrating that Gatwick has developed a sustainable master plan for expansion upon which our operational approach can further enhance our sustainability performance and the benefit this generates to local communities, the environment and the sustainable economic growth of our local and regional economies.

### 3. Integrated operational mitigation strategy

This section summarises operational mitigation and enhancement measures which will be delivered through the framework of our Second Runway Sustainability Strategy, and wider suite of supporting strategies and policies, and building upon our avoidance of impact wherever possible in both current and proposed expanded operations. These measures comprise Principal Mitigation & Enhancement which relates to the package of operational and other mitigation measures that form part of our core proposals and which will be implemented throughout the life of the project; from the commencement of construction (~2020) to the year of opening of the second runway (~ 2025) through to the mature operational phase (2040 and beyond). They also detail Further Mitigation & Enhancement which relates to other mitigation and enhancement measures which will be introduced as the project progresses, subject to further feasibility studies and/or negotiations with third party organisations.

Collectively, these measures support our existing commitments, as a responsible company, consistent with our established vision and commitment to industry leading sustainable performance. We are proud of our existing track record of performance and the existing practices, initiatives, plans and objectives which are already embedded within our current operations; for example, the Decade of Change sustainability strategy and our Section 106 legal agreement with our local planning authority.

Our Second Runway Sustainability Strategy sets out how we use expansion to build upon our existing commitments in Decade of Change, expanding upon current commitments to catalyse improvements in sustainability performance and continue to demonstrate our industry leadership.

Building upon the very positive relationships which Gatwick has developed with its statutory and wider environmental, social and economic stakeholders, we will also be creating an External Stakeholder Review Group to assist us in reviewing and driving forward delivery of the Second Runway Sustainability Strategy in pursuit of ongoing improvement in performance.

Gatwick's commitment to working in close partnership with its stakeholders is further reinforced through a series of new initiatives it is exploring with wider stakeholders to identify how collective working can deliver even stronger performance, in particular with relation to air quality, carbon, waste and the wider set of factors contributing to sustainable operations, including:

- Exploring opportunities for working in partnership with operators and airlines to align corporate social responsibility and sustainability initiatives through an industry leading Gatwick Sustainability Partnership; and
- Working with Gatwick's retailers to improve our collective sustainability/environmental performance and will be developing a Responsible Retailers Forum to identify the opportunities for collaboration and development around areas such as resource use.

We will continue to work with organisations such as The Airports Council International and The Carbon Trust to benchmark and build upon our external accreditation status, for example through achieving the Carbon Trust's Waste and Water Standards and are committed to maintaining our ISO14001 accreditation for expanded operations.

Construction will be largely contained within the safeguarded airport boundary, and will therefore cause the least disruption of the shortlisted airport proposals. In particular, there will be lower adverse cumulative construction impacts because of limited off-site infrastructure required to facilitate the scheme. Our commitment to exemplary sustainability performance is also reflected in our approach to constructing the second runway, including:

## SD4 Mitigation Strategies

- Consolidated and best in practice construction management, delivered through our Sustainable Construction Strategy, construction environmental standards and use of Construction and Waste Consolidation Centres;
- Our commitment to facilitating and integrating innovation and technological developments, including through the development of Second Runway Construction Design Awards Scheme which will showcase British innovation in engineering and design;
- We have established and will continue to implement our Engagement Strategy and an Engagement Charter from the outset which will define how we will engage with the local community, local stakeholders and existing owners and occupiers of land that will be affected. As set out in our R2 Airport Surface Access Strategy (ASAS) our vision, which is supported by the excellent and growing public transport connectivity which Gatwick will enjoy, is to increase significantly the proportion of passengers and staff travelling by sustainable modes, and thereby reduce carbon, noise and other emissions and impacts related to vehicular transport to and from the airport. We have set specific targets in this area and explained how we intend to achieve them;
- We already have an innovative and advanced airspace and noise management programme, and we are at the forefront in deploying new technology and following emerging Government and international policy in this regard. We intend to extend and further enhance this as part of our second runway proposals. We aim to achieve superior noise and environmental performance over other major airports in the UK with the involvement and collaboration of the local community and wider stakeholders and we start from a position of strength compared to the Heathrow options;
- Our Airport Collaborative Decision Making (A-CDM) programme, unique Fly Quiet & Clean (FQC), noise track keeping system (CASPAR) and state-of-the-art precision based satellite navigation (PRNAV) will be extended and continually improved, thereby bringing substantial changes in the way the airport operates for local communities, stakeholders and airport management. The results presented in our Air and Ground Noise Appendices do not reflect the potential benefits that this will generate. We are, therefore, confident that we can continue to improve our noise performance and, in particular, the number of people significantly affected by noise;
- We fully embrace the concept of 'local solutions for local issues' as promoted by the Airports Commission (Aviation Noise Discussion Paper, September 2013). An example of this is our new enhanced sound insulation scheme, which we will expand to cover all properties affected by the new noise contours. Our commitment to innovate in tackling noise is exemplified by our intention to implement a Council Tax Scheme whereby every property within the 57Leq air noise contour will receive an annual £1,000 (index linked) contribution towards their Council Tax;
- We will encourage and promote the cleanest and quietest aircraft fleet, balancing the joint aims of reducing noise, nitrogen oxides, particulates and carbon emissions. To achieve this we will phase out aircraft APU usage, with all stands being provided with fixed electrical ground power (FEGP); improve ground operational practices such as efficient aircraft taxiing; promote/ support zero and ultra-low emission vehicle use by airport support contractors and public transport operators;

## SD4 Mitigation Strategies

- As part of our Second Runway Sustainability Strategy, we will be undertaking a strategic review of resource use, including energy, waste, water supply and disposal, with the aim of moving towards an integrated closed loop system that minimises resource consumption and waste across the airport community;
- As part of our proposed Waste Consolidation and Energy Centres, we will explore the use of biomass renewable energy and incorporate the flexibility for the facility to be adapted to a range of innovative, waste-to-energy and zero-carbon technologies and to provide a community district heating system;
- We will consolidate all cargo and logistics deliveries in a single location to reduce transport impacts, minimising goods traffic travelling on the local road network in peak periods and giving direct access to the A23 and M23;
- We will continue to work with Crawley Borough Council (CBC) and the other local authorities around the airport to adopt proactive land-use planning in accordance with their local plans and the National Planning Policy Framework (NPPF). This includes the provision of new housing, recreational and business facilities linked directly and indirectly to our second runway proposals;
- We will implement our innovative 'Community Asset' initiative which maximises the benefit which the airport can generate to local communities for example, through providing amenity space for events and reaffirming Gatwick's approach to being part of its communities and a good neighbour.

### 4. Local economy

Whilst not specifically required by the Commission to be addressed through Mitigation Strategies, Gatwick believes that contributing to sustainable growth of our local economies is a core element of our expansion proposals and have set out the mitigation and enhancement measures we are implementing to maximise our performance in this area.

