NOISE ACTION PLAN 2019-2023

SUPPLEMENTARY INFORMATION

eastmidlandsairport.com

MAG East Midlands Airport

CONTENTS

Glossary of terms		3
Appendix A	Consultation questionnaire	7
Appendix B	Noise preferential route map for departing aircraft	9
Appendix C	Typical arrival and departure flight tracks (2016)	11
Appendix D	DEFRA noise mapping detailed results (2016 and 2011)	16
Appendix E	Performance against 2013-2018 Noise Action Plan	32
Appendix F	Geographical distribution of noise complaints (2017)	48
Appendix G	Current expenditure on noise management	50
Appendix H	NAP 2019-2023 Action Impact Table	52

GLOSSARY OF TERMS

AIP	The UK Aeronautical Information Publication
ANOMS	Airport Noise Operations Monitoring System, Stansted Airport's specific NTK system
APF	UK Aviation Policy Framework – Published in 2013 this is the current UK aviation policy
APU	Auxiliary Power Unit. A power unit located on the aircraft to provide power to essential systems whilst on the Ground
ATC	Air Traffic Control
ATM	Air Transport Movement
CAA	UK Civil Aviation Authority
CCD/CCO	Continuous Climb Departure/Continuous Climb Operation – The same technique to climb aircraft continuously to reduce noise
CDA	Continuous Descent Approach
dB(A)	A unit of sound pressure level, adjusted in accordance with the A weighting scale, which takes into account the increased sensitivity of the human ear at some frequencies
Decibel (dB)	The decibel (dB) is a logarithmic unit of measurement that expresses the magnitude of a physical quantity relative to a specified or implied reference level. Its logarithmic nature allows very large or very small ratios to be represented by a convenient number. Being a ratio, it is a dimensionless unit. Decibels are used for a wide variety of measurements including acoustics, and for audible sound A-weighted decibels (dBA) are commonly used
DEFRA	Department for Environment Food and Rural Affairs (UK Government)
DfT	Department for Transport (UK Government)
ECAC	European Civil Aviation Conference
EMA	East Midlands Airport
END	EU Environment Noise Directive
EPNdB	Effective Perceived Noise measured in Decibels. Its measurement involves analyses of the frequency spectra of noise events as well as the maximum level
EU	European Union

GANP	ICAO Global Air Navigation Plan
GPU	Ground Power Unit
GVA	Gross value added is the measure of the value of goods and services produced in an area, industry or sector of an economy
ICAO	International Civil Aviation Organization
ICC	East Midlands Airport Independent Consultative Committee – the formal body in charge of liaison between East Midlands Airport and our neighbouring communities
ICCAN	Independent Commission on Civil Aviation Noise
ILS	Instrument Landing System
L_{Aeq} 16-hour	The A-weighted average sound level over the 16-hour period of 07:00-23:00
L_{day}	The A-weighted average sound level over the 12-hour day period of 07:00-19:00 hours
L_{den}	The day, evening, night level, Lden is a logarithmic composite of the Lday, Levening, and Lnight levels but with 5dB(A) being added to the Levening value and 10dB(A) being added to the Lnight value
L_{eq}	Equivalent sound level of aircraft noise in dBA, often called equivalent continuous sound level. For conventional historical contours this is based on the daily average movements that take place in the 16-hour period (07:00-23:00 LT) during the 92 day period 16 June to 15 September inclusive
$L_{evening}$	The A-weighted average sound level over the 4-hour evening period of 19:00-23:00 hours
Lmax	Maximum A-weighted sound level
Lnight	The A-weighted average sound level over the 8-hour night period of 23:00-07:00 hours
L_{OAEL}	Lowest observed adverse effect level (in this plan this relates to aircraft noise). This is the level above which adverse effects on health and quality of life can be detected
MAG	Manchester Airports Group – Owner of East Midlands Airport
MENT	The Monitoring, Environment, Noise and Track sub-committee of the East Midlands Airport Independent Consultative Committee
NAP	Noise Action Plan

NATS	Formerly known as National Air Traffic Services Ltd. NATS is licensed to provide en-route air traffic control for the UK and the Eastern part of the North Atlantic, and also provides air traffic control services at several major UK airports, including Heathrow, Gatwick and Stansted
NEET	Not in employment, education or training
Noise Contour	Map contour line indicating noise exposure in dB for the area that it encloses
Noise Envelope	This is the legal night noise limit agreed through planning permission for the airport. It states the airport Laeq 8-hour summer night noise contour will not exceed 16km^2
NPR	Noise Preferential Route
NPSE	Noise Policy Statement England
NTK	Noise and Track Keeping monitoring system. The NTK system associates radar data from air traffic control radar with related data from both fixed (permanent) and mobile noise monitors at prescribed positions on the ground
PBN	Performance based navigation – A technique using satellite navigation information to improve the accuracy of aircraft flight paths
PLG	The Pilot Liaison Group – An East Midlands Airport forum for the airport, pilots and air traffic to discuss performance issues and opportunities
QC	Quota Count – In 1993 a new Quota Count system was introduced based on aircraft noise certification data. Each aircraft type is classified and awarded a quota count (QC) value depending on the amount of noise it generated under controlled certification conditions. The quieter the aircraft the smaller the QC value
RNAV/PRNAV	Area Navigation/Precision Area Navigation using GPS coordinates
SDP	East Midlands Airport Sustainable Development Plan
SID	Standard Instrument Departure route
SIG(S)	Sound Insulation Grant (Scheme)
SOAEL	The Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur
SoS	UK Secretary of State
Sustainable Aviation	A UK aviation industry initiative aiming to set out a long-term strategy for the industry to address its sustainability issues

APPENDIX A

CONSULTATION QUESTIONNAIRE

Please see a copy of the Draft Noise Action Plan Consultation 2018 questionnaire used during our consultation period.

DRAFT NOISE ACTION PLAN CONSULTATION 2018
QUESTIONNAIRE

We would appreciate it if you could take a few minutes to complete this questionnaire, giving us your views on our Draft Noise Action Plan

Name

Organisation (if applicable):

Address:

Postcode: Email:

Telephone:

1. Are there further actions we should be taking to control the noise impact for those living in the highest noise contours? In which area(s) do we need to take any further action?

a. Departing aircraft	Yes ☐	No ☐	Unsure ☐
b. Arriving aircraft	Yes ☐	No ☐	Unsure ☐
c. Night Noise	Yes ☐	No ☐	Unsure ☐
d. Mitigation schemes	Yes ☐	No ☐	Unsure ☐
e. Monitoring and reporting	Yes ☐	No ☐	Unsure ☐
f. Communication	Yes ☐	No ☐	Unsure ☐

FOR ALL AREAS WHERE YOU THINK FURTHER ACTION IS REQUIRED
Why do you think further action is required in this particular area?

What further action would you like us to consider?

2. Generally, are there any further actions we should be taking to control the noise Impact from departing/arriving aircraft? In which area(s) do we need to take any further action?

a. Departing aircraft	Yes ☐	No ☐	Unsure ☐
b. Arriving aircraft	Yes ☐	No ☐	Unsure ☐
c. Night Noise	Yes ☐	No ☐	Unsure ☐
d. Mitigation schemes	Yes ☐	No ☐	Unsure ☐
e. Monitoring and reporting	Yes ☐	No ☐	Unsure ☐
f. Communication	Yes ☐	No ☐	Unsure ☐

FOR ALL AREAS WHERE YOU THINK FURTHER ACTION IS REQUIRED
Why do you think further action is required in this particular area?

What further action would you like us to consider?

3. To what extent do you agree that this Draft Noise Action Plan provides a suitable framework for the ongoing management of aircraft noise?

Agree strongly ☐ Agree ☐ Neither agree nor disagree ☐ Do not agree at all ☐

Why is that?

4. Do you have any other comments or suggestions on this Draft Noise Action Plan? Please give details

☐ Please tick this box, If you do not wish to be Identified in our schedule of responses.

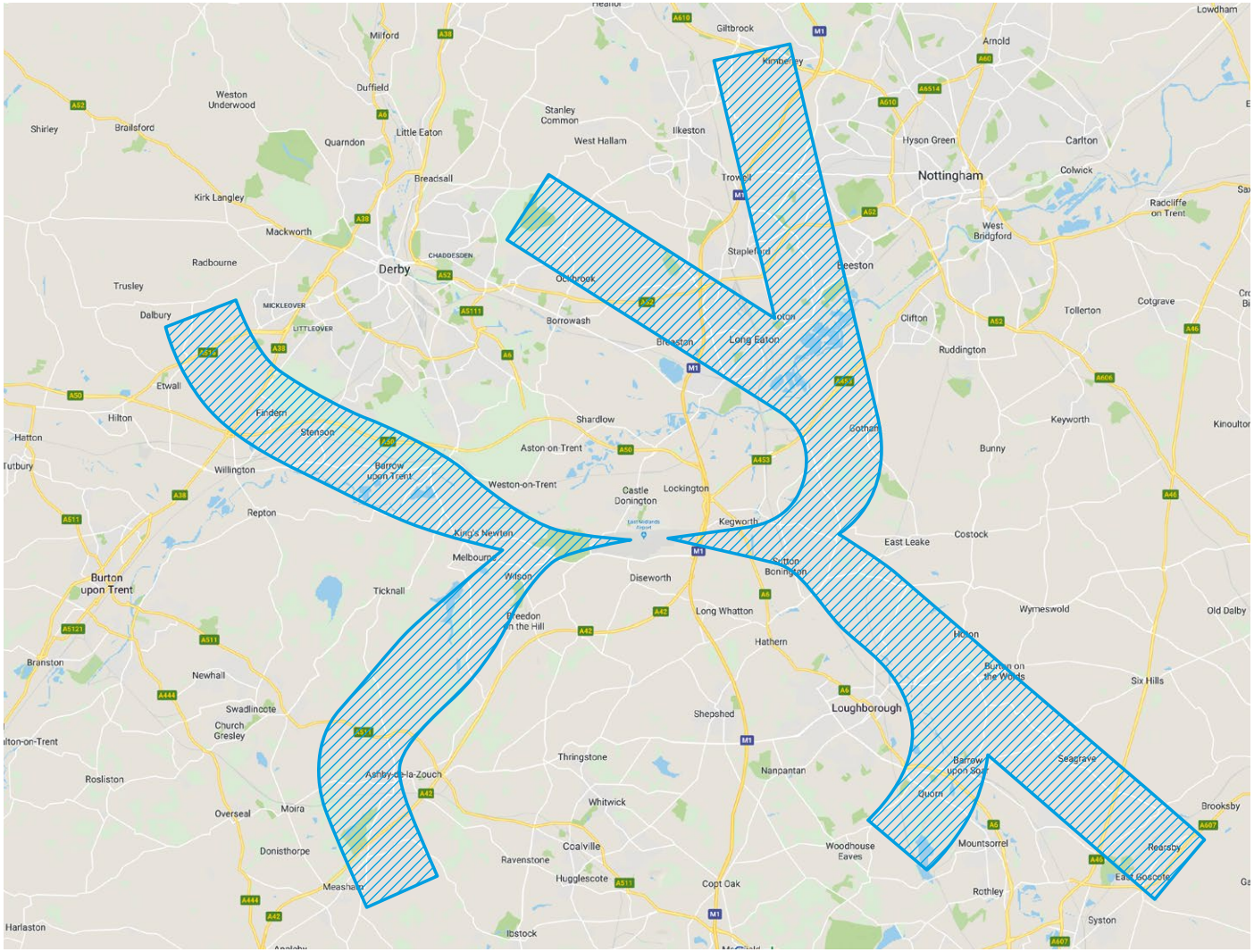
☐ Please tick this box, If you would like us to acknowledge receipt of your responses.

