

LONDON SOUTHEND AIRPORT

NOISE ACTION PLAN

NOVEMBER 2018

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EXECUTIVE SUMMARY

This Noise Action Plan has been prepared in accordance with EU directives and Department for Environment and Rural Affairs (Defra) guidelines. It is the third Noise Action Plan for London Southend Airport and is based on and presents Noise Mapping prepared by Defra for 2016 as required by the guidelines.

The draft version of this Plan was presented to the Southend Airport Consultative Committee for comments in May 2018, and has now been finalised for submission to Defra, with adoption anticipated by the end of 2018.

When permission was granted in 2010 for a runway extension at Southend Airport, London Southend Airport Company Ltd (LSACL) entered into an extensive Section 106 legal agreement with Southend-on-Sea Borough Council, Rochford District Council and Essex County Councils. This put in place a comprehensive set of long term measures and controls on various aspects of the airport operations, including to manage and limit noise from aircraft operations. These noise measures and controls continue today and include:

- An annual limit on the number of flights that can be operated
 - Limits on the number of night flights
 - Restrictions on noisier aircraft
 - Restrictions on engine testing
 - Departure preferential routes and a runway operational preference to reduce operations over more populated areas
 - Monitoring of noise and track keeping
 - Property purchase and noise insulation grant schemes
- In addition, noise abatement procedures are published in the UK Aeronautical Information Package for the airport.

This Action Plan aligns with the Section 106 legal agreement and the established noise abatement procedures.

The type and character of aircraft activity at the airport has evolved since the previous Noise Action Plan and strategic noise mapping was prepared in 2011. This is in large part due to the development that has occurred at the airport since 2011. This includes the growth of the airport that has been facilitated by the runway extension, as well as significant investments in the new passenger terminal, airport rail station, airfield stands and taxiways and numerous other facilities.

The strategic mapping from 2011 was based on the airport handling 25,470 aircraft movements - which were mainly from flying clubs and general aviation - and serving at that time only 42,439 passengers. The latest strategic noise mapping exercise presented in this Plan is for the year 2016, when the airport handled 870,000 passengers, but slightly fewer aircraft operations (23,449) but of these 9,201 were passenger air transport movements utilising small to

medium size commercial passenger aircraft facilitated by the runway extension and other investment. This means that the noise impacts of the airport in 2016 is shown to have increased compared to the previous mapping exercise. Despite this no local residents are exposed to noise levels that exceed thresholds regarded as unacceptable.

LSACL is committed to minimising noise from the airport's operations, and will continue to explore options for further measures consistent with the ambition for LSA to be a successful regional airport, key economic driver for the local and regional economy and gateway to London and Europe.

INTRODUCTION

1. This Noise Action Plan (NAP) has been prepared in accordance with the Environmental Noise (England) Regulations 2006 (as amended) (the “Regulations”). These Regulations transposed the EU Environment Noise Directive (2006/93), known as END, relating to the assessment and management of environmental noise into UK legislation and make the preparation of a Noise Action Plan for a number of different noise sources, including airports, a legal requirement.
2. The Government, through the Department for Environment, Food and Rural Affairs (Defra), issued updated Guidelines in July 2017 to airport operators to explain how to prepare updated Noise Action Plans. This is the third Noise Action Plan for London Southend Airport (LSA). The Guidelines are detailed and airport operators must have regard to them in drawing up their NAPs. The sections in this Noise Action Plan follow those suggested in the Guidelines.
3. The Guidelines also outline the requirements for consulting on the draft plans.
4. Consultation on this draft Plan took place with LSA’s Airport Consultative Committee in May 2018. The draft Plan was presented to and shared with the committee at its meeting on 9th May 2018 and committee members were invited to respond within a 4 week period. The chairman of the Consultative Committee has confirmed no comments were received from the ACC members. The Plan has now therefore been finalised for submission to Government for approval.
5. As required by the guidelines the noise mapping on which this Noise Action Plan is based is for the year 2016, when the airport handled 870,000 passengers and 23,449 air transport movements.
6. To aid comparison with previous mapping the tables set out in this report include the results of the strategic noise mapping presented in the earlier NAPs.

THE AUTHORITY RESPONSIBLE

7. As defined in the Guidelines, the Authority responsible for preparing this Noise Action Plan is London Southend Airport Company Ltd, part of the Stobart Group.

THE LEGAL CONTEXT

8. Action Plans are a legal requirement under Directive 2002/49/EC relating to the Assessment and Management of Environmental Noise. This Directive is commonly referred to as the Environmental Noise Directive or END3. The requirements of the END are transposed in the Environmental Noise (England) Regulations 2006 as amended (“the Regulations”).
9. The END requires Member States to produce strategic noise maps for the main sources of environmental noise, i.e. major roads, major railways, major airports and agglomerations every five years.

10. Action Plans must be drawn up by the airport operators and be based on the results of the noise mapping. The Regulations also require the Action Plans to be reviewed at least every five years and revised if necessary and whenever a major development occurs affecting the existing noise situation.

DESCRIPTION OF THE AIRPORT AND PLANS FOR FUTURE GROWTH

11. LSA lies immediately to the north of Southend-on-Sea. Rayleigh lies to the west of the airport. Rochford lies to the northeast of the airport site. The Thames estuary lies on the other side of Southend-on-Sea to the south of the airport site. The runway is aligned southwest-northeast.
12. In 2011, all terminal, aprons, cargo buildings and airside facilities were situated on the south side of the airport, with the exception of the maintenance area which is situated on land to the north of the runway. As a result of the investment in the airport that has occurred since 2011 the main passenger terminal and aircraft stands are now located on the airport's east side in close proximity to the new railway station on the London Victoria to Liverpool Street mainline railway.
13. The runway, with compass bearings of 050° and 230° (Runway 05 and 23) was extended to the south west in 2012 and is now 1,799 m long. A northwest-southeast taxiway crosses the runway and serves all airside facilities.
14. CAA airport statistics show that in 2016 LSA had 23,449 aircraft movements, of which 9,201 were air transport movements and served 870,000 passengers.
15. Details of aircraft operations, including traffic distribution by aircraft type, flight tracks, dispersion, flight profiles and traffic distribution by route for are given in the Strategic Noise Mapping Report¹.
16. Actual numbers of passengers and aircraft movements for 2011 and 2016 are shown in Table 1.