The second runway's impact on the local economy is overwhelmingly positive. We are, therefore, presenting measures that enhance our offer rather than mitigate any part of the project from a position of strength that comes from being the single largest company in the region. The development of the second runway will increase our direct impact by employing a further 22,000 (a circa 50% increase), largely drawn from a catchment that stretches from Croydon in the north through to Brighton and Hove in the south.

As the single largest company in the region, Gatwick has a significant impact on the local economy, not only through jobs created and direct spend with local businesses but also through the companies which have chosen to base themselves in this region because of the airport. The expansion of the airport through provision of a second runway will result in a very substantial increase in the international connectivity of the local and regional economy.

We have actively engaged with local business communities through the Gatwick Diamond Initiative and Gatwick Diamond Business. We regularly meet with these organisations in order to have a direct dialogue with national, regional and local businesses who contribute to the £2bn generated by our operations each year.

Whilst the local economic impacts of the second runway are overwhelmingly positive and do not require mitigation per se, we will implement a range of enhancement measures in order to meet the Airports Commission objectives which are:

“To promote employment and economic growth in the local area and surrounding region”

“To produce positive outcomes for local communities and the local economy from any surface access that may be required to support the proposal”

#### Principal mitigation and enhancement

##### Employment, skills and regeneration

The types of job opportunities to be created will range from highly knowledge intensive, highly remunerated jobs through to customer facing jobs essential to the operation of the airport and ancillary activities. Plenty of work opportunities will be accessible to less skilled people including persons looking to re-enter the labour market (e.g. unemployed people, people who have been outside the workforce for some time). Gatwick has a strategy to ensure that the greatest opportunity is given to those in need of employment to gain access to work given the right motivation and skills. Our strategy will create a pathway to employment on the project (both during construction and operation) through targeted interventions that help people become job ready no matter what starting position they have. To this end, we have formed partnerships with organisations that are able to help address particular needs ranging from basic skills deficits (e.g. numeracy, literacy, motivation) through to vocational skills development leading to recruitment.



## SD4 Mitigation Strategies

- In partnership with local Councils, educational and skills development organisations, including The Prince's Trust, Gatwick is building upon its existing initiatives with Colleges to develop an industry leading skills development and employment programme which will provide a framework for engaging all sections of the community. The Gatwick Life-Long Employability Programme will involve new schemes around schools education, an expanded skills development programme, apprenticeships, scholarships and supporting return-to-work, less able and mature sections of population.
- We will undertake locally targeted recruitment events in places requiring economic growth (e.g. Croydon, other parts of the Wandle Valley) and more widely, along any of the train routes with good rail connections;
- We will accelerate housing delivery through partnering in housing company, helping to fund affordable homes for airport workers;
- We will undertake a case study centred on Croydon (but also considering other London Boroughs and southern coastal towns with high IMD ratings) which will explore further opportunities for training, employment and regeneration initiatives in such areas, linked to the expansion of the airport.
- The airport is committed to supporting the next generation of its workforce. It will therefore support outreach to specific schools along with work experience opportunities. To support this activity offers of bursaries and apprenticeships may be considered in the future

### Local business and Inward Investment

- We will provide financial compensation for lost/ blighted commercial properties prior to construction under our Property Market Support Bond, in order to allow and operators of facilities to purchase or rent alternative property if required.
- We will develop a programme of proactive inward investment - marketing for inward investment, working with partners such as local authorities and the Chamber of Commerce.
- The second runway will also create world class infrastructure for London capable of acting as a magnet for inward investment attracted by the prospect of easy access to international markets from efficient surface connections into the commercial heartland of London with its concentration of key decision-makers in investment, banking and government.
- We will look to ways in which the Airport can support conditions for inward investment in the London Opportunity Areas (Victoria, London Bridge, Farringdon) promoting inward investment;
- We will establish further contract procurement and trade links, building on the 'Built to Compete' and 'Gateway Asia' initiatives to broker relationships between major employers and SMEs, and supporting international trade.
- We will work in partnership with the Coast to Capital (C2C) LEP on opportunities for international growth and entrepreneurship, increasing the ability of local businesses to compete in the international marketplace and supporting them to develop international trade links.
- We will support the Gatwick Diamond Initiative and Gatwick Diamond Business to ensure we continue to play an important part in attracting and retaining significant investment in the region and also supporting the businesses already based here.

## SD4 Mitigation Strategies

- We are committed to working towards 40% local procurement of supplier workforce and will continue engagement with local businesses, to maximise the benefit which we can generate to local economic growth through expansion.
- We will maintain and strengthen the Crawley Developer and Partner Charter to use reasonable and best endeavours to support local businesses.

### Further mitigation and enhancement

#### Employment skills and regeneration

Our further mitigation and enhancement measures include;

- Co-sponsoring a master planning exercise in Croydon.
- Acting as development partners for new industry sector growth initiative in Croydon/ Wandle Valley e.g. Croydon Enterprise Opportunity Centre, Wandle Park, which offers office space and business support/ training.
- Providing financial support to assist in building LB Croydon's regeneration delivery capacity.
- Potential by supporting the provision of affordable housing supplement or financial support in Opportunity Areas. Work with GLA/LPAs to target this support to areas most needed.
- Supporting conditions for inward investment in the London Opportunity Areas (Victoria, London Bridge, Farringdon) – proactive inward investment promotion.
- Linking with Build Surrey – ensure procurement is local and stimulates supply chain opportunities.
- Linking with Hammerson/Westfield for joint programmes, such as construction skills, retail and hospitality trade employment, VAT processing, taking shopping goods for direct delivery to airport.

### Housing & Infrastructural Development to Support Economic Development

We have estimated that the second runway scheme might give rise to some 9,300 additional houses across the fourteen closest District Council's over the period in which the two-runway airport reaches capacity (up to 25 years). Local Authorities receive around £10,000 from central Government for every additional house that is completed. These funds are to support the provision of associated infrastructure such as schools and libraries but are often considered by the local authorities to be insufficient to meet their investment needs. In the light of this we are giving consideration to pledging that:

- Gatwick is considering investing in a fund which would be ring fenced for the provision of associated infrastructure to support the development of the additional 9,300 houses;
- The scheme will last for up to 25 years from the time the additional housing is required and applies to ordinary housing provision as well as affordable housing provision.

