

8.93. A comparison between 2006, 2015 and 2030 is set out in the tables below:

Year	Approx Area (km ²) of Daytime Contour	Approx Dwelling Number in Daytime Contour	Approx Population in Daytime Contour
2006	2.9	141	307
2015	5.0	172	375
2030	8.1	254	561

Table 8.5 - Comparison of 2006, 2015 and 2030 Daytime Contours (57 dB L_{Aeq,16h})

Year	Approx Area (km ²) of Daytime Contour	Approx Dwelling Number in Daytime Contour	Approx Population in Daytime Contour
2006	1.0	15	34
2015	1.6	40	95
2030	2.6	141	307

Table 8.6 - Comparison of 2006, 2015 and 2030 Daytime Contours (63 dB L_{Aeq,16h})

Year	Approx Area (km ²) of Daytime Contour	Approx Dwelling Number in Daytime Contour	Approx Population in Daytime Contour
2006	0.4	0	0
2015	0.6	0	0
2030	0.9	15	34

Table 8.7 - Comparison of 2006, 2015 and 2030 Daytime Contours (69 dB L_{Aeq,16h})

8.94. The dwelling counts and population numbers within each of the contours have been inferred from current Census data analysed by postcode location (provided by CACI Ltd⁸) and, for areas close into the Airport, by an inspection of detailed Ordnance Survey maps of the area to improve accuracy.

8.95. These predictions are in line with those of the Regional Air Services Co-ordination (RASCO) Study where the number of people in the 57 dB L_{Aeq,16h} contour in 2015 was predicted to be 300 (compared to 375 here) and in 2030, 700 (compared to 561 here).

8.96. During the night period, normally defined for noise purposes as the 8 hour period from 23.00 to 07.00 hours, there are very few aircraft flights at Exeter International Airport. These are generally limited to a few Royal Mail flights each night. Night noise is often described using noise contours presented in terms of the dB L_{Aeq,8h} descriptor. Although there are no

recognised community annoyance studies relating to these contours, PPG 24 provides guidance on what night noise levels might trigger some form of noise mitigation for new housing developments built near an airport. In the case of aircraft noise, a night noise contour level of 57 dB L_{Aeq,8h} represents this threshold. Diagrams 8.22 and 8.23 show the night noise contours for Exeter International Airport both now and in the future respectively. The contours appear virtually identical since, in the future, the current situation of very few night movements will remain unchanged. It can be seen from the contour figures that the 57 dB L_{Aeq,8h} contour does not contain any properties, either now or in the future.

Mitigation Measures

8.97. It is important to consider the numbers exposed to 63 dB L_{Aeq,16h} as this is the level at which mitigation measures are often considered appropriate and Exeter International Airport commits to providing noise insulation to affected properties after 2012.

8.98. Taking account of the forecast development at the Airport, the population exposed to the moderate annoyance level, 63 dB L_{Aeq,16h}, will increase to 95 by 2015 and 307 by 2030. The population exposed to the high annoyance level, 69 dB L_{Aeq,16h}, will remain low with 0 forecast in 2015 and 34 in 2030. Exeter International Airport will introduce a night noise quota system. This will set a maximum quota by season for aircraft operating at night. This is a similar system to that adopted at other UK Regional Airports. The maximum quota levels will be set with East Devon District Council when the Airport submits its next substantive planning application. The airport will also develop and introduce a "Quiet Operations Policy" that will aim to integrate a series of actions to minimise and mitigate noise generation and annoyance. This will include a commitment to phase out high end chapter 3 aircraft, procedures, targets and monitoring. Whilst the Airport is not designated by DEFRA and has not been required to produce a noise reduction plan, the Quiet Operations Policy will incorporate the requirements of a noise reduction plan.