Table 1: Actual and Forecast Activity

Type	2011 Actual	2016 Actual
Passengers	42,439	870,000
Aircraft movements	25,470	23,449

17. It may be noted that since 2016 airport's passenger and aircraft traffic has continued to grow. For the calendar year ended December 2017 the airport served some 1,092,391 passengers and 26,674 air traffic movements.
18. In terms of plans for further growth, it is relevant to note that when permission was granted in 2010 for the runway extension, the air traffic forecasts prepared in support of the planning application predicted that passenger throughput would grow to serve 2mppa by 2020 and that air traffic movements would be 53,300 per year. LSA expects to handle this level of passenger throughput in the next 2 years, albeit now with fewer

¹ Southend Airport Strategic Noise Mapping Report 2016 – Bickerdike Allen Partners (April 2017)

than the 53,300 air transport movements that it predicted would occur in 2020.

19. During the first half of this NAP period, LSA intends to commence the process of reviewing its forecasts, in order to update its plans for how the airport is expected to grow over the next 5 - 10 years into the 2020s, and the economic and environmental impacts of further growth in the years ahead.
20. This NAP is based on the current controls and anticipated further actions that are proposed to be taken irrespective of any further growth.

NATIONAL POLICY

Aviation Policy Framework

21. The Aviation Policy Framework was published in March 2013 and contains a section on noise which includes reference to Noise Action Plans.
22. It sets out the Government's overall objective on aviation noise:
"to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise"
23. The APF focuses on the benefits of aviation and its environmental impacts and frames national policy to strike a balance between the two. The APF seeks to integrate aviation noise policy contextually with other Government policies for land use planning in the National Planning Policy Framework (NPPF) and the promotion of good health and good quality of life through the management of noise in the Noise Policy Statement for England (NPSE).
24. The APF supports making best use of existing airport capacity as part of a strategy to promote a vibrant aviation sector (para. 1.24, para1.60 and other references).
25. In seeking to minimise the impact of aircraft noise, airports are bound by the Government's regulatory framework, which follows the agreed principles set out by the International Civil Aviation Organisation (ICAO), known as the 'balanced approach'. In summary the 'balanced approach' requires the consideration of the contribution to noise amelioration that can be made by each of the following measures:
 - reducing aircraft noise at source;
 - land-use planning and management;
 - noise abatement operational procedures; and
 - restrictions on the use of the noisiest aircraft.

Beyond the Horizon - The Future of UK Aviation

26. In July 2017 the Government commenced the process for reviewing the Aviation Policy Framework by publishing a 'call for evidence' for a revised national aviation strategy. In April 2018 the Government confirmed that it expects to publish a Green Paper for consultation in Autumn 2018 and to

then finalise the revised National Aviation Strategy policy in the first half of 2019.

Making Best Use of Existing Runways

27. In June 2018, alongside the publication of the Airports National Policy Statement setting out the Government's support for a 3rd runway at Heathrow, the Government published its policy on making best use of existing runways at other airports. This confirms that the Government is supportive of airports, beyond Heathrow, making best use of their existing runways.

The Noise Policy Statement for England

28. The Noise Policy Statement for England (NPSE) of March 2010 states the long-term vision of Government noise policy is to "promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development".
29. The long-term vision is supported by the following aims; through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:
- Avoid significant adverse impacts on health and quality of life;
 - Mitigate and minimise adverse impacts on health and quality of life;
 - Where possible, contribute to the improvement of health and quality of life.
30. The intention is that the NPSE should apply to all types of noise apart from noise in the workplace (occupational noise). For the purposes of the NPSE, "noise" includes:
- "environmental noise" which includes noise from transportation sources;
 - "neighbour noise" which includes noise from inside and outside people's homes; and
 - "neighbourhood noise" which includes noise arising from within the community such as industrial and entertainment premises, trade and business premises, construction sites and noise in the street.
31. The NPSE introduced the concepts of the Significant Observable Adverse Effect Level (SOAEL) and the Lowest Observable Adverse Effect Level (LOAEL) to draw the distinction between those noise levels that should be avoided (above SOAEL) and those that should be minimised (above LOAEL), all in the context of Government policy on sustainable development. Recent government research (the SONA 2014 report) indicates that the LOAEL is at Leq 16 hour 51dB and recent airport planning decisions agree that the SOAEL is at Leq 16 hr 63dB.

The National Planning Policy Framework

32. The National Planning Policy Framework (NPPF) was published in March 2012 and replaced a number of guidance notes including Planning Policy Guidance Note 24 - Planning and Noise. However, the NPPF does not

include specific guidance on development control in areas affected by aircraft noise and this is now left to local authorities.

33. The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.
34. The NPPF provides Government's policies to promote sustainable development and sets out that the purpose of the planning system is to contribute to the achievement of sustainable development. Sustainable development includes three dimensions: economic, social and environmental, and thus, when planning decisions are made to increase capacity, the process requires weighing the relative balance of these three factors.
35. With reference to airports, the NPPF states:

"When planning for ports, airports and airfields that are not subject to a separate national policy statement, plans should take account of their growth and role in serving business, leisure, training and emergency service needs. Plans should take account of this Framework as well as the principles set out in the relevant national policy statements and the Government Framework for UK Aviation." (Para. 33)

LOCAL POLICY FRAMEWORK

36. The local policy framework for development of the LSA is set out in the development plans of Southend-on-Sea Borough Council and Rochford district Council.
37. In December 2014 the two councils adopted London Southend Airport & Environs Joint Area Action Plan (JAAP)
38. This was prepared in response to the challenges and opportunities offered by London Southend Airport and includes plans for an airport related employment development to the north of the airport
39. The Plan is intended to integrate land use, transport, environmental and regeneration proposals with clear mechanisms for delivery.
40. The JAAP provides the basis for coordinating the actions of a range of partners with an interest in the airport and the surrounding environs, and establishes planning policies up to 2031 and beyond.
41. The JAAP contains a number of policies for the airport including:
 - supporting the growth of the airport to a capacity of 53,300 air traffic movements (Policy LS1)
 - Support proposals for further development at the airport provided the proposals address issues such as noise (Policy LS2)
 - Supporting expansion of the passenger terminal (Policy TF1)
 - Supporting application for Aircraft Maintenance Repair and Overhaul proposals within identified areas of the airport (Policies MRO1, 2 and 3)
42. The JAAP includes a summary of the environmental controls schedule based on those contained in the S.106 Agreement.

EXISTING NOISE LIMITS

43. Noise at Southend Airport is limited by three regulations: the lease; planning conditions / S106 Agreement obligations; and noise abatement procedures. Details of the limits imposed by each of these regulations are set out later in this Noise Action Plan under the heading Existing and Future Noise Reduction Measures.

The Lease

44. Southend Airport is held on a 150 year lease from Southend-on-Sea Borough Council from 1994. The lease was amended in 2012 to include the land containing the runway extension.