# 5. Surface Access

Gatwick's second runway surface access strategy (R2 ASAS) , supported by the Second Runway Sustainability Strategy builds upon our industry leading performance in this area to ensure that Gatwick fully meets the Commission's objectives, which are:

"To maximise the number of passengers and workforce accessing the airport via sustainable modes of transport"; and,

"To accommodate the needs of other users of transport networks, such as commuters, intercity travellers and freight"

### Principal mitigation and enhancement

We will achieve this via the following:

- We have set ourselves demanding targets for public transport use and believe these are realistic and achievable. We aim by 2040 for 60% of passengers to travel to or from the airport by public transport and for 50% of staff to travel to work by sustainable modes by 2040;
- The heart of the Second Runway Sustainability Strategy and Surface Access Strategy is the aim to minimise car use by passengers and staff alike; thus cutting as much as possible the sources of noise. The 60% public transport mode share will deliver some 20m fewer car trips per annum. Beneath this, a key design principle for the layout of the airport, has been to separate as much as possible cars accessing the airport and background car commuters. This minimises noise, pollution and congestion in the surrounding communities;
- The significantly increased proportion of passengers and staff using sustainable transport modes will cut both carbon and emissions to air. This will be further strengthened by the short road distances of on airport use e.g. the car parks are adjacent to the M23;
- Our strategy will also help to bring forward both committed improvements (where funding by others has been approved and announced publicly) and planned improvements (schemes for road or rail infrastructure which have not yet had funding confirmed) and make them better value for money, creating local and regional benefits;
- The Gatwick Gateway will serve both the airport and the local community through a new integrated transport facility, creating a high quality interchange around the station, accessible for all. The Gatwick Gateway will be designed around passengers and will make connections between modes of transport easier and create new journey opportunities. It will bring 'airport quality' passenger facilities to an interchange available to the whole region, integrating road, rail, bus and coach services, walking and cycling routes. In particular, it will improve access to the airport and the upgraded Gatwick railway station (which should be completed by 2020);
- In order to mitigate the impact of the second runway and further enhance accessibility by sustainable modes of transport, we propose a number of additional measures including: investing in the Fastway bus network for the benefit of staff, passengers and the local community; reducing the number of parking spaces for driver-only journeys to work; supporting car sharing, the use of electric or low emission vehicles and other initiatives in our Staff Travel Plan; ensuring safe, reliable and easy to follow cycle, walking and other routes including replacing and extending

## SD4 Mitigation Strategies

existing routes through the linear park created by the river diversions; consolidating all cargo and logistics deliveries in a single location to reduce transport impacts; minimising goods traffic travelling on the local road network in peak periods and giving direct access on to the A23 and M23; and maximising the use of rail freight, particularly during construction phase;

- We commit to supporting further road improvements through the introduction of a Local Highway Development Fund with a second runway. Local authorities would use the fund to help improve the local road network where Gatwick is one of a number of contributors to traffic. These improvements will increase capacity for all journeys and allow local traffic to flow efficiently;
- As part of our Sustainable Construction Strategy, we will be devising a comprehensive travel plan for the construction phase, which will help to minimise impacts and maximize effectiveness. This will include, for example, consolidation centres, railheads for bulk materials, minimized muck-shift and on-site remediation;
- A central 'Construction Consolidation Centre' (CCC) will facilitate just in time materials delivery, reducing construction vehicular movements We will maintain and build on our current performance of recycling 96% of construction, demolition, and excavation waste;
- This will be supported by the Waste Consolidation Centre which will also reduce the need for waste transportation and associated vehicular movements. In addition, we will utilise reverse logistics i.e. return of unused material, packaging and pallets sorting for reuse and recycling, on site crushing plant and filtering to enable on-site material reuse and direct processing of materials on site e.g. concrete; asphalt; brick; timber;
- Our approach to consolidating traffic movement is reflected in our renewed investment in Gatwick Direct, our operational freight consolidation centre and our commitment to undertake a feasibility study into opportunities for increasing rail freight during operational phase.

### 6.Noise

Gatwick starts from a position of significant advantage relative to Heathrow in terms of numbers of people significantly affected by noise. ERCD modelling as set out in the Air Noise appendix indicates that a two runway Gatwick would have an estimated 14,100 people living within Gatwick's 57 Leq contour compared to 240,000 within Heathrow's existing 57 Leq contour today. Gatwick's runway location means that aircraft overfly relatively sparsely populated areas to the east and west and can avoid overflying the major population centres to the north and south. Heathrow's location results in aircraft overflying one of the world's most populated cities.

Heathrow claim that the number of people affected by noise is falling. It is clear, however, that a third runway with an additional 260,000 aircraft landing and taking-off will produce more noise than a two-runway Heathrow without the additional take-offs and landings. The present measures to describe noise nuisance are considered to understate the true impact of noise at Heathrow. Many people are still significantly affected by noise outside the 57 leq contour. If the contour is expanded, the position is even more dramatic. For Gatwick in 2012 there were only 11,300 people within the 55 Lden contour whereas there were 725,000 within the same contour at Heathrow, over 60 times as many. The fundamental issue is to identify the difference in noise between a three-runway and a two-runway Heathrow as, given the overflying of London, it is clear that many more people will be affected. Gatwick has supplied the relevant information for its expansion, but Heathrow has so far failed to do so.

Gatwick has a longstanding commitment to the management of noise impacts on local communities with tried and tested systems in place. Our existing noise management system has been recognised as 'industry leading' by Noise Communications Solutions, a company working in the aviation industry to help airlines and airports recognise and mitigate the effects of their operations on local communities. Our Environmental Noise Directive (END) Action Plan 2013-2018 will be continued, extended and modified (where necessary) to accommodate the airspace and other changes brought about by the introduction of the second runway. Over the past year Gatwick became the first airport to consult on changes to its airspace which could reduce the number of people over flown by up to 65% and we expanded our Noise Insulation Scheme to cover 40% more homes.

Our commitment to industry leading noise management will facilitate us meeting the Commission's objective for noise, which we wholeheartedly endorse:

"To minimise and where possible reduce noise impacts."

#### Principal mitigation and enhancement

- Our Airport Collaborative Decision Making (A-CDM55) programme, unique Fly Quiet & Clean (FQC), noise track keeping system (CASPAR) and state-of-the-art precision based satellite navigation (PRNAV) will be extended and continually improved, thereby bringing substantial changes in the way the airport operates for local communities, stakeholders and airport management. The results presented in our Air and Ground Noise Appendices do not reflect the potential benefits that this will generate. We are, therefore, confident that we can continue to improve our noise performance.
- We will roll out the enhanced noise insulation scheme, which we believe is the most generous scheme of its kind in Europe, with respect to area covered and level of grant available, to all

## SD4 Mitigation Strategies

properties affected by the new R2 noise contours, using the same noise metrics and eligibility criteria.

- We will make an annual contribution to the Council Tax of residents most affected by noise and increased aircraft movements. Eligible Council Tax payers living within an independently defined noise contour would be able to apply for a £1,000 (index linked) per year payment toward the cost of their Council Tax. In order to be eligible, Council Tax payers would have to be resident and registered for Council Tax when the scheme is introduced, and their homes would have to be within the boundary of a 57 dBA Leq 16 hour noise contour, which is the Department for Transport's contour for the onset of noise annoyance.