Ground Noise

8.99. Ground noise is commonly defined as noise produced by aircraft activities and use of ancillary equipment on

⁸ a leading provider of marketing solutions and information systems



the ground, that is, by sources other than by aircraft in flight, taking off or landing. Sources of ground noise include:

- Taxiing and manoeuvring aircraft;
- Aircraft Auxiliary Power Units (APUs);
- Testing of aircraft engines (ground running); and
- Mobile ground equipment, e.g. Ground Power Units (GPUs)

8.100. Airport ground noise should be considered in the context of off-airport noise sources, or background noise. The most dominant contributor to the noise climate in the residential areas surrounding the Airport is road traffic. Airport ground noise will be audible at locations close to the Airport boundary and in areas beyond where background noise levels are low.

Current Impacts

8.101. The running of aircraft engines at high power levels for test and maintenance purposes currently gives rise to noticeable levels of ground noise around the vicinity of the Airport and this activity has produced some complaints from local residents.

8.102. Ground running, at low and high power levels, is undertaken for test and maintenance purposes only on an intermittent basis during the daytime. High power ground running takes place exclusively in the engine ground running area currently located to the north of the airfield, while low power ground running can take place here or on apron stands. The use of APUs and aircraft taxiing also generates ground noise.

8.103. Clyst Honiton has been exposed to maximum noise levels in the region of 65 dB – 67 dB L_{Amax} during high power ground running by a Dash 8-Q400 or BAe-146 aircraft on the taxiway to the west of the airfield. The newly constructed engine test facility has now relocated the site of testing further away from Clyst Honiton thereby reducing noise impacts. Evaluated on a daily basis, the average noise exposure lies in the region of 50 to 55 dB $L_{Aeq,16h}$. These noise levels lie well inside recognised daytime environmental noise limits.

Forecasts

8.104. In future the general mix of aircraft is expected to remain similar to today, with a large proportion of small twin turbo-prop aircraft in use together with a mix of small and medium-sized turbofan aircraft. These operations will continue to be confined to daytime hours with no ground running permitted to take place between the hours of 23.00 to 06.30 unless operationally essential.

8.105. Ground running noise in 2015 and 2030 can therefore be estimated by assuming a similar mix of aircraft in operation in the context of the expected increases in air transport movements. On this basis, the maximum noise levels generated around the area are likely to remain largely the same. Noise exposure levels will however increase over time as movement numbers



increase, although these will remain within recognised daytime environmental noise limits in the foreseeable future.

- 8.106. Overall ground noise levels will therefore rise by 2030 but are not expected to exceed recognised daytime environmental noise limits at the closest noise sensitive receptors around the Airport, particularly with planned noise mitigation measures.

Mitigation Measures

- 8.107. Noise bunds or pen (natural barrier) will be developed to act as a shield to communities close to the airport and to relocate the engine test facility.
- 8.108. Unscheduled ground running occurs on rare occasions at night as a result of exceptional circumstances.

Road Traffic Noise

- 8.109. The A30 trunk road that provides the primary route to the Airport is heavily used, carrying around 35,000 to 40,000 vehicles per day. However, less than 10% of this traffic uses the junction serving the Airport.
- 8.110. Therefore, while Implementation of Master Plan proposals would generate additional road traffic on the local and trunk roads around the Airport, additional airport traffic attracted to the A30 will, up to 2030, have a negligible effect on the locality. Natural growth of traffic along this road will occur alongside any intensification due to the Airport development.
- 8.111. Regarding the local roads serving the Airport, existing traffic flows already produce high noise levels at those few dwellings located close to the Airport feeder road. These noise levels are expected to increase by 2 - 3 dB by 2030. These changes will be of minor to moderate significance for the dwellings affected.

Noise Control Measures

Operation Hours

- 8.112. Whilst the Airport is operational for 24 hours per day, few flights are between 23.00 hours and 02.00 hours, and then only on Monday to Friday. These night flights occur on behalf of Royal Mail with some night charter flights.
- 8.113. Ground running of aircraft engines for test and

maintenance purposes is an essential part of aircraft maintenance. Unless it is operationally essential, no ground running is permitted to take place between the hours of 23.00 to 06.30 seven days a week.

Preferential Routes

- 8.114. Noise preferential routes have been developed to ensure that departing aircraft fly along corridors over those areas that are least populated as far as is practicable.