Planning Conditions and S.106 Agreement

45. When permission was granted for the runway extension a Section 106 agreement was entered into with Southend-on-Sea Borough Council, Rochford District Council and Essex County Councils. This put in place a comprehensive set of measures and controls on various aspects of the airport operations, including to control and limit noise from aircraft operations.
46. This includes a limit on the number of aircraft movements of 53,300 per year, including a cargo movement limit of 5,330 per year. There is also a limit on the number of night flights (in the hours 2300 to 0630) of 120 per month and limits on the types of operations permitted at night.
47. Planning conditions also apply to other developments that have taken place at the airport, such as the new terminal, but these do not impose operational limits.

Noise Abatement Procedures

48. Noise abatement procedures are published in the UK Aeronautical Information Package (AIP) for Southend Airport, which can be found at http://www.nats-uk.eadit.com/public/index.php%3Foption=com_content&task=blogcategory&id=137&Itemid=186.html

SUMMARY OF THE RESULTS OF 2016 NOISE MAPPING

49. The Strategic Noise Mapping contours prepared by Defra for 2016 are reproduced at Appendix A. The estimated total number of dwellings and people exposed above various noise levels in 2016, derived from the strategic mapping of noise are shown in Tables 2 to 6 below.
50. For comparison, the figures from the previous mapping for 2006 and 2011 are shown in the tables.
- L_{den} (24 hour) - Table 2
 - L_{day} (12 hour 0700-1900) - Table 3
 - $L_{evening}$ (4 hour evening 1900-2300) - Table 4
 - L_{Aeq16h} (16 hour daytime 0700-2300) - Table 5
 - L_{night} (8 hour night 2300-0700) - Table 6

51. For the 24 hour period the unit is a L_{den} for the whole 24 hour period but includes weightings depending on when during the 24 hour period the noise occurs. If the noise is during the 12 hour day there is no adjustment, but if it is during the evening a weighting of +5 dB(A) is added, and if it is at night a weighting of +10 dB(A) is added. The unit is therefore biased to respond to the more and most sensitive times.
52. To compute the noise contours, each period is considered separately and a L_{Aeq} determined for it. The weightings are then added to the evening and night L_{AeqS} and then the L_{AeqS} for the three periods are added together taking into account the period durations. In movement terms the effect of the weightings is equivalent to more than trebling the number of movements during the evening and multiplying by ten the number of movements at night.
53. The number of dwellings has been rounded to the nearest 50, except when the number of dwellings is greater than zero but less than 50, in which case the total has been shown as "< 50".
54. The associated population has been rounded to the nearest 100, except when the associated population is greater than zero but less than 100, in which case the total has been shown as "< 100".

Table 2: Dwellings and People in Noise Contour Areas - L_{den} (24h Period): 2006, 2011 and 2016

Contour Level (dB L_{den})	Number of Dwellings			Number of People		
	2006	2011	2016	2006	2011	2016
≥55	2,100	400	1,000	4,800	1,000	2,200
≥60	200	<100	50	400	100	100
≥65	<50	<100	<50	<100	<100	<100
≥70	0	0	0	0	0	0

Table 3: Dwellings and People in Noise Contour Areas - L_{day} (12h Period): 2006, 2011 and 2016

Contour Level (dB L_{day})	Number of Dwellings			Number of People		
	2006	2011	2016	2006	2011	2016
≥54	2,500	1,000	1500	5,700	2,200	3,400
≥57	950	200	400	2,200	500	900
≥60	150	<100	50	300	200	100
≥63	<50	<100	<50	<100	<100	<100
≥66	<50	<100	<50	<100	<100	<100
≥69	0	0	0	0	0	0

Table 4: Dwellings and People in Noise Contour Areas - $L_{evening}$ (4h Period): 2006, 2011 and 2016

Contour Level (dB $L_{Aeq,4h}$)	Number of Dwellings			Number of People		
	2006	2011	2016	2006	2011	2016
≥54	350	<100	300	800	100	700
≥57	50	<100	<50	100	<100	<100
≥60	50	<100	<50	<100	<100	<100
≥63	0	0	0	0	0	0

Table 5: Dwellings and People in Noise Contour Areas - $L_{Aeq,16h}$ (16h Period): 2006, 2011 and 2016

Contour Level (dB $L_{Aeq,16h}$)	Number of Dwellings			Number of People		
	2006	2011	2016	2006	2011	2016
≥54	1,950	700	1,100	4,400	1,500	2,500
≥57	650	200	250	1,400	300	600
≥60	100	<100	50	200	100	100
≥63	<50	<100	<50	<100	<100	<100
≥66	<50	<100	0	<100	<100	0
≥69	0	0	0	0	0	0

Table 6: Dwellings and People in Noise Contour Areas - L_{night} (8h Period): 2006, 2011 and 2016

Contour Level (dB $L_{Aeq,8h}$)	Number of Dwellings			Number of People		
	2006	2011	2016	2006	2011	2016
≥48	950	<100	150	2,200	<100	300
≥51	150	<100	50	300	<100	100
≥54	<50	<100	<50	<100	<100	<100
≥57	<50	0	0	<100	0	0
≥60	0	0	0	0	0	0

55. The only noise sensitive premises within the noise contours is the Avro Adult Training Centre. The nearest contours for this are set out in Table 7 below. As this is a non-residential training establishment only the daytime contours are noted.

Table 7: Noise levels at Noise Sensitive Premises 2016

Premises	L_{day}	L_{Aeq16h}
Avro Adult Training Centre, Avro Road, SS2 6UX	60 - 63	57 - 60

IDENTIFICATION OF PROBLEMS AND SITUATIONS THAT NEED TO BE IMPROVED

56. The DEFRA Guidance recommends that Airports should consider whether any action is required based on a number of considerations, including as a first priority action to be taken where residential properties are exposed to noise levels more than 69 dB $L_{Aeq,16h}$ contour.
57. Consideration should also be given to any wider considerations from the numbers exposed to noise at different times of the day and night, noise complaints and issues raised by consultative committees.
58. It can be seen from Table 4 above, there are no people within the 69 dB $L_{Aeq,16h}$ contour or the 66dB $L_{Aeq,16h}$ contour.
59. In respect of noise complaints, for the year relating to the Strategic Noise Mapping (2016), there were **283** complaints relating to aircraft movements at Southend Airport. However, **121** of these (43%) were from one individual.
60. Further details on noise complaints is set out later in this Action Plan.
61. The DEFRA Guidance does not require acoustic insulation to be offered to households exposed to a particular level of noise, but the Airport operates a scheme to offer sound and thermal insulation to properties within the 63dB $L_{Aeq,16h}$ contour. As noted in Table 5 above, there were less than 50

such dwellings in 2016. Details of the scheme are set out later in this Action Plan under the heading Existing and Future Noise Reduction Measures.