Our mitigation measures include;

- Expanding our Home Owners Support Scheme (HOSS) to support owners of properties which, if development went ahead, would be newly exposed to medium-to-high levels of noise (66 decibels Leq). The voluntary scheme means that people will not have to wait until any new development has opened for any support or assistance against blight, as they would usually have to if Gatwick only fulfilled its legal obligations. Eligible property owners can require Gatwick to purchase their property for its unblighted market value (as if no runway development had been proposed) if we announce our intention to proceed with construction, having received the necessary consents.
- Avoiding overflying more densely populated areas including Crawley, Horley, East Grinstead and Horsham and we will work with NATS on flight paths and navigational procedures to further minimise and reduce the number of people overflown.
- Adopting night time preferential runway use, providing respite.
- Aiming to minimise night time noisy ground operations, including construction works, especially at the southern boundary of the airport.
- Concentrating live operations where possible on inner taxiways and aprons at night and other noise sensitive time periods.
- Maintaining restrictions on aircraft types, particularly at night, based on their noise performance.
- Implementing other noise management principles and targets in line with ICAO's 'Balanced Approach' and Sustainable Aviation's Noise Road-Map.
- Working proactively with all current and any future noise authorities.
- Continuing to work in partnership with schools in the impacted area to provide support and funding for insulation and infrastructural upgrades.



## SD4 Mitigation Strategies

### Further mitigation and enhancement

With regards to further mitigation we will;

- Undertaking further track keeping trials following the opening of the second runway to test best practice and implement co-ordinated routings in consultation with the local community.
- Working with the members of GATCOM to explore the possibility of including a ground run pen for engine testing in our master plan to reduce noise impact of engine testing.
- Continuing the London Airspace Consultation (LAC) ensuring stakeholders are involved in shaping the airspace around the Airport for an R2 future.
- Collaborate with the Local Planning Authorities and/or NGOs, such as the Noise Abatement Society, on noise research with a view to ensuring a pragmatic and strategic approach to noise management.
- Extend community noise monitoring and reporting to focus on driving a community outreach programme, together with case studies.
- We will participate in an external verification and auditing process of the airport's noise management function, the result of which will be the airport being awarded Environmental Noise Accreditation (ENA) from a recognised accreditation body and/or collaborate with the Independent Aviation Noise Authority (as speculated upon by the Airports Commission).

We believe increased approach slopes deliver marginal benefits in terms of noise reduction, as our Air Noise Technical Assessment reinforces. Whilst not discounting their use, we do not believe that they would materially impact noise exposure on populations around Gatwick Airport, noting also that both under current and expanded operations have a significantly lower level of population exposure than other airports.

# 7. Air Quality

Unlike at Heathrow, air quality around Gatwick is currently well below the legal limits enshrined in EU and UK legislation and is predicted to remain this level. We nonetheless recognise that air quality is an important determinant of quality of life. We therefore take steps to monitor and reduce air pollutant levels on and around the airport wherever practicable to do so. We are committed to maintaining our current performance of zero breaches of air quality limits, confirmed by modelling of second runway impact.

The following measures respond to the Commission's 'Air Quality' objective:

"To improve air quality consistent with EU standards and local planning policy requirements"

We make the following commitments to ensure that we meet or exceed the Commission's objective:

### Principal mitigation and enhancement

- We have participated with British Airways in their programme of reduced engine taxiing for inbound and outbound Airbus aircraft (A319, A320 and A321) with consequent reductions in carbon dioxide and other emissions and we will continue to encourage this with all our airline customers. In collaboration with NATS, we continually strive to improve queue management and reduce total taxi time, again reducing emissions.
- The realignment of the A23 and other local roads has been designed to cut congestion in comparison to today, and will reduce unnecessary car movements and therefore improve air quality including gases and particulates. NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> particulate levels will be well within EU and UK LV and Air Quality Objective levels.
- Airport Collaborative Decision Making will give more precision in operation, less taxiing and less holding, resulting in greater fuel efficiency.
- We are deploying a systematic approach to reducing emissions to air throughout construction, facilitated through the Sustainable Construction Strategy and working in close cooperation with our contractors. This includes identifying and incentivising the use of low emission construction fleet, in particular plant will be selected with noise, gases and particulates in mind.
- We will update the Air Quality Management Plan for the airport, including the employment of additional air quality monitoring stations.
- We will seek to improve operational practices such as encouraging adoption of aircraft taxiing with less than all engines running where feasible.
- We will employ low Nitrogen Oxide (NOx) boilers (with significant improvement in respect of NOx emission per kWhr).

### Further Mitigation and Enhancement

- We will investigate and support research into provision of preconditioned air on stands.
- Working with our airlines and operators, we are seeking to accelerate the deployment of hybrid/ electric /bio-fuels vehicles not just for staff use but for wider operations within Gatwick and will support and incentivise their use by passengers.

# 8. Biodiversity

We recognise the importance of protecting and promoting natural habitats and biodiversity in and around the airport. Gatwick actively supports the protection and promotion of natural habitats and biodiversity in and around the airport. We actively support and are sponsors of the Gatwick Greenspace Partnership, which forms part of the Sussex Wildlife Trust and manages 200 sq. km of countryside in the area. The partnership has helped the airport to develop indicators to evaluate its performance on managing and maintaining biodiversity that can be tracked on an annual basis to quantify the overall health of the natural habitats and biodiversity in and around the airport.

As part of the optioneering process completed to-date, a deliberate choice has been made to avoid and minimise the loss of woodland and most valuable UK Biodiversity Action Plan (BAP) habitat to the east and northwest of the airport. For example, the route for diversion of the A23 is designed to avoid both the loss of listed buildings and sections of ancient woodland to the east of the railway line.

We have and will continue to explore opportunities to protect and, where possible, to enhance biodiversity as part of our second runway proposal. This approach is entirely in accordance with the Commission's objective, which is:

: "To protect and maintain natural habitats and biodiversity"

### Principal mitigation and enhancement

- We will replace woodland at 2:1 ratio for non-ancient and 3:1 for ancient woodland with the objective of achieving a net gain in woodland provision.
- The second runway master plan will help establish linked green infrastructure routes, including the planting, maintenance and management of the new river corridor and linear park.
- We will plant diverse flora and fauna around pollution lagoons and attenuation ponds (as long as these do not attract bird species that would represent a bird strike hazard to aircraft).
- We will commit to re-providing facilities which have a similar recreation and wildlife multi-functionality as that of Willoughby Fields.
- We will work closely with Natural England and other authorities to develop detailed mitigation plans to avoid, reduce, and where necessary compensate for impacts to protected species such as Great Crested Newts and bats. We will ensure that the natural range of these species is not reduced and that the long term conservation status is not adversely affected, and preferably enhanced over time.
- We recognise that in the early years, before the second runway is constructed, there will be a requirement for provision of compensatory habitat.
- We will revise and update the airport's Biodiversity Management Action Plan to accommodate new opportunities from the second runway development as well as prioritise actions for the period after 2020.