Thank you for taking part in the East Midlands Airport Draft Noise Action Plan consultation

eastmidlandsairport.com

APPENDIX B

NOISE PREFERENTIAL ROUTE MAP FOR DEPARTING AIRCRAFT



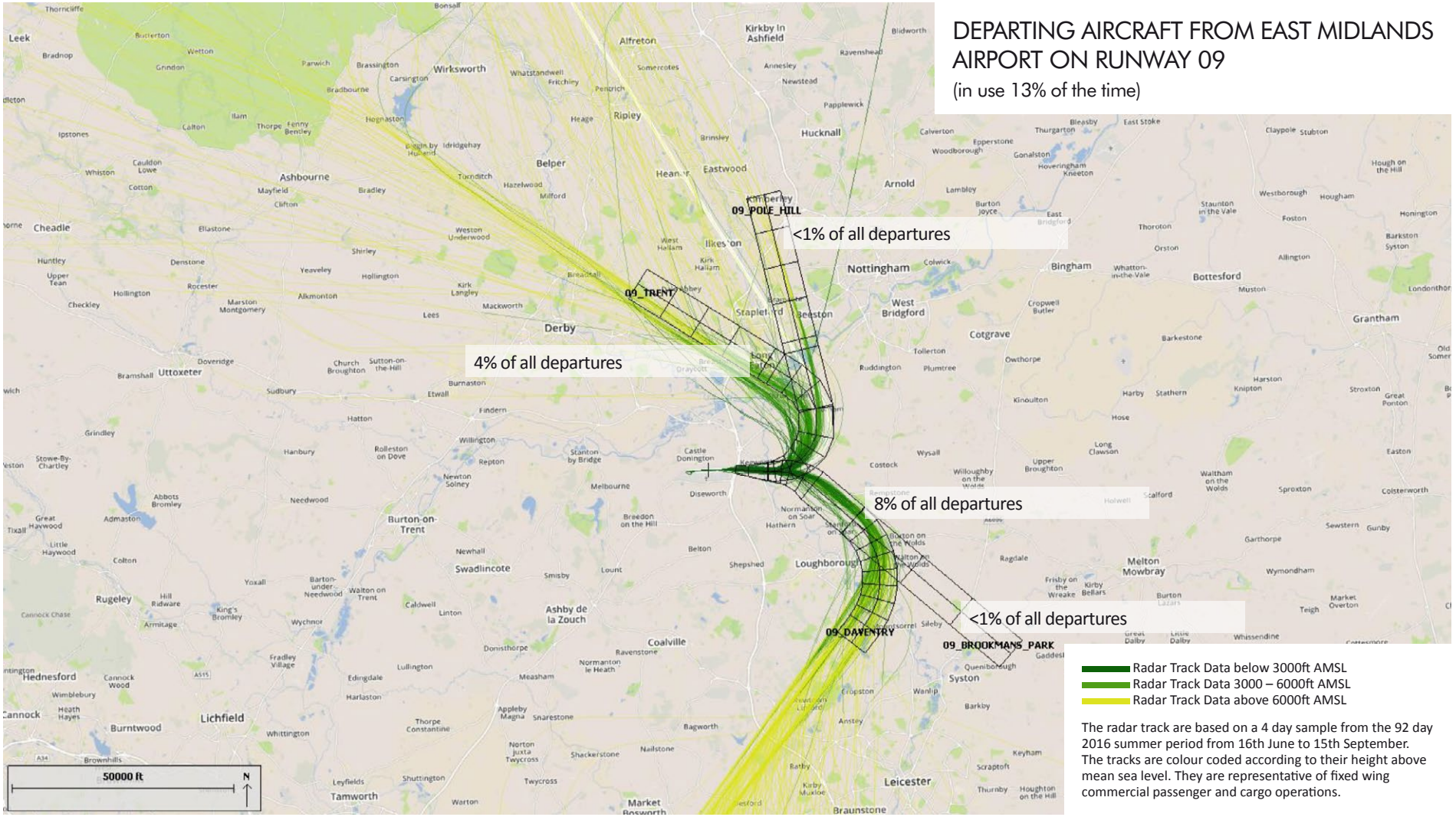
The blue shaded areas show the locations included within the agreed Noise Preferential Routes (NPR's) for departing aircraft from East Midlands Airport.

APPENDIX C

TYPICAL ARRIVAL AND DEPARTURE FLIGHT TRACKS (2016)

DEPARTING AIRCRAFT FROM EAST MIDLANDS AIRPORT ON RUNWAY 09

(in use 13% of the time)

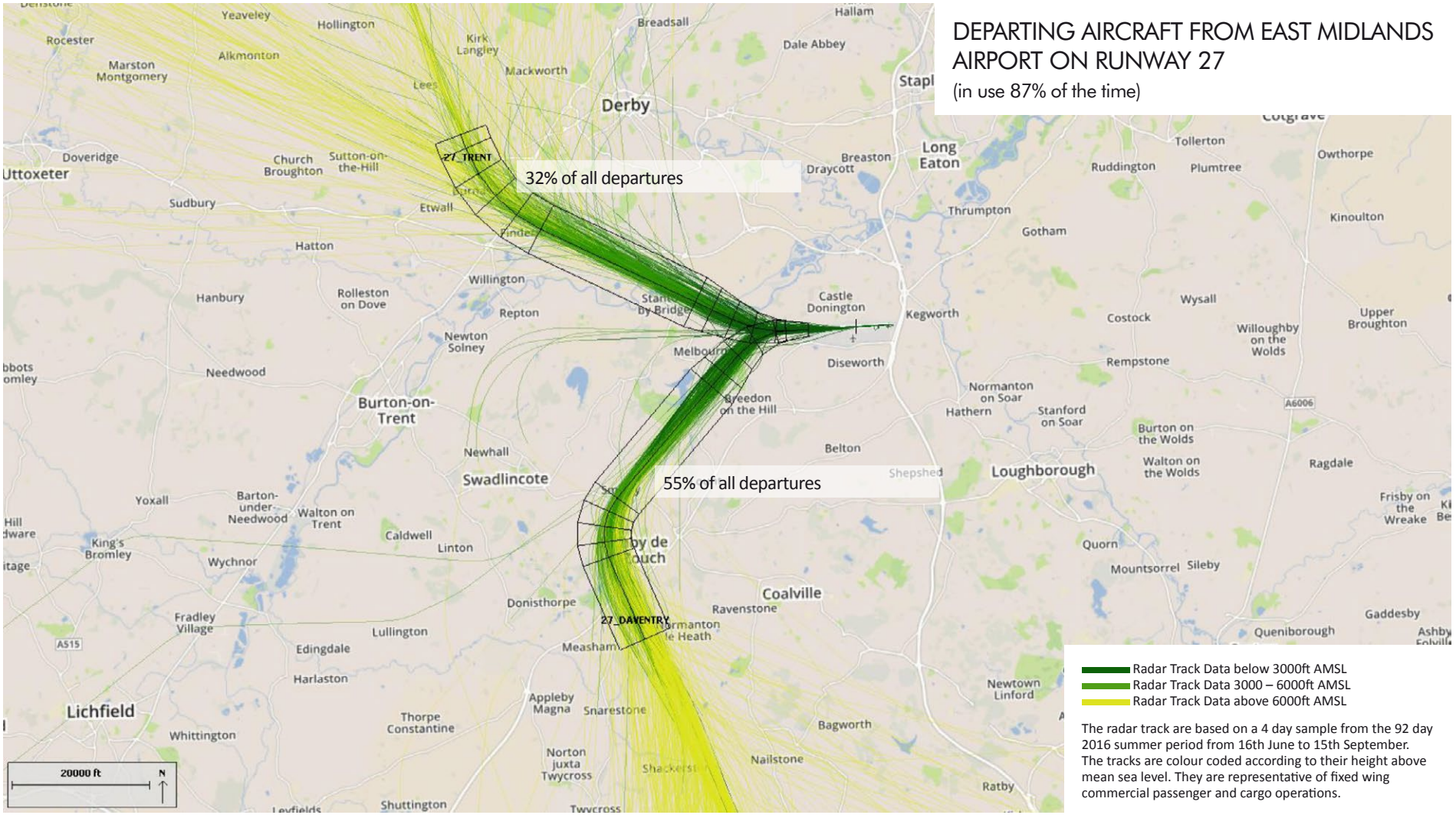


Radar Track Data below 3000ft AMSL
Radar Track Data 3000 – 6000ft AMSL
Radar Track Data above 6000ft AMSL

The radar track are based on a 4 day sample from the 92 day 2016 summer period from 16th June to 15th September. The tracks are colour coded according to their height above mean sea level. They are representative of fixed wing commercial passenger and cargo operations.