MEASURES TO LIMIT AND REDUCE AIRCRAFT NOISE AT SOUTHEND AIRPORT

62. LSACL considers that it has a full and comprehensive range of noise management measures in place. These measures, which derive from the Section106 agreement on the 2010 planning permission for the airport's runway extension, cover limits on the number and types of aircraft, operational procedures, mitigation and compensation schemes and monitoring and reporting.
63. The following table summarises these measures and considers the benefits they bring.

Table 8: Noise Measures

	TITLE	SUMMARY OF MEASURE AND BENEFIT	People Affected
1	Limits on aircraft movement numbers	Total aircraft movement numbers capped at 53,300 per annum (excluding emergency flights, military flights, Government business flights or police flights). Within the above total number of aircraft movement there is a further limit on dedicated cargo aircraft movements of 5,330 per annum, or 10% of the total number of aircraft movements.	As a result of this measure the population exposed to noise ≥ 57 dBA _{Leq} during the 16 hour day should not exceed c. 3,800 (based on population in this contour area in 2008)
2	Limits on movements by noisier aircraft types	Total aircraft movements by Boeing 737-300 aircraft shall not exceed 2,150 per annum. With the exception of a maximum of 60 QC4 ¹ aircraft movements permitted per year per in connection with aircraft maintenance operations during the daytime hours (0630-2300 hrs) no aircraft with a noise level exceeding QC2 ¹ shall take off or land at any time, unless they are emergency flights, military flights, Government business flights or police flights, maintenance flights or diversions.	This measures limits the number of movements by noisier aircraft types. For example it is estimated that the 90dB(A) single event level (SEL) noise footprint of a Boeing 737-300 on departures ranges from 1,200 to 1,450 people on Runway 05 and 8,900 to 9,150 people on Runway 23 depending on the route flown.
3	Night flight restrictions	120 aircraft movements are permitted per month during the defined night time period (2300-0630hrs local time). Within the maximum allowance of 120	This measure limits the number of movements at night and limits night movements to quietest aircraft types - thereby

	TITLE	SUMMARY OF MEASURE AND BENEFIT	People Affected
		<p>aircraft movements a maximum of 90 passenger flights per month may be scheduled to arrive between 23:00 and 23:30 local time.</p> <p>No passengers flights permitted to take off during the night period except in specifically prescribed circumstances.</p> <p>No aircraft with a noise level exceeding QC1 nor any helicopter shall take off or land during Night Time Hours unless they are emergency flights, military flights, Government business flights, police flights or flights of QC exempt aircraft.</p>	reducing the risk of sleep disturbance.
4	Runway operational preferences during the day and night	<p>During the night quota period (2300-0630hrs local), when weather and safety conditions allow, there is a runway preference arrangement for aircraft to land from the North East (on Runway 23) and take off to the North East (on Runway 05). This will ensure that flying activity will minimise any nuisance to densely populated areas during night hours.</p> <p>During the Day Time period, when weather and safety conditions allow and movement volumes allow, the airport also operates a runway preference arrangement, where aircraft will land from the North East and take off to the North East. During a calendar year no more than 50% of all aircraft movements will be over the South West.</p>	<p>This measure minimises the number of people impacted by noise by reducing the number of daytime and night time aircraft movements over the more populated areas in Southend Borough.</p> <p>As a result of these operational preferential measures the population exposed to noise during the daytime and night periods would be less than those estimated under Actions 1,2 and 3 above, by reason of less populated areas being overflowed.</p>
5	Departures Noise Preferential Routes	To minimise the number of local residents being overflowed, departures noise preferential routes have been introduced. This means that all aircraft weighing over 5700kg must follow a straight departure heading for 2.5 nautical miles when departing towards the south west (over Leigh-on-Sea) and 1 nautical mile when departing towards the north east (over Rochford). Since introducing the NPRs in March 2012, 99.8% of all	<p>This measure provides for the management and control of departures noise through track keeping up to the minimum vectoring altitudes, and minimises population overflowed.</p> <p>The use of these departures preferential</p>

	TITLE	SUMMARY OF MEASURE AND BENEFIT	People Affected
		passenger flights within the four year period have departed London Southend Airport within their agreed NPR.	routes has been taken into account in the calculations of populations exposed set out above and in the current noise contour mapping presented in this action plan.
6	Noise and Track Keeping Monitoring System.	<p>The airport's operates a noise and track keeping monitoring system to monitor noise of departing aircraft and of routes flown by aircraft in compliance with nose preferential routes. This captures data from two fixed noise monitors which are located approximately one mile from each end of the single runway.</p> <p>LSA also has a mobile noise monitor which is used at a number of other locations in the local area. The data captured by all these systems is used to investigate noise and route keeping complaints and also to validate noise contour data.</p>	This action does not actually limit or reduce the population exposed to noise, but provides the means to monitor, manage and secure compliance with departures track keeping.
7	Noise Complaints System	The airport has a comprehensive noise complaints handling service which responds to comments and complaints about aircraft noise and routing. Using the noise and track keeping system LSA is able to log and record all complaints individually and then fully investigate specific flights.	This action does not actually limit or reduce the population exposed to noise reduce, but provides the means to monitor complaints and inform future actions.
8	Noise Penalties	<p>A system is in place to levy fines on any airline which consistently fails to comply with noise limits and noise preferential routes.</p> <p>Measure provides a mechanism to penalise breaches and incentivise compliance with operational procedures</p>	This action does not actually limit or reduce the population exposed to noise reduce, but provides the incentive for airlines to comply with procedures.
9	Noise Insulation Scheme	The airport has introduced a Noise Insulation Grant Scheme, offering to pay 100% of the cost of installing secondary double glazing or 50% of the cost of installing primary double glazing and 100% of the cost of loft	The number of properties exposed to noise levels of 63dBLAeq over the period 0700-2300hrs is <50 (see Table 5).