## SD4 Mitigation Strategies

### Further mitigation and enhancement

- We will provide support for the Gatwick Woods Biodiversity Opportunity Area (BOA) in areas outside of Gatwick's land ownership, e.g. entering into a biodiversity offset with the land owner(s) of woodlands in the Gatwick Woods BOA, and potentially setting up a trust fund for the management of the woodlands or extension to woodland areas.
- We will explore the opportunity for a biodiversity offsetting scheme with the Local Biodiversity Partnership including the Woodland Trust and the Wildlife Trust, e.g. to explore if there are opportunities to acquire land from private land owners to add to the woodland owned and managed by the Woodland Trust at Glovers Wood Site of Special Scientific Interest (SSSI).
- We are very willing to participate in separate biodiversity off-setting and/or enhancement schemes at more distant locations from the airport site. Such initiatives would be explored in conjunction with Natural England, the Environment Agency, the Wildlife Trusts, and other interested stakeholders.

### 9. Carbon

This section on Carbon also incorporates related mitigation and enhancement measures in relation to waste and energy management, given the closely interlinked nature of these operational elements, and enhanced opportunities for synergies through mitigation and enhancement

Since 2008 carbon emissions from the airport have reduced by 14.6% (825,990tCO<sub>2</sub>e in 2008 versus 705,113.8t CO<sub>2</sub>e in 2012). In 2010, Gatwick's commitment to carbon was recognised with the accreditation of the Carbon Trust standard for carbon management. Ongoing schemes for emission reduction as detailed in the Second Runway Sustainability Strategy and Gatwick's Airport Surface Access Strategy demonstrate goals and action plans for continual carbon reduction.

Efficiency improvements within the airport, along with pioneering aircraft strategies such as Continual Climb Operations (CCO), Continuous Descent Approach (CDA) and single-engine taxiing, demonstrate our commitment to meeting and exceeding Gatwick's strategic carbon goals.

As described above, our Airport Surface Access Strategy (ASAS) monitors how people travel to the airport and what transport infrastructure is needed for both current and future demand. Our aim is to increase the number of passengers and staff travelling by sustainable modes, and thereby reduce carbon and other emissions related to vehicular transport to and from the airport.

We intend to build upon our current and future commitments to sustainability and carbon reduction by capitalising on the opportunities that the second runway development presents. This will ensure that our proposals conform to the Commission's objective, which is:

"To minimise carbon emissions in airport construction and operation"

#### Principal mitigation and enhancement

- Our Second Runway Sustainability Strategy and Low Carbon Roadmap set out our aspiration of working towards carbon neutrality by 2040 in accordance with the ACI Europe Carbon Accreditation Scheme Level 4 (or equivalent accreditation scheme).
- We commit to phased reduction targets in the build up to 2040 and exploration of the use of carbon off-setting of scope 1 and 2 emissions to contribute to attaining these objectives.
- We will support the work of the Sustainable Aviation Fuel Users Group to accelerate the development and commercialisation of sustainable aviation bio-fuel and other research and initiatives into novel fuels.
- We will commit to BREEAM (Building Research Establishment Environmental Assessment Methodology) excellent or comparable building standard.
- We will implement a programme of energy efficiency in the workplace and train all staff in its implementation.
- We will apply low embodied energy choices in construction, where practical alternatives exist and are committed to low carbon construction, this being a central tenet of our Sustainable Construction Strategy and best in practice environmental management standards. We working with stakeholders to develop a Second Runway Construction Design Awards Scheme which will showcase British innovation in engineering and design, including low and carbon neutral design and practice.

## SD4 Mitigation Strategies

- We already have low energy LED runway lighting on the existing runway and we will install this technology on the new runway as well.
- New buildings, such as the new terminal and Gatwick Gateway, will be low carbon or carbon neutral in terms of energy use and use low carbon materials. Maximum use will be made of recycling and re-use during the new-build phase.
- We will minimise energy use through water, waste and resource minimization and recycling programmes implemented at both the construction and operational phases of R2.
- We will continue to participate in an independently verified carbon accreditation scheme in partnership with the Carbon Trust.

### Further mitigation and enhancement

- In the future we will employ a range of renewable and low carbon technologies in our new Energy Centre, including Energy from Waste (EfW) plant using Gasification, Pyrolysis and/or alternative technologies.
  - The feasibility of any EfW scheme is dependent on third party sources of suitable waste. Gatwick will undertake a joint case study with local councils and operators on joint waste disposal measures to determine the feasibility and security of waste supply;
  - Gatwick is committed to working in partnership with local councils and operators to explore the feasibility to export excess power to local community/district heating initiatives as part of our Energy Centre development
- Working with our airlines and operators, we are seeking to accelerate the deployment of hybrid/ electric /bio-fuels vehicles and will support their use by staff use as well as for wider operations within Gatwick. As well as electric tug, cars and vans, this would also include electric specialist ground support vehicles such as belt loaders, cargo loaders and push back tractors.
- We will explore the potential for (and then implement) solar thermal heating systems for all buildings/offices/hotel blocks/tenants heating and hot water.
- We will examine the potential for recycling felled woodland as biomass pellets for biomass boilers (either onsite or supplied to local biomass contractor). This will be extended into operational phase depending on volume of wood fuel derived from the felling.
- We will ensure the low carbon energy strategy is rolled out across whole airport (i.e. tie in/retrofit existing buildings and facilities not just new ones).



# 10. Water and flood risk

We propose a range of mitigation and enhancements to water quality and management on and around the airport, as set out below. Our approach ensures that Airports Commission objective is met, namely:

“To protect the quality of surface and ground waters, use water resources efficiently and minimise flood risk”

Gatwick is implementing an investment programme of up to £30 million to provide best practice flood resilience measures throughout Gatwick’s operations which will protect our local communities downstream of the airport through avoiding and minimising the risk of flooding.

We will continue to work closely with the Environment Agency to ensure that we comply with the EU Water Framework Directive and best practice principles throughout. We will also collaborate with the Water Authorities (Sutton and East Surrey Water Company and Thames Water) on the supply of potable water and the treatment of waste water from the expanded airport. We will focus on ensuring that water use across the development and wider airport campus is as efficient as possible.

To this end, we are committed to achieving accreditation to the Carbon Trust Water and Waste Standards with the operation of the second runway.