DEPARTING AIRCRAFT FROM EAST MIDLANDS AIRPORT ON RUNWAY 27

(in use 87% of the time)

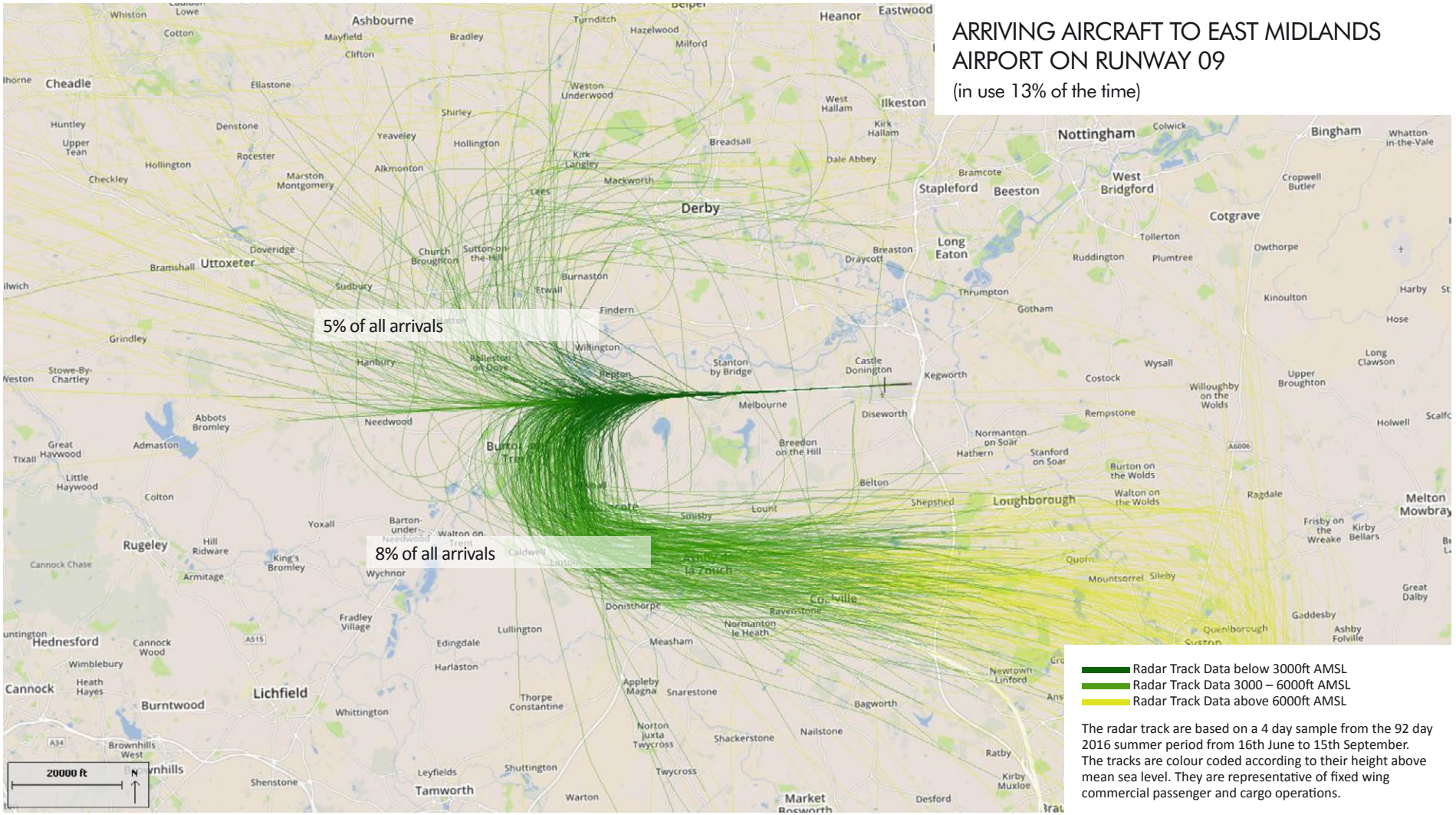


Radar Track Data below 3000ft AMSL
Radar Track Data 3000 – 6000ft AMSL
Radar Track Data above 6000ft AMSL

The radar track are based on a 4 day sample from the 92 day 2016 summer period from 16th June to 15th September. The tracks are colour coded according to their height above mean sea level. They are representative of fixed wing commercial passenger and cargo operations.

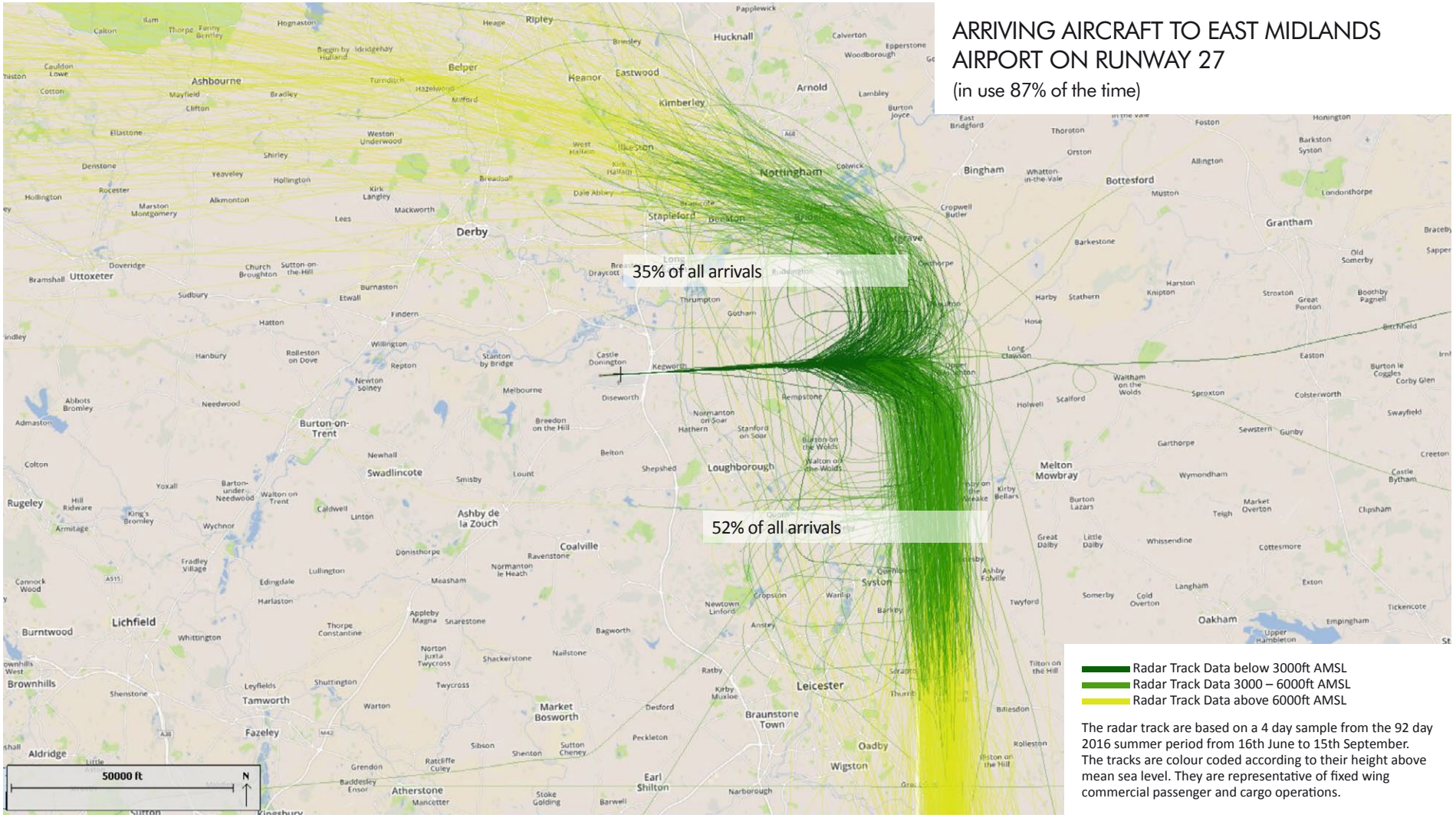
ARRIVING AIRCRAFT TO EAST MIDLANDS AIRPORT ON RUNWAY 09

(in use 13% of the time)



Radar Track Data below 3000ft AMSL
Radar Track Data 3000 – 6000ft AMSL
Radar Track Data above 6000ft AMSL

The radar track are based on a 4 day sample from the 92 day 2016 summer period from 16th June to 15th September. The tracks are colour coded according to their height above mean sea level. They are representative of fixed wing commercial passenger and cargo operations.



ARRIVING AIRCRAFT TO EAST MIDLANDS AIRPORT ON RUNWAY 27

(in use 87% of the time)

Radar Track Data below 3000ft AMSL
Radar Track Data 3000 – 6000ft AMSL
Radar Track Data above 6000ft AMSL

The radar track are based on a 4 day sample from the 92 day 2016 summer period from 16th June to 15th September. The tracks are colour coded according to their height above mean sea level. They are representative of fixed wing commercial passenger and cargo operations.

APPENDIX D

DEFRA NOISE MAPPING DETAILED RESULTS (2016 AND 2011)

WEIGHTED DAY, EVENING AND NIGHT 24-HOUR CONTOUR (L_{den})

The 2016 55 decibel contour extends over eight kilometres to the west, extending to the west side of Melbourne. To the east, the contour reaches approximately twelve kilometres from the airport and includes parts of Sutton Bonington, East Leake and the majority of Kegworth. To the north, the southern part of Castle Donington is included. The 60 decibel contour extends as far as Kings Newton to the west and includes part of the village of West Leake to the east, extending as far as the southerly edge of Castle Donington and Kegworth to the east. The 65 decibel contour takes in the Donington Park circuit to the west of the airport, whilst clipping the southern-most tip of Kegworth village to the east and has increased the number of people exposed to noise by 100 since 2011, although this remains the same number as 2006. Other than to the immediate east and west of the airport, where it extends over mainly rural areas, the 70 decibel contour largely follows the boundary of the operational area of the airport. The innermost 75 decibel contour remains almost entirely within the perimeter of the airfield. Data showing how the number of properties and people within the contour areas has changed in the last 10 years is detailed below.