	TITLE	SUMMARY OF MEASURE AND BENEFIT	People Affected
		<p>insulation to any residential property which is exposed to noise levels of 63dB LAeq over the period 0700-2300hrs or more.</p> <p>In 2016 there were 11 qualifying properties. The airport has written to all qualifying properties and three properties have now taken up the scheme and had sound and thermal insulation improvements completed.</p>	This measure therefore has the potential to benefit < c.50 properties (equivalent to 120 people) through reduction in indoor noise levels in properties most impacted.
10	Property Purchase Scheme.	<p>The airport has introduced a Property Purchase Scheme, providing, offering to purchase properties affected by high levels of noise (69dB LAeq over the period 0700-2300hrs or more). However, at the present time there are no properties within the contour.</p> <p>Provides community reassurance to those who may be most impacted to levels deemed unacceptable.</p>	Currently there are no properties exposed to this level of noise. Previous predictions indicated that there could be 5 eligible properties.
11	Aircraft Engine Testing Restrictions	Engine testing permitted only permitted during the hours 0800-2000 (Mon-Sat) and 0900-1800(Sundays).	No assessment has been undertaken of the extent of benefit of this measures but potentially it protects c.10,000 people from noise from night time engine testing.
12	Noise Manager	The airport has a designated noise manager to monitor and review performance against the above measures and prepare the required reports.	This action does not actually limit or reduce the population exposed to noise reduce, but provides the means to monitor performance, review current and inform future actions.
13	Wake Vortex Damage Repair scheme	Provides for the payment of compensation and / or the carrying out of repairs to properties should any damage occur as a result of wake vortices.	This is not a noise measure but is estimated to benefit <100 properties by providing reassurance to property owners that LSA will recompense for any damage.
14	Annual Reporting	An annual report is presented to the ACC each year on the above measures and includes the number of	This action does not actually limit or reduce the population

	TITLE	SUMMARY OF MEASURE AND BENEFIT	People Affected
		<p>and types of all aircraft operations during the daytime and night quota periods, runway usage, results of noise monitoring and summary of noise complaints received in the preceding 12 month period.</p> <p>Monitoring and reporting of compliance and progress of the S.106 Agreement measures.</p> <p>The results of the most recent annual report, are contained in the London Southend Airport Annual Report 2016-2017 which can be access on the Southend Airport Web site at https://d1z15fh6odiy9s.cloudfront.net/files/lisa-ar-2017-final-updated-p49-149eb85a.pdf</p>	exposed to noise reduce, but provides the means to report progress.

Note 1: QC = Quota Count - a system of allocating a noise value to individual aircraft types. Examples are A319 = QC0.5, B737 = QC1, B727 = QC4.

Ground Noise

64. London Southend Airport has also put in place measures to control and minimise ground noise - that is noise, other than that which is generated by aircraft in flight, taking off or landing. The main sources of airport ground noise are:
 - Aircraft taxiing
 - Aircraft mounted auxiliary power units (APU's)
 - Testing (ground running) of aircraft engines
65. The measures include a Best Practice Plan for Quiet Ground Operations.
66. One of the airport's main operators - Stobart Air - uses the technique of single engine taxiing at London Southend Airport reducing ground noise (as well as NO2 emissions). LSA's other existing main operator - easyJet - have a policy of utilising single engine taxi for both arrivals and departures where possible. This process is not, however, utilised 100% of the time due to the relatively short distance from stand to runway.
67. To ensure that the use of diesel fuelled Ground Power Unit's (GPU's) and aircraft Auxiliary Power Units (APU's) are kept to a minimum, all new aircraft stands used for scheduled passenger aircraft are fitted with Fixed Electrical Ground Power (FEGP).
68. During the reporting period March 2016 - February 2017, LSA had four based aircraft and 7 parking stands fully equipped with FEGP. Due to operational stand planning and spare capacity for based aircraft, FEGP was available for 98.2% annualised across all seven stands, and four of the seven parking stands were available 100%. As a result, APU and GPU usage was minimised in accordance with the approved Best Practice Plan

for Quiet Ground Operations. In 2018, to accommodate the increase in air traffic, two further parking stands will be equipped with FEGP.

69. No noise complaints were received during the reporting period March 16 - February 2017 in relation to mobile GPU usage.

Engine Testing

70. There have been large aircraft maintenance bases at the airport in the past, although this has now reduced. The airport ensures that all engine testing is carried out in accordance with the Engine Testing Best Practice Plan which stipulates the location of the testing site and permitted testing times. For the 12 month period March 2016 to February 2017 there have been no incidents where the conditions of the Engine Testing Best Practice Plan have not been fully met.

NOISE COMPLAINTS

71. LSA's dedicated Noise Manager manages the airport's noise complaints system and deals with and responds to any complaints regarding noise.
72. Complaints may be made via an easy to complete form that is on the airport website at <https://southendairport.com/contact-us/noise>.
73. Once the data relating to the complaint has been recorded, it will be investigated. The investigation will be processed through the Noise Desk system and may involve further actions as necessary to establish the circumstances of the flight. If further information is needed the person making the complaint will be requested to provide more information / specific details so the investigation can continue.
74. Once the investigation is complete the findings will be recorded in the complaints handling database, including, if necessary, a summary of any conversation / correspondence with the person making the complaints.
75. Once fully investigated, a written response will be sent explaining the event which created the noise incident and will conclude whether the identified aircraft was operating to standard procedures, with the airports operating conditions.
76. The response will ask for the person making the noise complaint to respond within 10 days if they are dissatisfied otherwise the matter will be closed.
77. The appointed noise manager will continue to investigate any further comments on the matter however if after further investigation and further response the person making the noise comment remains dissatisfied the matter will be referred to the Airport Consultative Committee for further consideration
78. The Airport collates monthly noise complaint data which it reports to the Airport Consultative Committee and other organisations. In addition a summary of all noise complaints is included in the Airport's Annual Report.

CONTINUATION OF NOISE MEASURES

79. LSA plans to continue with the above noise measures, but will continue to keep them under review.
80. LSA will continue to monitor the relevance and effectiveness of its current noise mitigation measures and also address any further requirements in the light of changes arising from its review of future growth plans, as indicated at para 19 above.

FUTURE AIRSPACE CHANGES

81. Following the implementation of Controlled Airspace on 2 April 2015, London Southend Airport (LSA) has started Airspace Change Proposals (ACP) processes to implement Standard Instrument Departure Procedures (SID's) and RNAV (Area Navigation) Approach Procedures.

Proposed Departures Routes

82. The introduction of SID procedures is necessary to reflect current Civil Aviation Authority (CAA) policy and because of the introduction of controlled airspace in the vicinity of LSA, which provides connectivity to the London Terminal Control Area. LSA's introduction of SID's provide connectivity to the route structure within and beyond the London Terminal Control Area. The change from Preferred Departure Routes (PDR's) to SID procedures brings LSA into line with other airports connected to busy terminal airspace.
83. The Noise Abatement Procedures currently in place at London Southend Airport for departing aircraft do not change as a consequence of this proposal and will continued to be applied and reported on, in the same way.

Proposed Arrivals Routes

84. Following on from the project to implement Standard Instrument Departures, which is still underway, London Southend Airport (LSA) has started the process to introduce RNAV (Area Navigation) Approach Procedures.
85. Proposed procedures do not replace any existing procedures but provide an alternative option for aircraft operating into LSA and also provide a back up should the Instrument Landing System not be available. For this option LSA has sought to replicate the existing approach tracks.
86. The formal consultation period for the proposed approach procedures closed in September 2017. Following the publication of the consultation report, LSA will continue with the process to submit an Airspace Change Proposal (ACP) to the CAA. It is expected this will be submitted in Spring/Summer 2018.