The key elements of our surface and waste water and flood risk strategy for the project are:

### Principal mitigation and enhancement

- Our Sustainable Construction Strategy and best in practice environmental management standards will oversee our delivery of sustainable resource use during construction, including the use of low water construction practice, using alternative sources of non-potable water and harvesting of water, wherever feasible, and embedding water efficiency into construction techniques and operational management.
- With the various water efficiency measures that we propose, it is forecast that the demand in 2050 from the terminal buildings and airport operations will be no more than demand in 2010, despite the airport operation being twice its current size. Furthermore, water use on the wider airport complex (including associated hotels and commercial uses) will be no more than 10% greater than the demand in 2010 with the aim to reduce this to zero additional demand than the 2010 baseline.
- Our Water Quality Action Plan and Water Management Plan will prevent any deterioration of the water quality of the River Mole and will ensure water discharge is clean enough to achieve a physicochemical classification of “Good status” under the EU Water Framework Directive.
- Our de-icer and airfield contaminated runoff will be stored and treated to a standard that prevents water quality deterioration.
- We will encourage/ install best practice water conservation measures throughout the airport campus (including tenants and concessionaires) which will reduce the consumption of potable water and encourage water recycling.

## SD4 Mitigation Strategies

- We will ensure that the second runway development has no long term effect on groundwater flow or quality.
- The new River Mole open channel has significant potential to be optimised to provide additional flood storage in extreme flood events. This would achieve a further reduction of flood risk for downstream communities, particularly in the Horley area, which would be strongly supportive of the objective.
- In line with our established commitment to engage openly with our stakeholders, we are also working with local stakeholders to introduce a Community Flood Risk Forum, to provide ongoing communication and dialogue with our local communities.

### Further mitigation and enhancement

- We are evaluating a range of options for wastewater treatment which link with reducing use of potable water and managing surface water runoff. One possibility is to continue to send contaminated water to an Energy Centre, co-located at an expanded Crawley Sewage Treatment Works. De-icer contaminated flows would be processed in the Energy Centre to release biogas. This in turn could be used for power generation, or to power airport vehicles.
- On-site treatment potentially allows for de-icer, sludge, and gas and energy recovery from the treatment process. This will be subject to further feasibility study.
- A further option would be to pass the runoff from all of the paved areas to a new wetland treatment system. This would also function as part of the pollution control system, and allow for site wide rainwater harvesting. The wetland treatment system would supply grey water for direct onsite uses; e.g. for flushing toilet, fire hydrants and equipment washing. This in turn would considerably reduce the demand for potable water.
- We will work with Thames Water to evaluate options for an on-site wastewater treatment works designed specifically to treat de-icer contaminated water – thus increasing its capacity to treat local effluent discharges as well as the airport's own.
- Where feasible, our pollution control system will be further designed so that discharges from the airport facilitate the achievement of "High" ecological status for water quality in the wider River Mole catchment. This will entail working with the EA and others to improve upstream water quality in the Upper Mole Catchment.

# 11. Place

Place incorporates mitigation and enhancement measures in fulfilment of the Commission's consideration of Archaeology, Heritage, Landscape & Townscape, and Waste design elements within its 'Place' objective (noting that we have also considered 'waste' under mitigation and enhancement measures under **Chapter 9**: 'Carbon', due to synergies with energy and carbon mitigation and enhancement measures).

The design of the project has proactively avoided and minimised known adverse effects on archaeology, heritage, landscape & townscape, whilst minimising waste, and appropriate mitigation measures have been factored into the design of the second runway. For example, the new airport layout retains the Grade II\* listed Beehive building within airport boundary and our Master Plan design avoids physically impacting the two Scheduled Monuments (Ifield Court and Tinsley Green) to the south west and south east respectively.

The following measures respond to the Commission's 'Place' objective:

: "To minimise impacts on existing landscape character and heritage assets"

### Principal mitigation and enhancement

- Our compact design requires limited land-take and inherently avoids and minimises impact to existing landscape character and heritage assets.
- All historic buildings within the required land -take would be subject to a combined descriptive and external photographic survey, so as to produce a complete and permanent inventory of every building to be directly impacted, irrespective of heritage interest or significance. The results of this survey and discussions with statutory and non-statutory consultees would inform subsequent recording and mitigation strategies for specific heritage buildings.
- Accounting for the moderate to high potential for significant archaeology in some areas of the site (of low density and habitation), we will provide a record of archaeological remains prior to construction impact in accordance with an agreed archaeological strategy and relevant Written Schemes of Investigation prepared for the agreement of the County Archaeological Officer and, where appropriate, English Heritage.
- The project's landscape impacts would be minimised through both onsite mitigation and offsite enhancement measures, including the development of a linear park and habitat management. We will develop a Landscape Strategy to take into account the existing landscape and townscape resource and drawing upon feedback from local communities and stakeholders.
- As part of this Landscape Strategy, the slopes of the noise bunds will be varied and planted with native species to assist with the landscape and visual integration of these new landforms within the generally level and low lying Weald landscape. The margins of the excavated river channel will also be planted with a variety of native woody, marginal and aquatic species to establish a diverse riparian habitat. Furthermore, we will plant new hedgerows and woodland thickets (or shaws) along the boundary fence to reinstate a landscape element typical of the Weald.

## SD4 Mitigation Strategies

- We will mitigate the impact of waste throughout the construction and operational phases of the second runway scheme. The promotion of the 'Waste Hierarchy' from design, construction and into operation is a guiding principle throughout the life of the airport to address our sustainability aspirations for the second runway.
- The design of the scheme will continue to focus on achieving a cut and fill balance, and re-using soils to ensure suitability for use from the point of view of both the physical and chemical properties of the soils. Where soil is not suitable for use, on-site treatment will be undertaken to generate soils of suitable quality for re-use, resulting in a net improvement in overall soil quality and avoiding the need to send soils to landfill.

### Further mitigation and enhancement

- Subject to further feasibility studies and discussions with statutory and non-statutory consultees, we will relocate some other important heritage buildings.
- Where feasible, we will introduce on-site processing of biodegradable waste to create energy/hot water for welfare or batching plant use. This will be subject to quantities of waste produced to make this a viable proposition.

# 12. Quality of life

The R2 Master Plan has been designed and engineered to avoid negative impacts and instead protect and enhance the quality of life for local communities wherever possible. It integrates innovative design and best practice industry standards to minimise and mitigate negative impacts during construction and operational phases and uses targeted investment and partnership working to positively contribute to the environmental and socio-economic welfare of local communities, and the attenuating benefit to quality of life which this brings. The following measures respond to the Commission's 'Quality of Life' objective:

To maintain and where possible improve the quality of life for local residents and the wider population

### Sustainable Expansion

- We have designed and engineered expansion predominantly within the current operational footprint of the airport, with limited additional land-take being required and this being sourced from within safeguarded areas. Gatwick's expansion can, therefore, readily be accommodated within the physical and social constraints of our operational footprint and surrounding area, minimising negative impacts to quality of life from the outset.
- The scale of housing and commercial property loss is, therefore, limited and significantly less than that required under Heathrow's proposals. Gatwick is nonetheless sensitive to the impacts that expansion will have on surrounding communities particularly in relation to direct property loss. We have implemented a series of financial support schemes including Gatwick's Home Owner Support Scheme (HOSS) and Property Market Support Bond (PMSB), supported by an Engagement Charter and communication strategy which will provide all affected parties with information and support.
- It is expected that residents in close proximity to the airport will be concerned and potentially anxious over the development due to the necessary relocation process. However, in Gatwick's case, these concerns would be minimised by our ongoing community engagement and consultation programme and the financial support schemes. Such psychological impacts are also lessened due to the fact that the land required for our second runway scheme has been publically safeguarded since 2003. Therefore, residents within this zone will have anticipated the need to move at some point in the future and we continue to work to support them in the period leading up to relocation.
- Moreover, our analysis demonstrates that there will be no disproportionate impact to any particular social group, including the very young, elderly or otherwise vulnerable populations. We have furthermore identified enhancement measures aimed at targeted benefits to such sections of our local communities.