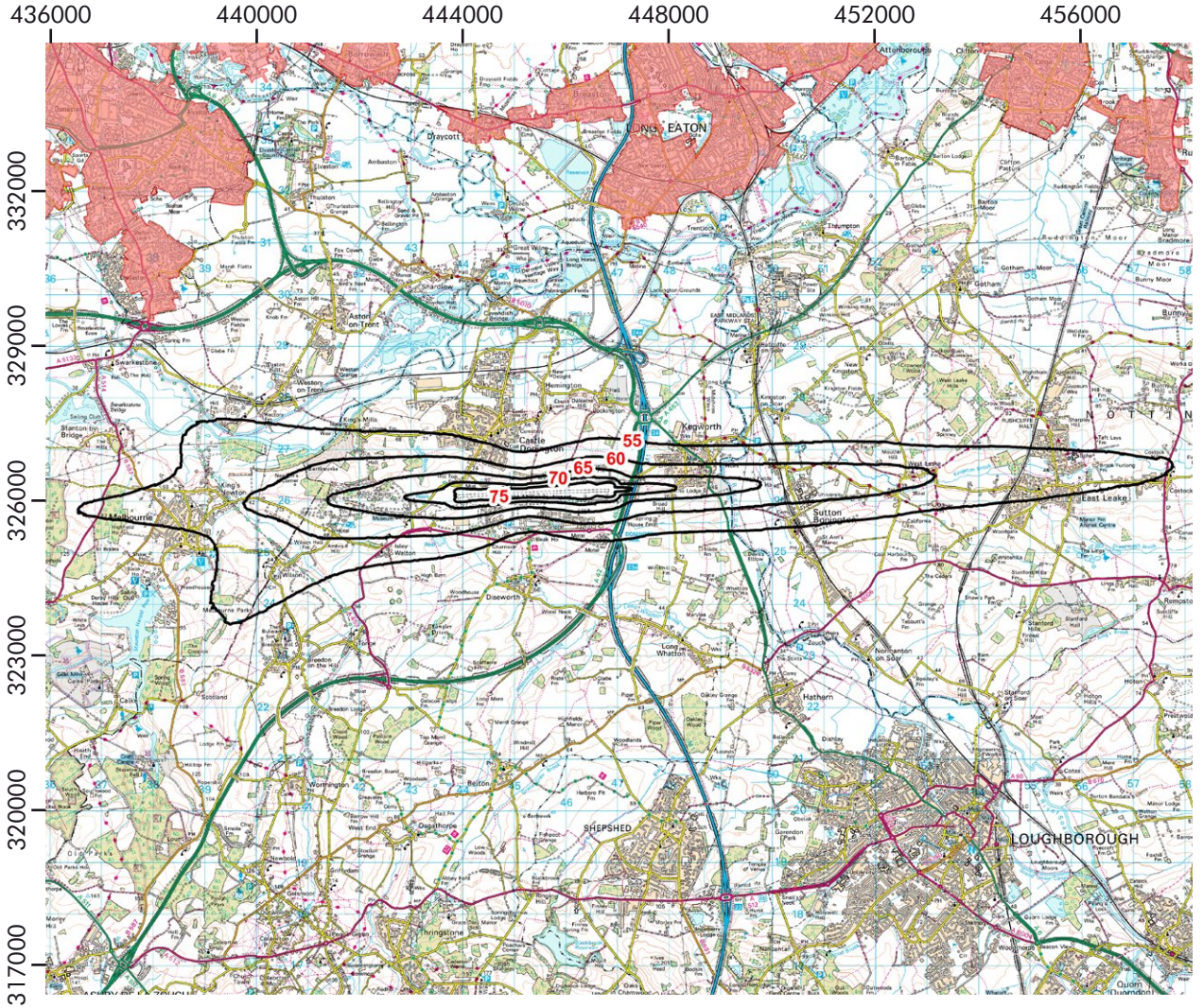
Since 2011, the 55 decibel or above L_{den} contour has reduced by just under one square kilometre. Despite this reduction, there has been a small increase of 100 people included within the contour.

NOISE LEVEL (DB)	2011 DATA			2016 DATA			CHANGES FROM PREVIOUS YEARS
	24-hour L_{den}						
	Area of Contour (km^2)	Number of Homes	Number of People	Area of Contour (km^2)	Number of Homes	Number of People	Number of people in 2016 vs 2011
55 or more	37.1	5,250	12,800	36.2	5,400	12,900	+100
60 or more	13.9	1,000	2,400	13.6	1,000	2,400	0
65 or more	5.0	250	600	4.9	350	700	+100
70 or more	1.9	Fewer than 50	Fewer than 100	1.8	Fewer than 50	Fewer than 100	0
75 or more	0.8	0	0	0.8	0	0	0

Source: DEFRA Noise Mapping data 2011 and 2016.

NOTE: DEFRA have rounded the number of homes to the nearest 50, except when there are fewer than 50, in which case the total has been shown as 'Fewer than 50'. Defra have rounded the number of people to the nearest 100, except when the population is less than 100, in which case the total number of people has been shown as 'Fewer than 100'. DEFRA worked out the number of homes and the associated population using Ordnance Survey Master Map Address Layer and information from the 2011 Census, taking account of buildings that contain more than one home, such as apartment blocks.

2016 L_{den} NOISE CONTOUR MAP



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

L_{den}

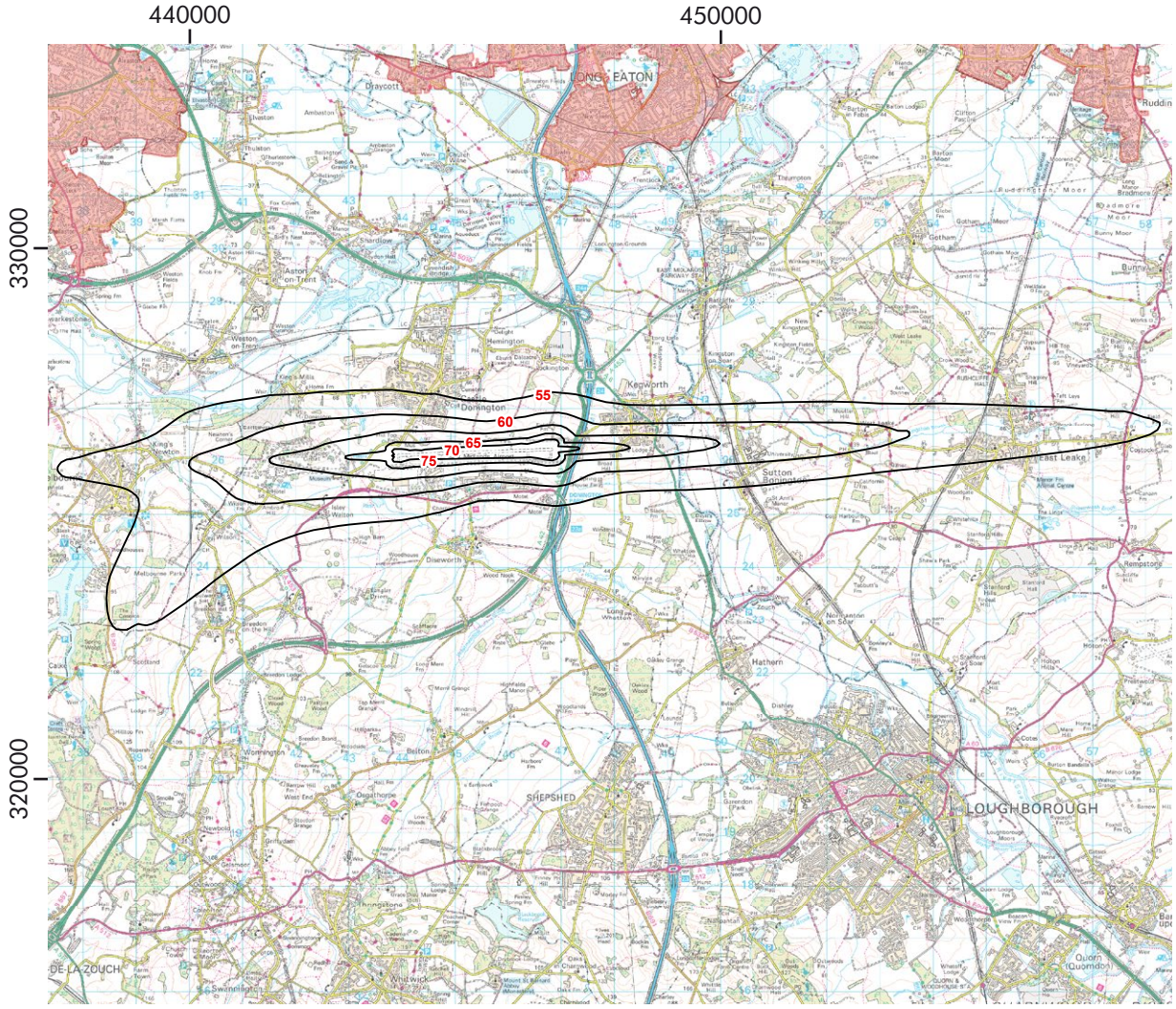
Year – 2016

– 60 – Noise level Contour (dB)

Agglomeration

0 0.65 1.3 1.95 2.6
Km

201 1 L_{den} NOISE CONTOUR MAP



MAG East Midlands Airport

Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

L_{den}

Year – 2011

– 60 – Noise level Contour (dB)

Agglomeration

Produced on behalf of Defra by Extrium

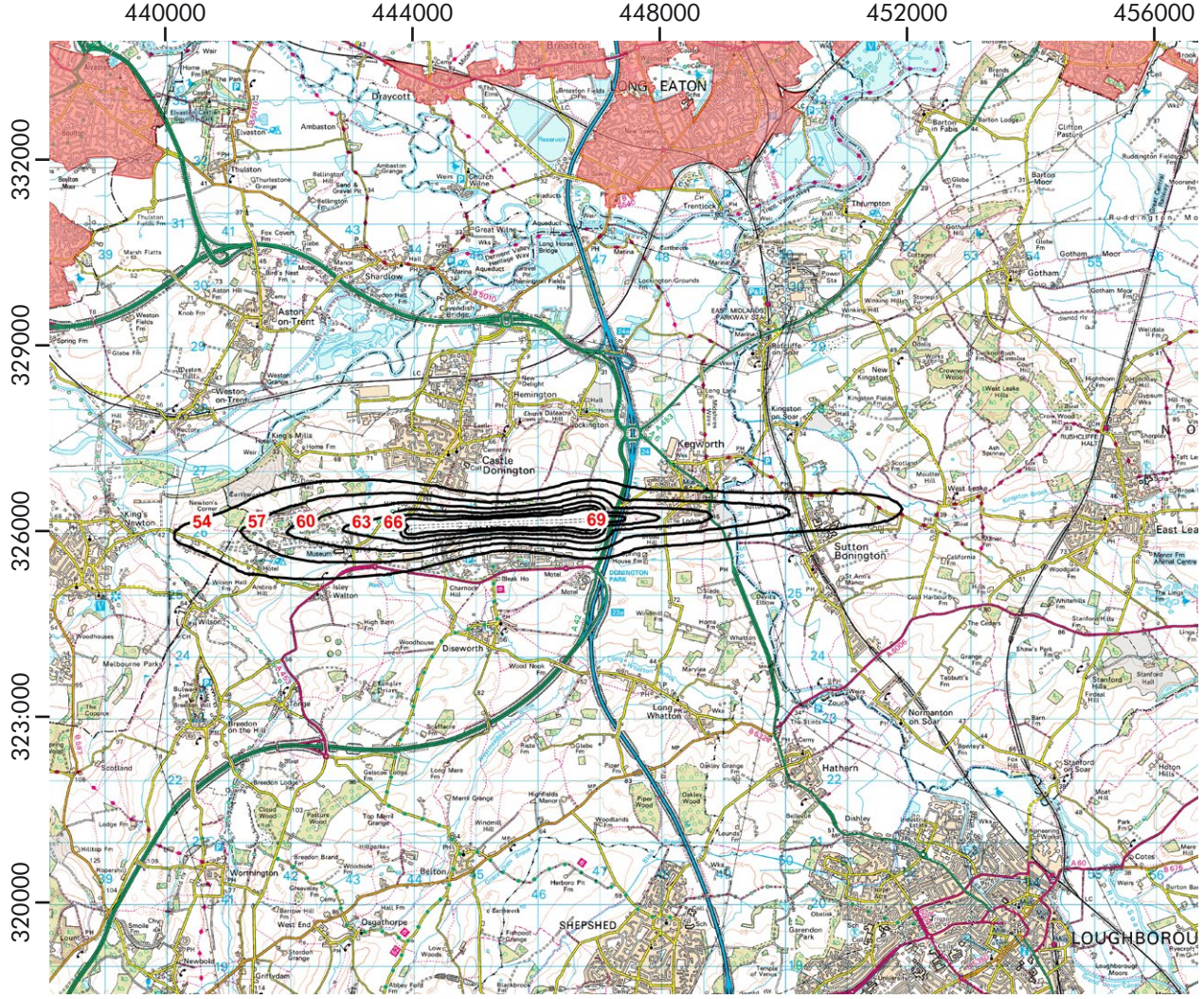
DAY TIME (07:00 TO 19:00) CONTOUR (L_{day})