PLANS FOR FUTURE DEVELOPMENT

87. Following the opening of the runway extension in 2012 LSA has been successful in securing new airline services with EasyJet, FlyBe, Air Malta, Stobart Air and Adria Airways being the main commercial airlines currently

serving the airport. Some 40 destinations across Europe are now served by these airlines. In 2019 Ryanair will also be commencing services.

88. Planning permission has recently been granted for an extension to the terminal building. This development will ensure levels of passenger services are maintained as these additional services are introduced.
89. During the first half of this NAP period, LSA intends to commence the process of reviewing its forecasts, in order to update its plans for how the airport is expected to grow over the next 5 - 10 years into the 2020s, and the economic and environmental impacts of further growth in the years ahead.
90. LSACL is committed to minimising noise from the airport's operations, and will continue to explore options for further measures consistent with the ambition for LSA to be a successful regional airport, key economic driver for the local and regional economy and gateway to London and Europe

FINANCIAL INFORMATION

91. Over £160 million has been invested in LSA by the airport owners - Stobart Group since 2008. This has included:
 - £114,000 has been invested in noise and track monitoring equipment with an ongoing annual maintenance cost of £18,000
 - £5,571 of noise insulation grants to date
92. The cost of ongoing implementation and management of the noise measures by LSA has not been calculated, but will be met by LSACL

EVALUATION AND REPORTING

93. LSA publishes an annual progress report setting out progress on all aspects of the airport's development and operation, various initiatives being progressed, and detailing the performance of the airport against planning conditions and obligations. Annual Reports are sent to local councils. MP's and other key stakeholders and publically available, including via the airports website.
94. Reports are also presented to the regular meetings of the Consultative Committee.
95. The latest Annual Report 2017-18, which was presented to the Consultative Committee in May alongside this draft Noise Action Plan, includes a number of sections on noise including track keeping performance and infringements, noise complaints statistics and trends, updates in the take-up of noise insulation grants and latest noise contours.

CONCLUSIONS

96. This Noise Action Plan, has been prepared in accordance with EU directives and DEFRA guidelines, and has been finalised following consultation on a draft Plan with members of the Southend Airport Consultative Committee.

97. This is the third Noise Action Plan for London Southend Airport and is based on and presents Noise Mapping prepared by Department for Environmental, Food and Rural Affairs for 2016 as required by the guidelines.
98. The type and character of aircraft activity at the airport has evolved since the previous 2014 Noise Action Plan. This is in large part due to the successful growth of the airport that has occurred as a result of the significant investment made by the airport owners - the Stobart Group.
99. The noise impacts of the airport noise for 2016 as presented in this Plan are shown to have increased compared to the previous mapping exercise for 2011 that was presented in the 2015 Action Plan. Despite it is still the case that no local residents are exposed to noise levels that exceed thresholds regarded as unacceptable.
100. When permission was granted in 2010 for the airport's runway to be extended, London Southend Airport Company Ltd entered into an extensive Section 106 legal agreement with Southend-on-Sea Borough Council, Rochford District Council and Essex County Councils. This put in place a comprehensive set of long term measures and controls, including to manage and limit noise from aircraft operations. These noise measures and controls continue today and this Action Plan aligns with these obligations.
101. London Southend Airport Company Ltd (LSACL) is committed to minimising noise from the airport's operations, and will continue to explore options for further measures consistent with the ambition for LSA to be a successful regional airport, key economic driver for the local and regional economy and gateway to London and Europe.

APPENDIX A

DEFRA Noise Maps

Map 1: Noise Contour Areas - L_{den} (24h Period): 2016

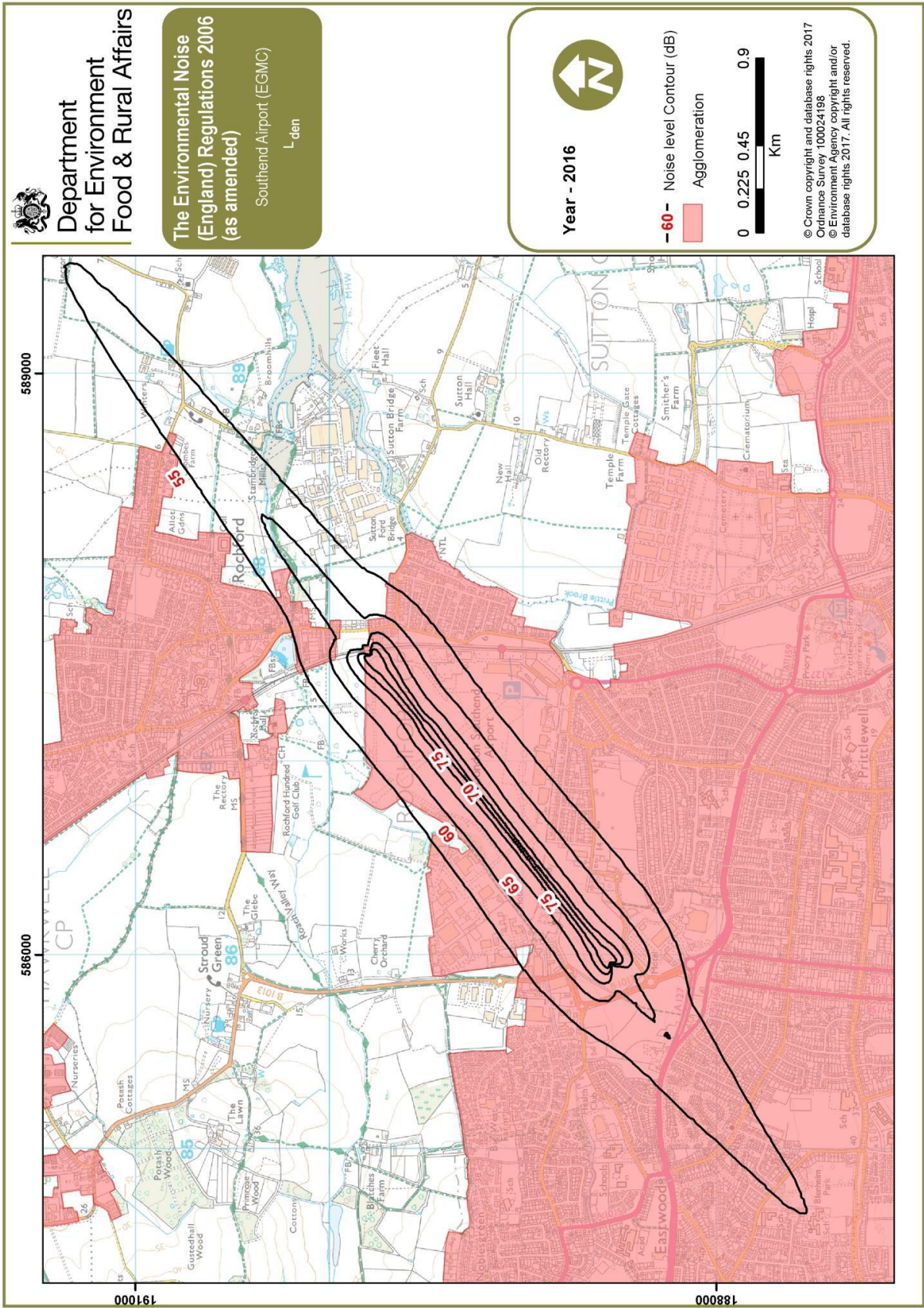
Map 2: Noise Contour Areas - L_{day} (12h Period): 2016