### Constructing Sustainably

- As for any major infrastructure project, adverse impacts are expected during the construction phase and these will be experienced predominantly by local communities living and working in areas surrounding the airport. However, such impacts are not permanent and our recent North Terminal extension project demonstrates that construction impacts can be very successfully mitigated at source, with minimal community disturbance or complaints.

## SD4 Mitigation Strategies

- To further minimise and mitigate these impacts, the Sustainable Construction Strategy and Code of Construction Practice will incorporate best practice management approaches and standards, coupled with localised assessment, to identify the optimal approach to undertaking construction with least disruption and impact to quality of life of local communities.

### Contributing to Enhanced Quality of Life

We are committed to operating responsibly and being a good neighbour. We have developed and will implement the Second Runway Sustainability Strategy, which reinforces our commitment to industry leading sustainability performance.

As part of this Strategy, we have and will; continue to work in partnership with our local communities and wider stakeholders to maximise the benefits we can deliver to socio-economic and environmental enhancements within the local community and the benefit to quality of life which this brings. To this end, we have identified a series of mitigation and enhancement measures, reflected throughout this report, which build upon the priorities established by communities and the region, for enhanced quality of life.

To summarise, these include:

- Generating 22,000 jobs and £1.73 billion in benefits to the local and regional economy. This equates to a circa 50% increase in the number of new employment opportunities with the operation of the Second Runway;
- Targeting partnership working and investment in identified regeneration priority areas, where the stimulus to local economic development and quality of life can be greatest;
- Using local procurement and partnership working with Councils, skills and development agencies to capitalise upon local uptake of these employment opportunities;
- Deploying a Life Long Employability Programme to engage and up-skill all working age sections of the community to position them to capitalise upon employment and career development opportunities;
- Further investing in the Gatwick Community Trust and new Community Foundation to support sustainable development in our communities;
- Innovative 'Community Asset' initiative which maximises the benefit which the airport can generate to local communities for example, through providing amenity space for events and reaffirming Gatwick's approach to being part of its communities and a good neighbour;
- Commitment to ongoing investment in biodiversity and greenspace, to continue enjoyment of this leisure and environmental asset;
- Re-provision or support for any impacted community amenities to provide for continuity of access;
- Creation of a state of the art sustainable transport interchange in the form of the Gatwick Gateway and enhanced provision of bus routes, cycle and foot paths for community use;
- Enhanced access to friends and family, leisure and economic opportunities overseas through increased access to destinations but also through the provision of affordable travel, increasing access to such opportunities for a wider demographic and section of the community within the South East and more broadly, across the regions.
- We are committed to ongoing dialogue and engagement with our stakeholders and our track record of positive partnership working, demonstrates that we will deliver expansion responsibly and to the benefit of the quality of life for local and regional communities.



### 13. Community

Gatwick benefits from very positive relationships with our stakeholders, reflecting our commitment to being a good neighbour and acting responsibly and sustainably. We have limited current operational impact on our local communities and the environment, this being enhanced through our proactive approach to strong sustainability performance. We have sought to develop expansion consistent with this approach, avoiding, minimising and mitigating potential impacts, whilst positively contributing to our local communities through enhancement measures.

Based on our understanding of the proposals published by Heathrow, a second runway development at Gatwick would have substantially lower community impacts than a third runway at Heathrow.

The footprint of our second runway scheme predominantly lies to the south and east of the existing airport in an area of low housing density. The compact nature of the scheme serves to further avoid and minimise the loss of residential and community buildings as far as reasonably possible. Whilst we have sought to avoid impacts to housing loss, some residential properties within the Crawley neighbourhoods of Langley Green, Northgate and Pound Hill North and a small area that lies within Horsham District Council to the south-west of the existing airport will be impacted.

The total number of residential properties which will be lost amounts to 163 and the owners of these properties will be fully compensated under an enhanced Home Owner Support Scheme. No hospitals, doctors' surgeries, primary or secondary schools would be directly affected by the development. However, one care home, two places of worship, one charity facility and four pre-schools/nurseries would be lost as a result of the construction. For many of these, there are alternative facilities in the local area, and the affected organisations will receive relocation assistance and financial compensation.

We propose a range of mitigation and enhancement measures to meet the Commission's objectives, which are:

"To manage and reduce the effects of housing loss on local communities"

"To reduce or avoid disproportionate impacts on any social group"

#### Principal mitigation and enhancement

- We will provide financial compensation for lost/ blighted residential and commercial properties under the Home Owner Support Scheme and Property Market Support Bond prior to construction in order to allow residents and operators of facilities to purchase or rent alternative property if required.
- To ensure that all nearby landowners are aware of their statutory rights responsibilities and our obligations to them, we will produce a Landowners Charter that enshrines these rights in a single, accessible document.
- We will introduce a new 'Community Dividend' to ensure that local communities share in the benefits of development.
- We will continue to fund and support the Gatwick Community Trust and other charitable initiatives.

## SD4 Mitigation Strategies

- We will continue to implement the Crawley Developer and Partner Charter to use reasonable and best endeavours to support local businesses.
- In conjunction with the rugby club, Crawley Borough Council (CBC) and Sport England we will relocate the Crawley Rugby Football Club to a suitable location to provide for continued access to this community and sporting facility.
- It is likely that graves and headstones at St. Michael and All Angels Church would have to be removed. We would manage this process with the utmost respect for the remains of the deceased and with care and sensitivity for the views of their surviving relatives. We would need to obtain a license to move the graves from the Ministry of Justice. Prior to doing this we would enter into discussions with the Church of England regarding the re-interment of buried remains at suitable consecrated sites, and we would publicise our requirement to remove the graves and their headstones in local newspapers and other media to afford those affected the opportunity to contact us. We would also speak to the Commonwealth War Graves Commission regarding the war graves on the site and the war memorial. We are aware that there are a number of more recent cremation memorials at the Church, and we would discuss with relatives where these should be moved to.
- We will reconnect severed footpaths and bridle way routes and/or provide alternative routes, potentially within other ecological/ landscape mitigation areas. We will work with the local planning authorities to explore any aspirations for future routes and how these might be incorporated.