Monitoring and Accountability

- 8.115. All local noise related incidents are monitored by Airfield Operations. In addition, the Airport's Consultative Committee includes representatives from local parish, district and city councils and meets regularly to discuss environmental and noise issues. The noise issues sub-group meets regularly and minutes for both groups are made available to the public and will also review unscheduled and "out of hours" operationally essential engine ground running.

Air Quality

Key Points

- 8.116. In general, air quality within the vicinity of Exeter International Airport is good. The local authority has not been required to designate any part of the locality as an Air Quality Management Area.
- 8.117. The expansion of the Airport is not expected to jeopardise the continued achievement of the Government's air quality strategy objectives, with passenger and ATM's staying well below the levels where more detailed assessment is required.
- 8.118. Increases in road traffic are also not expected to have a significant impact on air quality.
- 8.119. Analysis shows that in terms of carbon dioxide emissions, the expansion of Exeter International Airport as a means of meeting additional passenger demand from the region is preferable to channelling passengers to airports outside the region.

Emissions Affecting Air Quality

Sources of Emissions

- 8.120. Aircraft and aircraft support activities are the principal source of atmospheric emissions at airports: emissions from sources such as airport buildings are minor by



comparison. Aircraft emissions arise from take-off, landing and taxiing; aircraft support emissions are generated by ground support vehicles and airside support vehicles, aircraft engine testing and refuelling operations. Road traffic resulting from travel to and from the Airport is the other main source of emissions.

Chemical Composition

- 8.121. Emissions from aircraft and aircraft support activities principally comprise oxides of nitrogen, carbon monoxide, non-methane volatile organic compounds (NMVOCs), fine particulate matter (PM₁₀), and sulphur dioxide. Traffic-related emissions include oxides of nitrogen, carbon monoxide, benzene, 1,3-butadiene and PM₁₀.
- 8.122. Of these pollutants, only nitrogen dioxide and PM₁₀ are likely to have the potential to exceed mandatory air quality limits in the vicinity of an airport.

Regulatory Framework

- 8.123. The Government has set Air Quality Strategy Objectives to limit the impact of atmospheric pollutants on human health and the environment. Ensuring compliance with the Air Quality Strategy Objectives is the responsibility of local authorities through the Local Air Quality Management (LAQM) system, introduced by the Environment Act 1995.

- 8.124. Since then, local authorities are required periodically to assess current and predicted air quality within their jurisdiction. If an objective is unlikely to be achieved, local authorities must designate the relevant locations as Air Quality Management Areas (AQMAs) and work towards ensuring that the target is met.

Air Quality at Exeter International Airport

- 8.125. The latest formal assessment of air quality in the vicinity of Exeter International Airport was the Updating and Screening Assessment (USA), undertaken and published by Bureau Veritas on behalf of East Devon District Council (EDDC) in June 2006. The USA provides data on the current levels of pollutants in the area and considers the likelihood that air quality limits could be exceeded in the future.
- 8.126. In general, air quality within the district and in the vicinity of the Airport is good and no AQMAs area have been declared. The only areas of concern are close to busy road junctions at Sidford Cross, Clyst St Mary Roundabout and Honiton. However, these locations are not significantly influenced by operations at the Airport.



Implications of Airport Expansion

- 8.127. Guidance produced by DEFRA⁹ indicates that emissions from large airports can have a detrimental effect on local air quality. A detailed assessment of the effects of nitrogen dioxide is required where more than 5 million passengers per annum (mppa) are predicted; for PM10 the threshold is 10 mppa, reflecting the respective significance of each pollutant.
- 8.128. At Exeter International Airport, projected passenger throughputs in 2015 and 2030 do not exceed these threshold values. It is therefore very unlikely that there will be breaches of air quality strategy objectives.
- 8.129. In addition to the DEFRA guidance, the Department of the Environment, Transport and the Regions (DETR) commissioned a study of the impact on air quality around airports under various growth scenarios¹⁰ as part of the development of the Air Transport White Paper.
- 8.130. In the case of Exeter International Airport, passenger numbers of 4.5 mppa in 2030 were assumed (significantly higher than the numbers we are predicting). The study concluded that there was no need to proceed to detailed modelling as it was unlikely that air quality strategy objectives would be breached. We subsequently applied the DETR's methodology to show that a throughput of 2 mppa in 2015 would lead to the same result.