The L_{day} lowest 54 decibel contour has changed shape slightly in 2016 compared to 2011. It reaches the same distance east over parts of Kegworth and Sutton Bonington and extends slightly further to the west, ending about half a kilometre from Melbourne. It has narrowed to the north, now avoiding the southerly edge of Castle Donington. The southern edge has remained unchanged. The 57dB and 60dB contours have resulted in an additional 100 people exposed to these noise levels since 2011. The population exposed to noise above 63dB has not changed since 2006.

NOISE LEVEL (DB)	2011 DATA			2016 DATA			CHANGES FROM PREVIOUS YEARS
	07:00-19:00 hour L_{day}						
	Area of Contour (km^2)	Number of Homes	Number of People	Area of Contour (km^2)	Number of Homes	Number of People	Number of people in 2016 vs 2011
54 or more	12.3	850	2,100	n/a	850	2,100	0
57 or more	6.8	300	800	n/a	400	900	100
60 or more	3.7	150	300	n/a	200	400	100
63 or more	2.0	Fewer than 50	Fewer than 100	n/a	Fewer than 50	Fewer than 100	0
66 or more	1.2	0	0	n/a	0	0	0
69 or more	0.7	0	0	n/a	0	0	0

Source: DEFRA Noise Mapping data 2011 and 2016.

2016 L_{day} NOISE CONTOUR MAP



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

L_{day}

Year – 2016

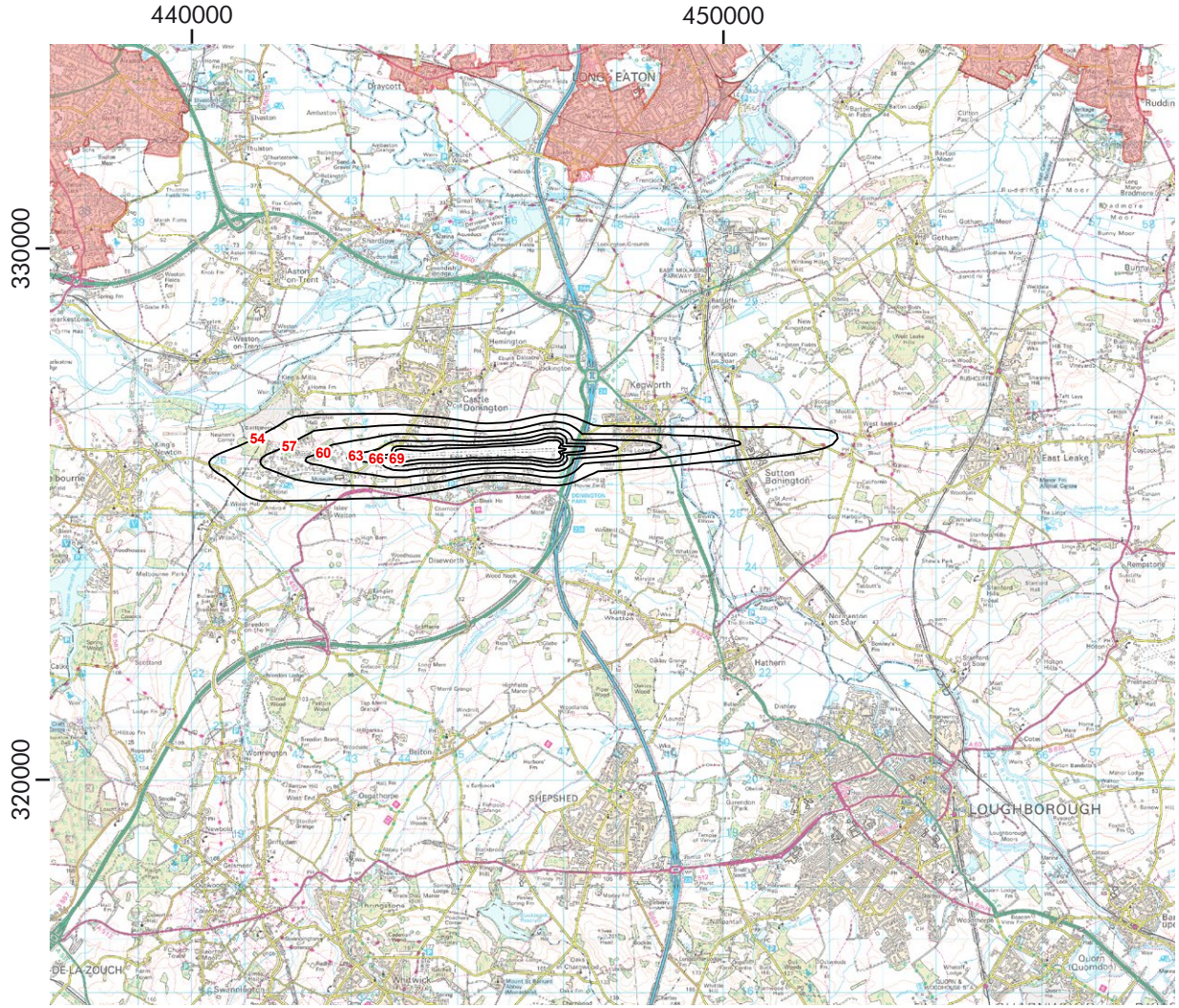
– 60 – Noise level Contour (dB)

Agglomeration

0 0.55 1.1 1.65 2.2

Km

2016 L_{day} NOISE CONTOUR MAP



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

L_{day}

Year – 2011

– 60 – Noise level Contour (dB)

Agglomeration

Produced on behalf of Defra by Extrium

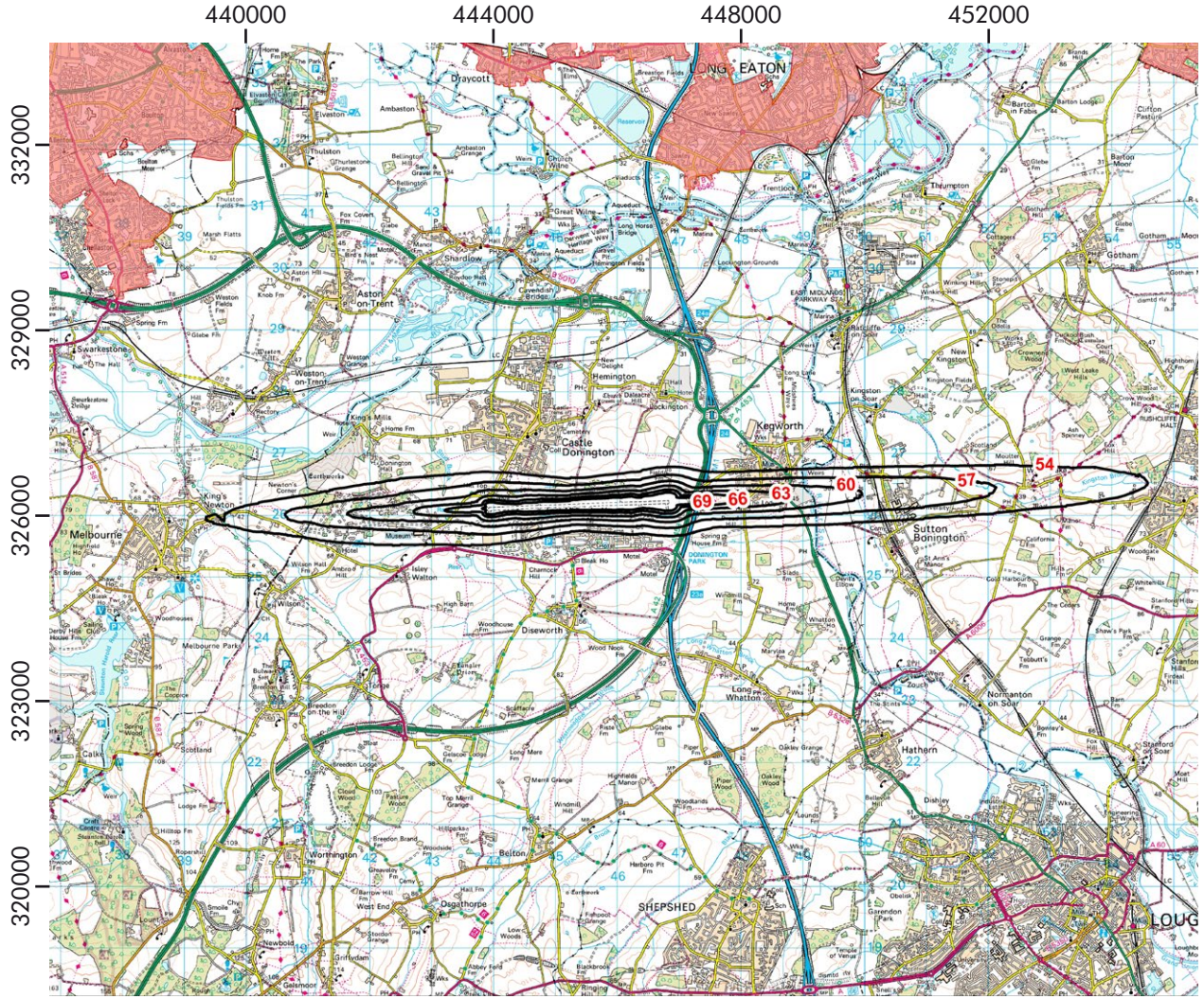
EVENING TIME CONTOUR ($L_{evening}$)

The $L_{evening}$ lowest 54 decibel contour has changed shape slightly in 2016 compared to 2011, resulting in 1,100 fewer people being exposed to this noise level. The eastern tail does now not reach East Leake but includes the same areas of Kegworth and Sutton Bonington. To the west it extends to Kings Newton and has slightly narrowed to the north, now avoiding the majority of Castle Donington. The southern edge has remained unchanged. Noise exposure above 57dB has not significantly changed since 2006 with a reduction in people exposed to noise above 60dB by 200 compared to 2011.