Map 3: Noise Contour Areas - $L_{evening}$ (4h Period): 2016

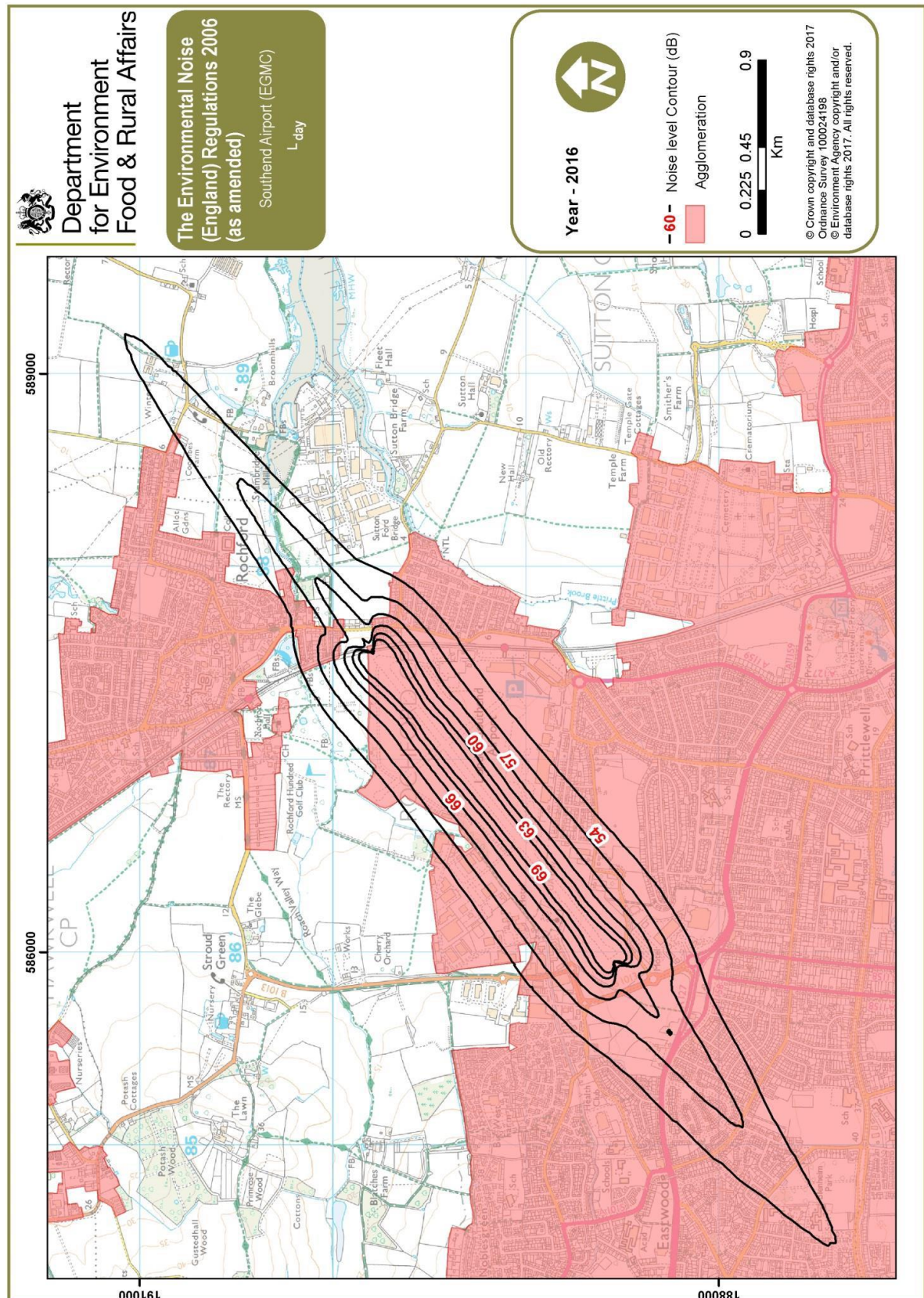
Map 4: Noise Contour Areas - L_{Aeq16h} (16h Period): 2016