Road Traffic Emissions

- 8.131. Environmental assessments undertaken for other planned developments in the vicinity have taken into account traffic associated with expansion of the Airport. All concluded that there will be no breaches of air quality strategy objectives resulting from the cumulative effect of the schemes.

Reduction in Carbon Dioxide Emissions

- 8.132. Exeter International Airport has assessed the reduction in carbon dioxide emissions that could occur from passengers using the Airport in preference to those outside the region. The maximum saving of carbon dioxide - assuming all additional passengers above the current airport capacity of 1mppa would otherwise travel from airports outside the South West - is estimated to

be approximately 7,700 te/annum in 2015 and 22,500 te/annum in 2030.

- 8.133. We have drawn on data provided by Flybe to put these savings in a wider context: they are equivalent to approximately 10% of the aircraft-related emissions associated with the additional passenger movements.
- 8.134. It in terms of carbon dioxide emissions, therefore, the expansion of Exeter International Airport as a means of meeting additional passenger demand is clearly preferable to channelling passengers to airports outside the region.

Ecology

Key Points

- 8.135. Exeter International Airport has commissioned research, which has shown that the area around the Airport provides habitats for a number of protected species.



- 8.136. Where appropriate, Natural England disturbance licences will be obtained prior to the start of any major developments.

- 8.137. An Ecology survey of Exeter International Airport and the mainly agricultural land that surrounds it (500m study area) was carried out during August and October 2007 by independent qualified ecologists and on the land to the South East of the Airport in early 2009. The work was undertaken in accordance with the best practice guidelines of the Institute of Ecology and Environmental Management (IEEM).

⁹ Local Air Quality Management. Technical Guidance LAQM. TG(03)

¹⁰ AEAT/R/ENV/0322 Issue 2



8.138. The aim of the survey was to record broad habitat types and the likely presence of any protected species on the site or within the wider study area.

8.139. The field survey drew on Phase 1 methods, described in the Handbook for Phase 1 Habitat Survey (JNCC 1990). Habitat types were identified using standard definitions; each habitat was then mapped and notes were taken on the plant species present. In addition, a record was made of any signs of notable/statutory-protected species that were encountered during the survey.

8.140. This initial habitat identification survey identified the presence of the following notable habitats and notable/statutory protected species:

- An active badger sett identified in the northern part of the site;
- Potential bat roosting habitat in buildings and trees within the Airport;
- Adders, skylark; and
- A number of species-rich hedgerows across the survey area.

8.141. It was also noted that there is suitable aquatic and terrestrial habitat for the great crested newt within the survey area but none were found.

8.142. There is a Special Area of Conservation and two Special Protection Areas within 10km of the Airport. Future major planning applications will if appropriate include an assessment of likely impact on these areas.

8.143. As part of our Environmental Management Strategy, Exeter International Airport will develop conservation policies that detail our ecological and landscape commitments as well as the production of a bio diversity action plan.

Landscaping at Exeter International Airport

8.144. Exeter International Airport recognises the importance and value of the landscape character in which the Airport is situated, demonstrated by the range of landscape and conservation designations throughout the Devon Redlands area and surrounding countryside.

8.145. We also recognise that the impact of any new development to the landscape can have both positive and negative effects. Changes to key characteristics such as established planting, old buildings or structures can be detrimental, but alternatively careful development can prove beneficial where existing features are actively maintained or new landscape structure is established where none currently exists. By taking a positive and proactive approach to landscape management and working closely with others, Exeter International Airport will aim to ensure that the Airport's future development reflects the landscape values of its location.

8.146. The development options set out in the Master Plan are consistent with the existing airport landscape characteristics. Whilst the landscape character area will be influenced by the proposals, no key features will be lost as a result of the proposed developments and we will seek to restore and enhance landscape and natural habitat wherever possible. A site-specific landscape management plan will be prepared and applied to address the long term objectives for the Airport's development. This will take into account the various influences and factors upon the Airport's external environment, including natural, physical, social, cultural and sustainability issues.