NOISE LEVEL (DB)	2011 DATA			2016 DATA			CHANGES FROM PREVIOUS YEARS
19:00-23:00 hour $L_{evening}$							
	Area of Contour (km^2)	Number of Homes	Number of People	Area of Contour (km^2)	Number of Homes	Number of People	Number of people in 2016 vs 2011
54 or more	**15.2**	1,450	3,600	n/a	1,000	2,500	-1,100
57 or more	**8.4**	550	1,500	n/a	600	1,500	0
60 or more	**4.5**	300	900	n/a	300	700	-200
63 or more	**2.4**	150	300	n/a	150	300	0
66 or more	**1.4**	Fewer than 50	Fewer than 100	n/a	0	0	0
69 or more	**0.8**	0	0	n/a	0	0	0

Source: DEFRA Noise Mapping data 2011 and 2016.

2016 $L_{evening}$ NOISE CONTOUR MAP



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

$L_{evening}$

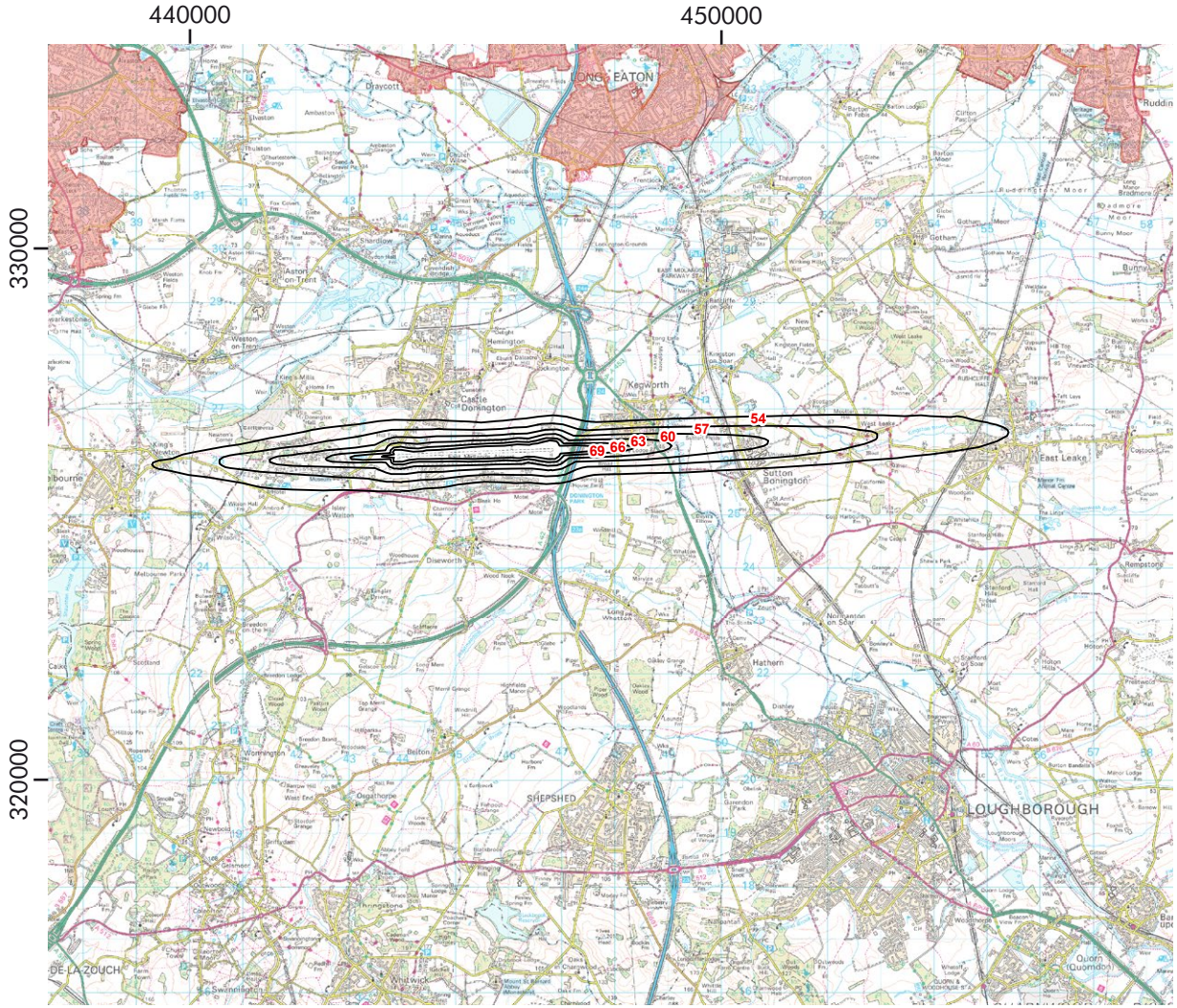
Year – 2016

– 60 – Noise level Contour (dB)

Agglomeration

0 0.55 1.1 1.65 2.2
Km

2016 $L_{evening}$ NOISE CONTOUR MAP



MAG East Midlands Airport

Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

$L_{evening}$

Year – 2011

– 60 – Noise level Contour (dB)

Agglomeration

Produced on behalf of Defra by Extrium

NIGHT TIME CONTOUR (L_{NIGHT})

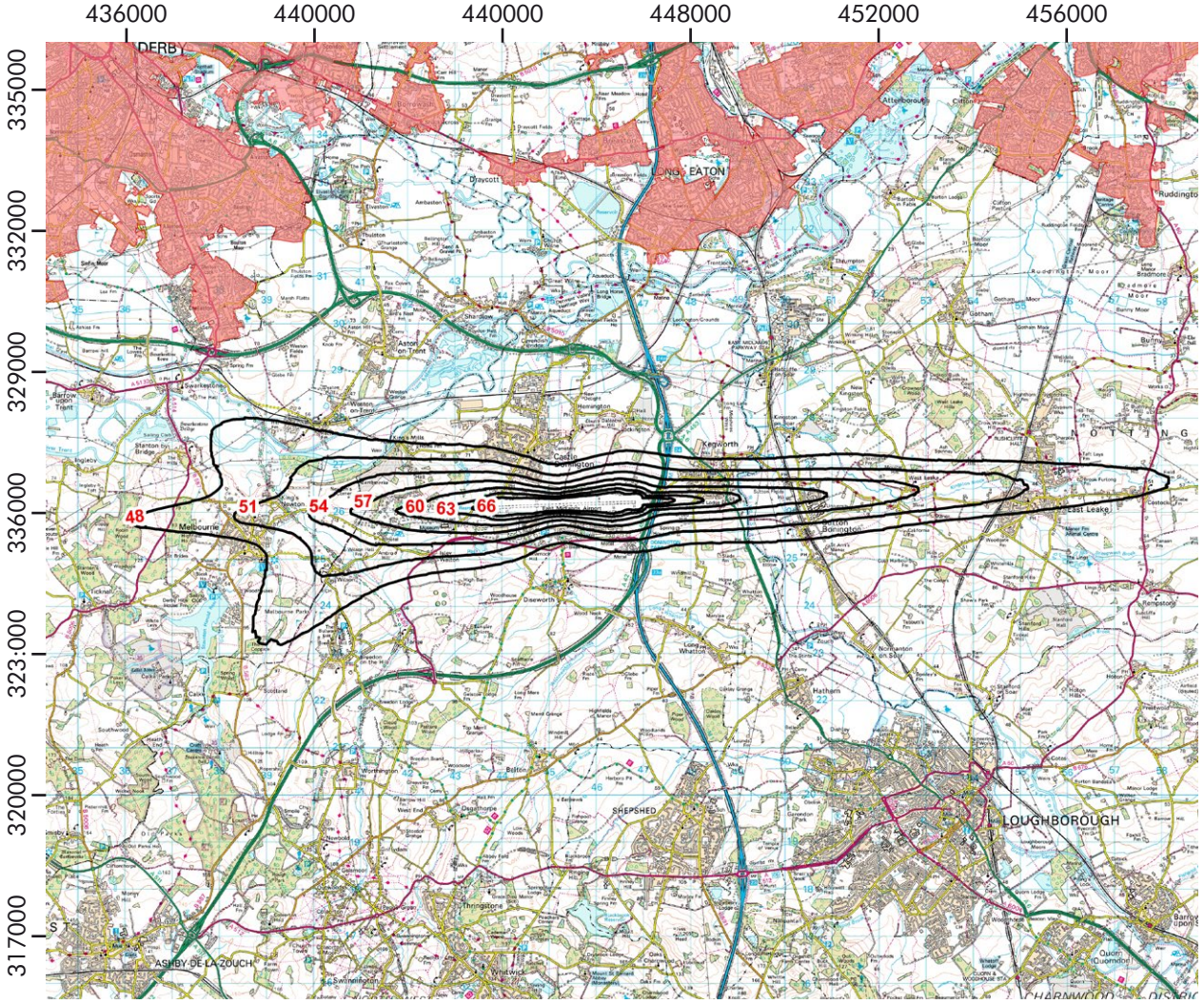
The shape of the largest 48dB contour has grown mainly in the north west corner and now captures Kings Mills and the southern part of Weston-on-Trent. The western extent of the contour has increased slightly, ending to the west of Melbourne. To the east, the contour extends just beyond the village of Costock. To the north and east, the contour takes in parts of Castle Donington and the village of Kegworth. The southern-most tip of the contour has reduced slightly. The 51dB contour reaches out as far as East Leake to the east and has extended to the west, to include parts of Melbourne. The 54dB contour takes in the mainly rural areas to the east of Sutton Bonington and to the west of the Donington Park circuit. To the north and east it touches the tip of Castle Donington and parts of Kegworth. To the south it remains within the airport boundary. The 57dB contour passes over rural areas to the south of Castle Donington and clips the southern-most tip of the village of Kegworth. The 60dB contour remains within the airport boundary to the north and south, stretching out over south Kegworth, as far as the A6 to the east. There has been no change in noise exposure above 63dB and the contours sizes are predominantly confined to the airport boundary and the M1 motorway.