### Further mitigation and enhancement

- As we have set out, it is our intention to provide widespread public access, nature and heritage interpretation facilities in land which we own, and to seek the agreement for this with landowners who manage land on our behalf.

# 14. Delivery

Gatwick has an excellent track record in engineering with local stakeholders from inception through to scheme design, delivery and operation.

“To have the equivalent overall capacity of one new runway operational by 2030”

“To actively engage local groups in scheme progression, design and management”

In recent years we have invested significant time, energy and resources to open engagement with all of its stakeholders on strategic decisions relating to the future of the airport. The airport has also sought to work constructively with special interest groups around specific environmental and operational issues, such as surface access, noise and biodiversity.

As a result of these efforts, we have already established an effective working relationship with a wide-ranging network of consultees and stakeholders who will be closely involved in current and future engagement on the second runway. In many cases, these relationships have been formalised through dedicated forums, working groups and consultative bodies.

Our Engagement Strategy Appendix outlines the extensive engagement we have undertaken to date with local communities, politicians, passengers, business and the airport's staff. It also outlines how we will consult and engage with our stakeholders on the proposed second runway – not only during the Airports Commission's process, but beyond that in the pre-application stage through to the construction, delivery and operation of a two runway airport.

The principal forum for our engagement with the local community and businesses is the Gatwick Airport Consultative Committee (GATCOM). Established in 1956, this statutory body continues to advise the airport's senior management team on the issues that are of greatest interest or concern to local communities, passengers, businesses and other airport users. The group meets four times a year, consists of 28 appointed representatives, and is open to the public.

We have also undertaken a number of engagement campaigns on key issues relating to the operation of the airport. These include surface access, noise, air quality, biodiversity, water management, flood risks, place, quality of life and the local and regional economy.

We are actively engaging with all relevant local authorities (LAs) in regard to proposals for future runway capacity at Gatwick. We have achieved this through two different groups: The Gatwick Joint Local Authorities (GJLA) and Gatwick Diamond Local Authorities. The purpose of this engagement has been to share information and keep the LAs informed of progress; to share our study approaches and methodologies, and seek agreement on how economic, environmental and social matters are identified and could be mitigated; discuss plans for consultation and engagement; and to identify possible areas of common ground.

In November 2013, West Sussex County Council's Cabinet Member for Highways and Transport created the Airport Capacity Task and Finish Group consisting of four members to assist his work on the issue of airport capacity in the local context following the County Council's endorsement in principle of support for expansion at Gatwick. Our engagement with the group to date has taken the form of formal meetings with airport management representatives and members of the group to discuss the airport's second runway proposals. We believe it is vital to continue to engage with the Airport Capacity Task and Finish Group on the airport's expansion proposals and we will continue to

## SD4 Mitigation Strategies

do so. West Sussex County Council has voted to support in principle the expansion of Gatwick Airport on economic grounds.

### Principal mitigation and enhancement

In the event that Gatwick is designated as the preferred option for airport expansion in the south east by the Airports Commission and subsequently the Government, we will embark on a comprehensive programme of engagement above and beyond the statutory requirements outlined in the Planning Act 2008.

- Prior to and during construction, we will continue to engage with the business community to ensure that they maximise the commercial opportunities associated with the construction and operation of the second runway.
- During construction, we will ensure that the community is kept regularly informed on the progress taking place on site and when the build programme reaches key milestones. We will achieve this via a dedicated website, webcam, video updates, social media interaction, educational visits, newsletters and communication via the local and national press.
- We will continue to engage local stakeholders and amenity groups once the second runway becomes operational, including through the GJLA and Gatwick Diamond.

# 15. Operational Viability

Whilst not specifically required by the Commission to be addressed through Mitigation Strategies, Gatwick believes that operational efficiency is a core element of our expansion proposals and have set out the mitigation and enhancement measures we are implementing to maximise our performance in this area.

We propose a range of mitigation and enhancement measures to meet the Commission's objective:

"To build flexibility into scheme design"

We recognise that Operational Efficiency is an important element of the Commission's 'Optimisation Strategy', which is predicated on: Airport Collaborative Decision Making (ACDM), airspace changes supporting performance based navigation and airport systems efficiency; integrated in a manner to drive tighter adherence to schedules - amongst other.

Our proposed development programme has considered the Commission's concerns described in Appraisal Framework assessment module no. 14, namely:

- To ensure individual airport and airports system efficiency;
- To build flexibility into scheme designs;
- To meet present industry safety and security standards; and
- To maintain and where possible enhance current safety performance with a view to future changes and potential improvements in standards.

Gatwick's development programme is a select mix of facilities and technology that will enable shortest possible turn-around times.

Facilities and systems that have been determined include: efficient and flexible mixed mode use of dual runway - taxiway system and stands; 'state-of-the-art' ATC Visual Control Room, apron control, CNS/ATM equipment and Airport Operational Centres.

These facilities and systems are to be integrated through the Operational Concepts of ACDM 'best practices'.

Furthermore, an important matter to note is the 'natural' advantage Gatwick R2 wide-spaced/independent operation has, in terms of enhancement to the national ATM network's overall resilience when considering the runway locations for the various topologies. Moreover, the impact localised incidents have on the capability of the overall network which stem from an airport unavailability (e.g. temporary closure necessitating diversion). Operating a distributed ATM network would reduce the impact of localised incidents and result in a national network which is more resilient to such temporary or longer term outages.

The airport has been planned to be compliant with all relevant safety and security standards.

The new Midfield terminal, inter-terminal and airfield design incorporates a wide range of innovative design and technology, as set out in the master plan. Facilities have been designed to be flexible and support new technologies, allowing for layouts to be adapted as these and other emerging technologies gain prevalence. In particular we have incorporated the following:

## SD4 Mitigation Strategies

- Innovative approach to the new terminal and pier infrastructure permitting fully flexible passenger flow, ranging from full self-service to fully staffed check-in;
- Flexible baggage operations permitting fast Minimum Connection Times for transfer passengers;
- Flexible stand and gate room designs capable of flexing to suit airline operational models;
- Flexible apron design tailored for very fast LCC turnaround time.



# 16. Our Commitment

Gatwick is committed to operating sustainably under both current and expanded operations, and our mitigation and enhancement measures reflect our established approach to working in cooperation with our stakeholders to drive forward performance enhancements and deliver benefits in line with identified stakeholder priorities.

We believe we have set out a set of measures which reinforce our ability to deliver and operate expansion consistent with our pledge to be a good neighbour, capitalising upon and continuing our current limited need for mitigation through importantly avoidance of impact but also through robust mitigation and enhancement.

We will continue to work positively with our stakeholders to identify ongoing opportunities for further mitigation and enhancement and welcome the contribution which ongoing dialogue provides in further strengthening our proposition in line with what we advocate is the most sustainable business case for expansion.