Biodiversity

8.147. Biodiversity can be positively influenced through considered landscape management and Exeter International Airport will incorporate biodiversity aims within the Airport's development programme to ensure that valued habitats are established and maintained for



the long term. We will seek to use native species in our landscaping programme to integrate the site with its surroundings and improve ecological value.

- 8.148. The risk of bird strike is however highlighted as a serious issue and a risk that must be minimised throughout the Airport's development and operational programme and development on adjoining land. The landscape management programme will therefore address all relevant aspects in order to mitigate this risk where prevalent, including management of grassed areas and trees to discourage bird nesting and locating new wildlife habitats away from airside areas.

Mitigating Visual and Noise impacts

- 8.149. Potential receptors of noise, visual and light impacts associated with the Airport's ground operations have been identified to include nearby residential properties, commercial premises and adjacent roads. Whilst the predicted significance of these impacts is minor, landscape management can have a positive role in mitigating any negative effects. We will seek to minimise these potential impacts through sensitive site layout, screening and lighting management, also taking into account the future impacts upon the significant developments that are planned for the sites surrounding the Airport. Future planning applications will make provision for screening of airport activities.

Public Areas

- 8.150. As an important transport gateway for both Devon and the South West, Exeter International Airport will ensure that the management of the Airport's external environment and appearance creates a positive customer experience and perception of both the Airport and surrounding area. Public spaces and facilities will be well maintained and designed to ensure good access and circulation throughout the site. Hard landscaping features such as paving, lighting and seating will be designed to ensure a compatible and co-ordinated approach, using local and natural materials wherever possible. The health and safety of all airport users and site security are imperative and these will be integral considerations in the future design and management of the Airport's working environment.



8.2 Surface Access

Airport Surface Access Strategy

8.151. In common with other airports, Exeter International Airport is required to develop an Airport Surface Access Strategy (ASAS) and to establish an Airport Surface Access Forum. The aim is to set out the short and long-term targets for reducing the number of car journeys to the Airport and to promote policies to increase the usage of public transport for both passengers and employees. It is a specific requirement of the South West Regional Spatial Strategy for Exeter International Airport to develop a sustainable surface access strategy.

8.152. The objectives of the Exeter International Airport Surface access strategy are;

- To increase the ease of access to the Airport by public transport;
- To ensure that there is adequate, reasonably-priced car parking to minimise the number of 'dropped off cars' at the terminal to reduce trip generation;
- To work with local agencies to support the development of a sustainable integrated transport plan; and
- To develop a green travel plan for airport staff.

Exeter International Airport

8.153. The benefits to the environment and local community can be summarised as:

- Reductions in car use, reducing congestion and air pollution; and
- Ensuring that the communities close to the Airport can benefit from better public transport.

8.154. Exeter International Airport has excellent road access, being located adjacent to both the A30 and M5 and being only 5 miles from Exeter's city centre. The road to the Airport from the A30 is the B3184, this road is single carriageway and provides access to the Airport and the adjacent light industrial areas.

8.155. Consultation documents, produced for the Government's White Paper on Air Transport confirm that the forecast airport and background traffic flows will not result in congestion on the major traffic routes in the area by 2030; the Airport's traffic is estimated to account for no more than 10% of traffic flows.

8.156. The Civil Aviation Authority survey carried out in the summer of 2007 confirmed that the main capture area for Exeter International Airport is the South West region and in particular Devon County (68%).

8.157. Exeter International Airport works closely with Devon County Council on all transport issues related to the Airport developments. A Transport Assessment (TA) will accompany planning applications for major airport development proposals.

Regional Policy

8.158. The current "Regional Planning Guidance for the South West" (RPG10) was published in September 2001. The Regional Assembly's Integrated Regional Strategy provides an overarching context for all regional strategy development, and this, along with the emerging Spatial Strategy and Transport Strategy, provide the regional context for the transport strategy for Devon. Regional Planning Guidance for the South West (RPG10) provided the framework for the Devon Structure Plan (2001 to 2016) which was adopted in October 2004.