The lowest 48 decibel (dB) or above L_{night} contour has grown by under one square kilometre since 2011. This growth has resulted in an additional 400 people between 2011 and 2016. For the 54dB or above contour, which most closely matches the agreed airport noise envelope, there has not been any significant change to the contour and there has been no increase in people included within the contour.

NOISE LEVEL (DB)	2011 DATA			2016 DATA			CHANGES FROM PREVIOUS YEARS
	23:00-07:00 hour L_{night}						
	Area of Contour (km^2)	Number of Homes	Number of People	Area of Contour (km^2)	Number of Homes	Number of People	Number of people in 2016 vs 2011
48 or more	41.1	5,900	14,200	41.9	6,150	14,600	+400
51 or more	22.7	2,150	5,300	23.0	2,350	5,600	+300
54 or more	12.7	900	2,200	12.8	900	2,200	0
57 or more	7.0	400	1,100	7.1	500	1,200	+100
60 or more	3.7	150	400	3.8	250	500	+100
63 or more	2.1	Fewer than 50	Fewer than 100	2.1	Fewer than 50	Fewer than 100	0
66 or more	1.2	0	0	1.2	0	0	0

Source: DEFRA Noise Mapping data 2011 and 2016.

2016 L_{night} NOISE CONTOUR MAP



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

L_{night}

Year – 2016

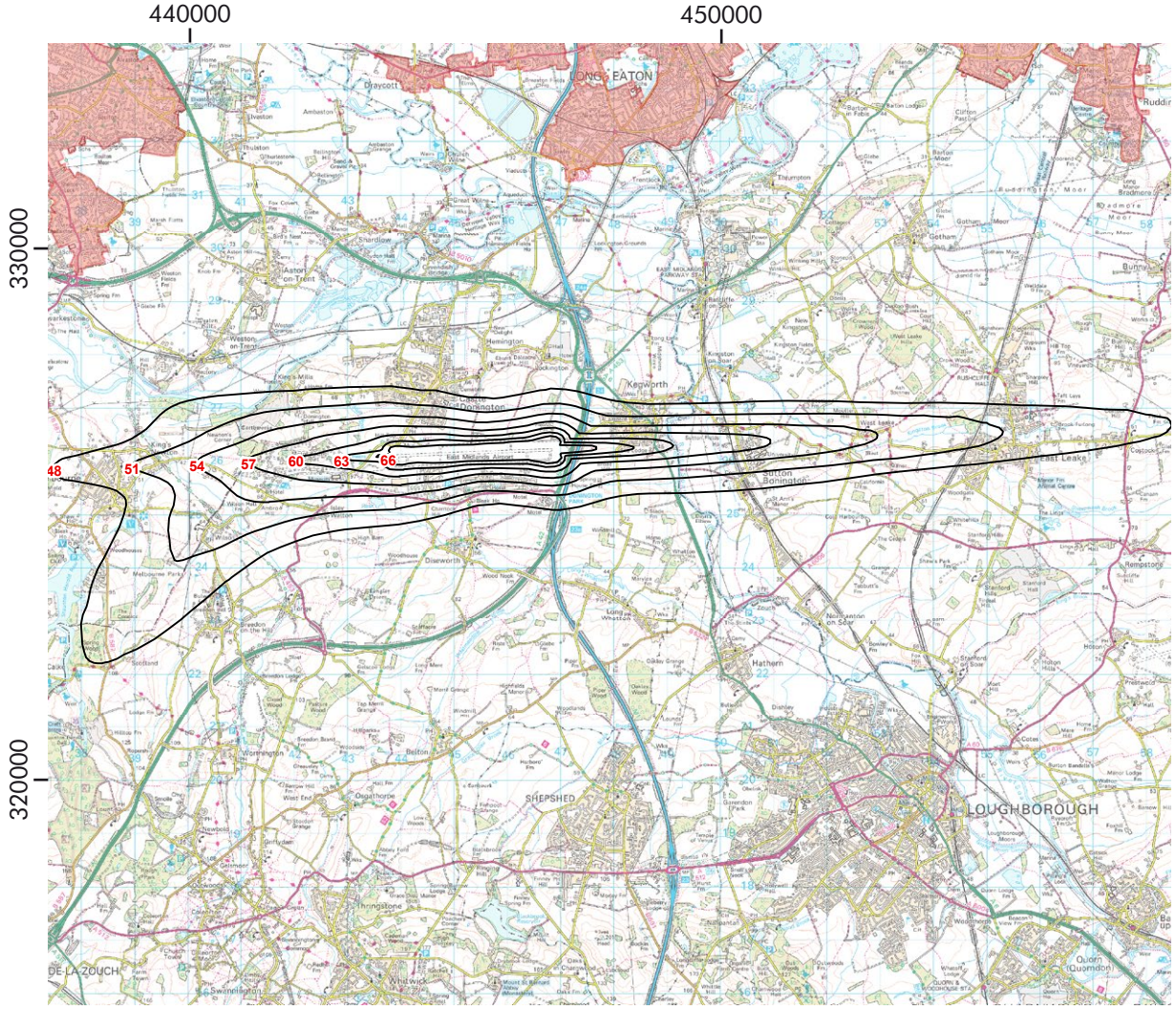
– 60 – Noise level Contour (dB)

Agglomeration

0 0.75 1.5 2.25 3

Km

2011 L_{night} NOISE CONTOUR MAP



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

L_{night}

Year – 2011

– 60 – Noise level Contour (dB)

Agglomeration

Produced on behalf of Defra by Extrium

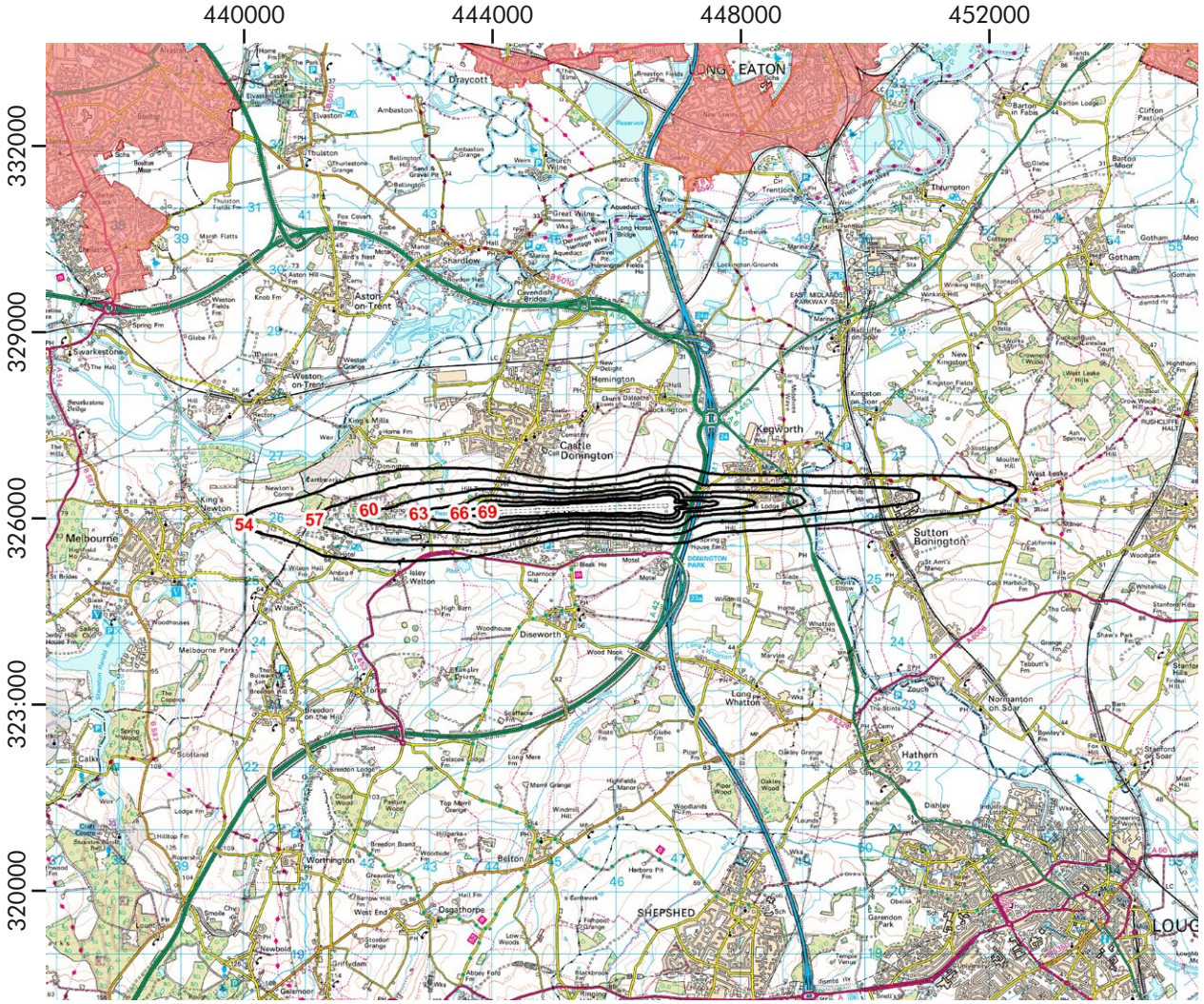
AVERAGED DAY TIME CONTOUR (16-HOUR L_{Aeq})

The area of the 54 decibel (dB) 16-hour L_{Aeq} contour is one square kilometre larger in 2016 as it was in 2011, however there are 200 fewer people affected. This is due to the contour area narrowing to the north and now avoiding all but the southern tip of Castle Donington. Since 2011, the western tip has extended slightly further towards King's Newton whilst it has shortened to the east, now ending just before West Leake. The shape of the 57dB contour which extends over the Donington Park race circuit to the west and Sutton Bonington the east, has grown by 0.7 kilometres and there has been an increase in the number of people now included by this of 200 since 2011. The 60dB contour has grown by 0.4 kilometres since 2011, extending slightly further east over Kegworth, with an additional 100 people now included. There has been no change in noise exposure above 63dB..

NOISE LEVEL (DB)	2011 DATA			2016 DATA			CHANGES FROM PREVIOUS YEARS
	07:00-23:00 16-hour L_{Aeq}						
	Area of Contour (km^2)	Number of Homes	Number of People	Area of Contour (km^2)	Number of Homes	Number of People	Number of people in 2016 vs 2011
54 or more	**13.0**	900	2,300	14.0	900	2,100	-200
57 or more	**7.2**	400	1,100	7.9	500	1,300	+200
60 or more	**3.8**	200	400	4.2	250	500	+100
63 or more	**2.1**	Fewer than 50	Fewer than 100	2.2	Fewer than 50	Fewer than 100	0
66 or more	**1.2**	0	0	1.2	0	0	0
69 or more	**0.7**	0	0	0.7	0	0	0

Source: DEFRA Noise Mapping data 2011 and 2016.