Map 5: Noise Contour Areas - L_{night} (8h Period): 2016

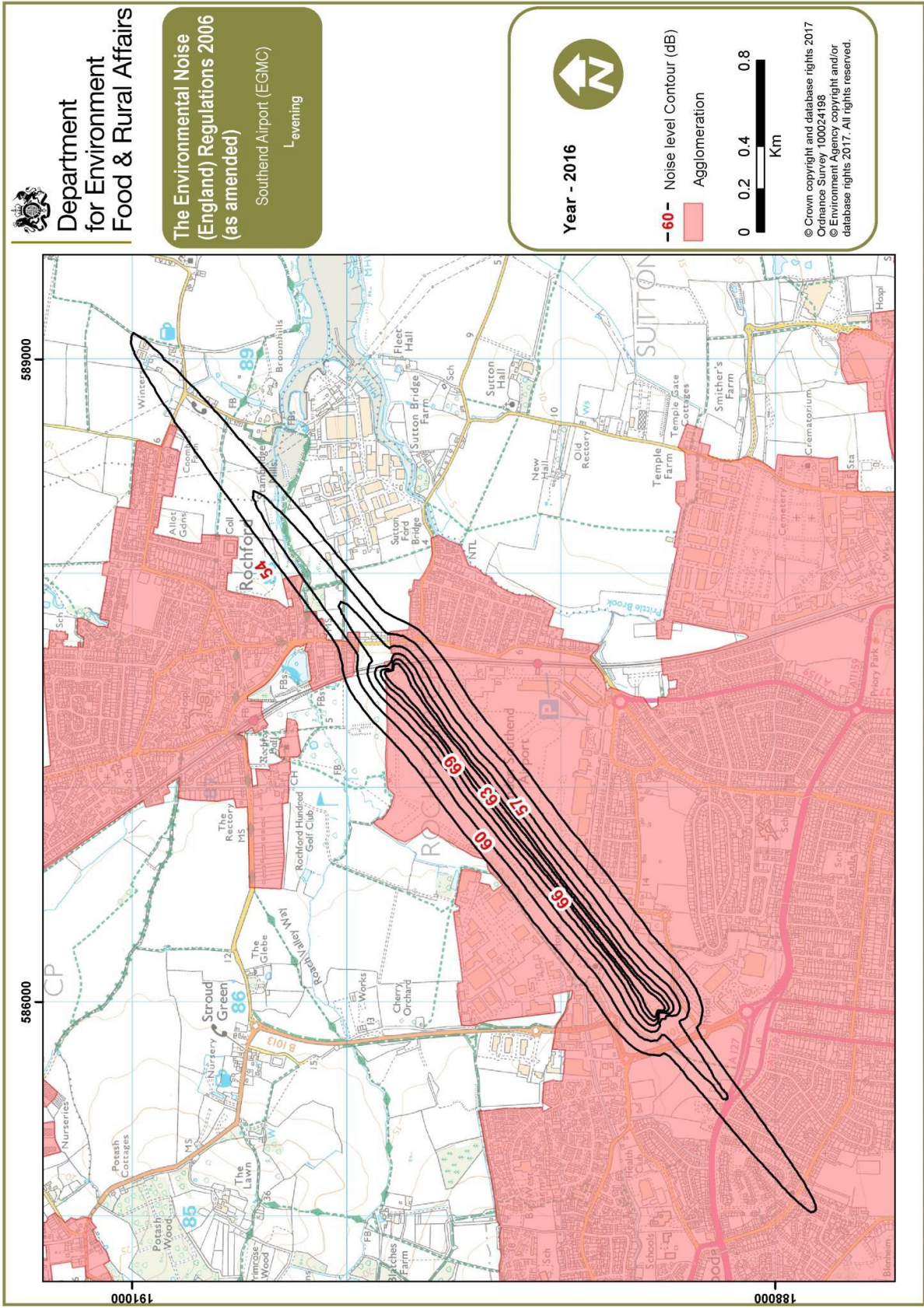
Map 1: Noise Contour Areas - L_{den} (24h Period): 2016



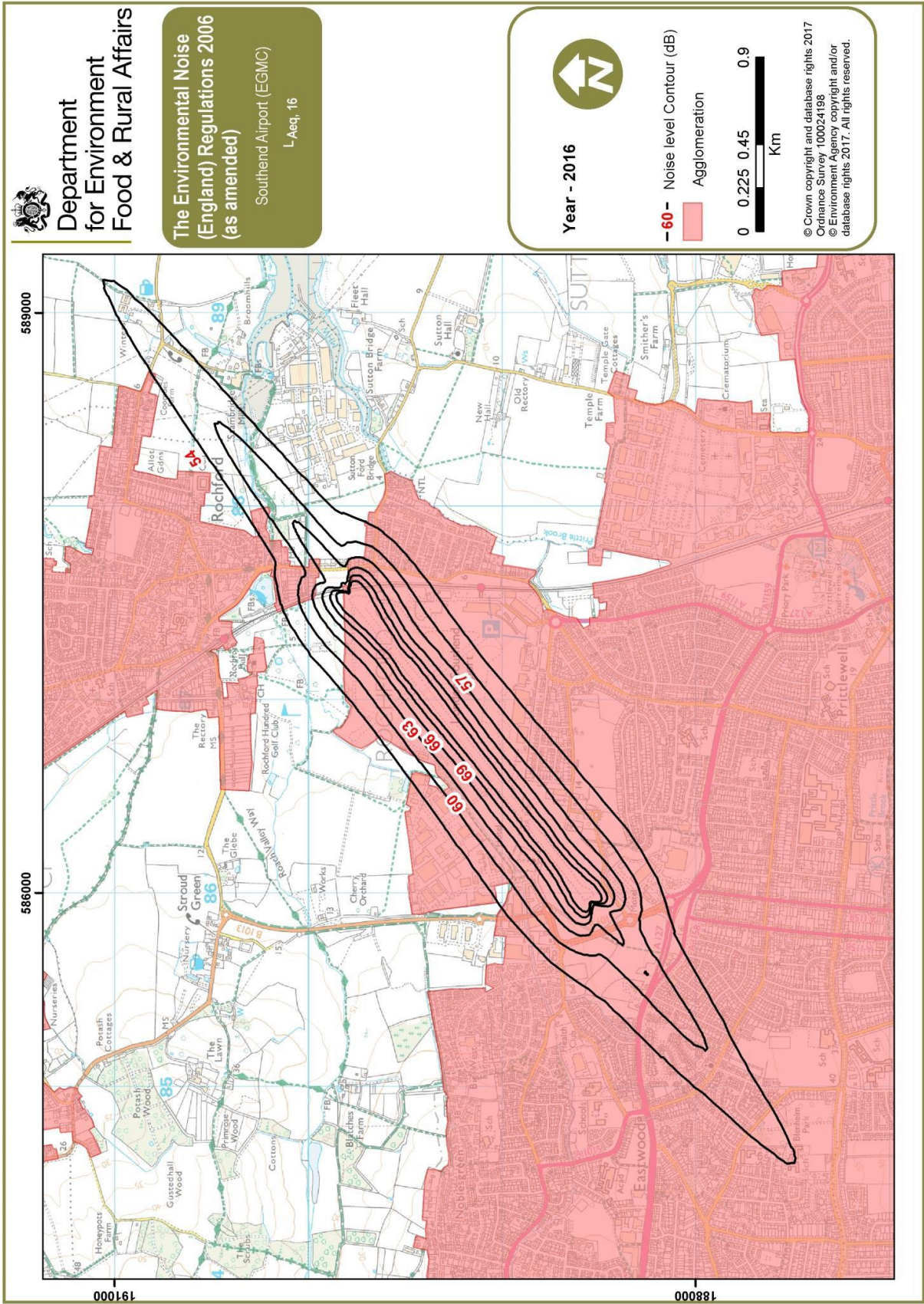
Map 2: Noise Contour Areas - L_{day} (12h Period): 2016



Map 3: Noise Contour Areas - Levening (4h Period): 2016



Map 4: Noise Contour Areas - L_{Aeq16h} (16h Period): 2016



Map 5: Noise Contour Areas - L_{night} (8h Period): 2016