2016 L_{Aeq} 16-HOUR NOISE CONTOUR MAP



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

$L_{Aeq, 16h}$

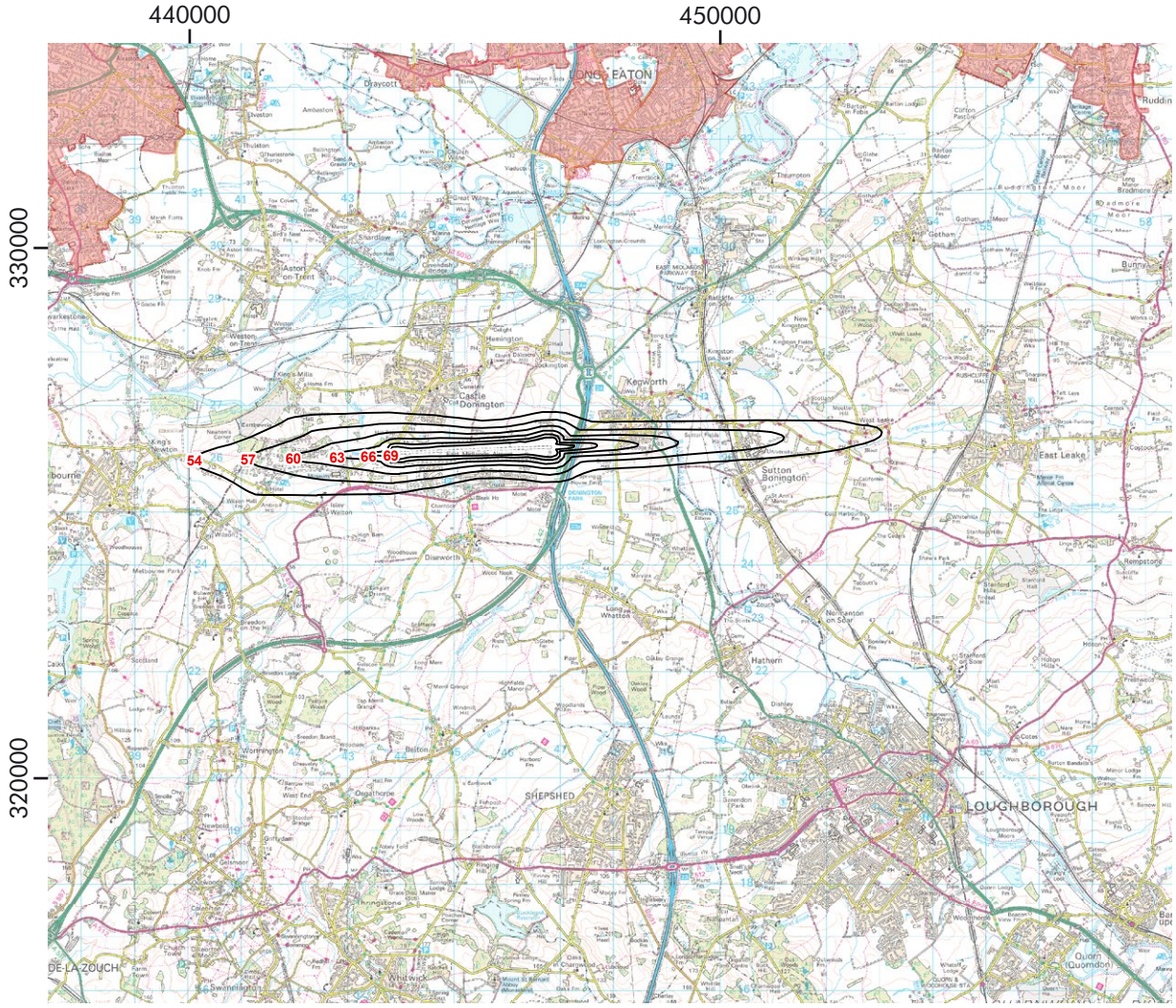
Year – 2016

– 60 – Noise level Contour (dB)

Agglomeration

0 0.55 1.1 1.65 2.2
Km

2011 L_{Aeq} 16-HOUR NOISE CONTOUR MAP



MAG East Midlands Airport

Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

East Midlands Airport (EGNX)

$L_{Aeq, 16h}$

Year – 2011

– 60 – Noise level Contour (dB)

Agglomeration

Produced on behalf of Defra by Extrium

APPENDIX E

PERFORMANCE AGAINST 2013-2018 NOISE ACTION PLAN

The table below details the airport performance against the 2013-2018 Noise Action Plan. Performance is rated green for complete, amber for some progress made and red for limited or no progress made.

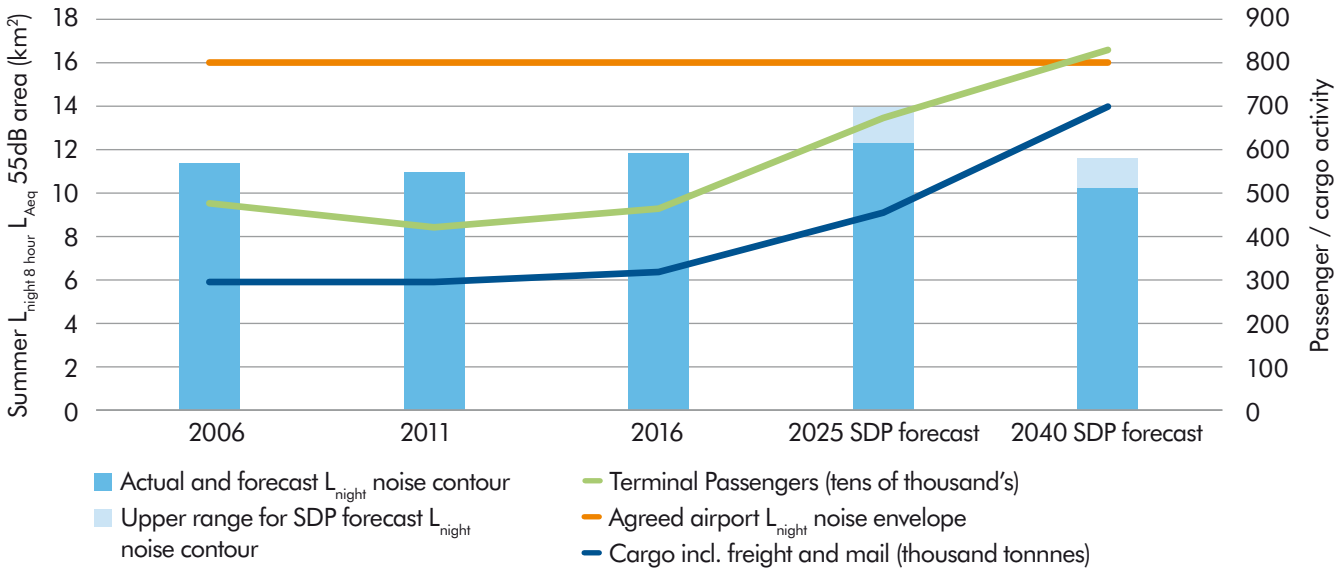
PERFORMANCE RATING KEY

- Target has been met
- Progress made but target not fully met
- Limited progress made

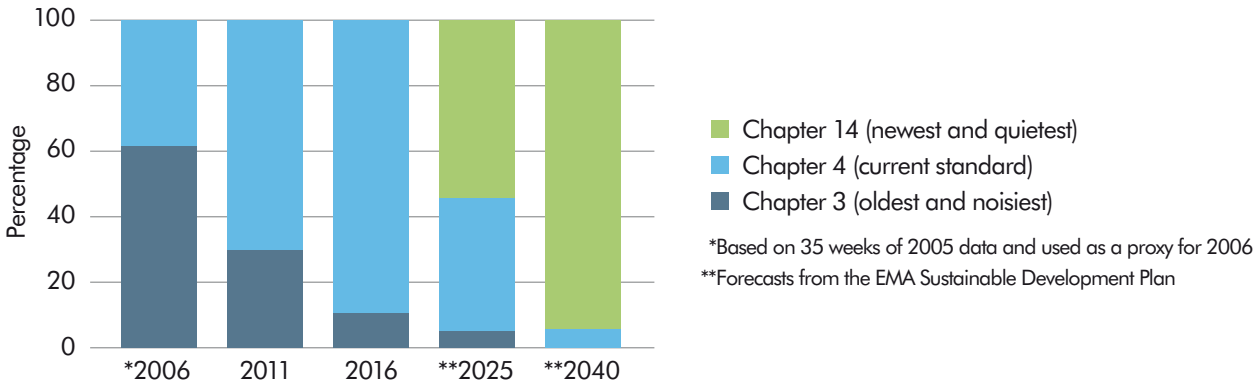
NOISE CONTROLS

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
'Noise Envelope' From 2014, our 'noise envelope' will be based on the lower 55 decibel night-time noise contour (55dB Lnight) and we will ensure that this contour does not exceed an area of 16 square kilometres.	Airport growth has been delivered well within the agreed planning condition night noise envelope, with only a small increase in contour area of 0.5km² during the last 10 years. We anticipate that all future growth of the airport will remain within the noise envelope (the black T bars in the chart indicate the maximum size of the forecast contour areas based on a slower rate of progress to quieter aircraft). Whilst the forecasts indicate some growth in the contour area over time the airport is prioritising action for operators to switch to quieter aircraft. We expect these measures will makes sure this transition is as fast as practical.	

PERFORMANCE (ACTUAL AND FORECAST) AGAINST AGREED NIGHT NOISE ENVELOPE



NOISE CONTROLS

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Chapter 4 operations We will continue to work towards our annual target of 100% of night flights to be by aircraft meeting the requirements of Chapter 4 and will publicly report the progress we have made.	The percentage the percentage of aircraft operations at night that meet the requirements of Chapter 4 has continued to increase, rising from 70% in 2011, to 89% in 2016, with 9 out of 10 night movements now meeting Chapter 4 requirements. This is forecast to increase in the future and will be further improved by the increased use of Chapter 14 noise compliant aircraft. NIGHT MOVEMENTS BY AIRCRAFT NOISE CHAPTER  *Based on 35 weeks of 2005 data and used as a proxy for 2006 **Forecasts from the EMA Sustainable Development Plan	

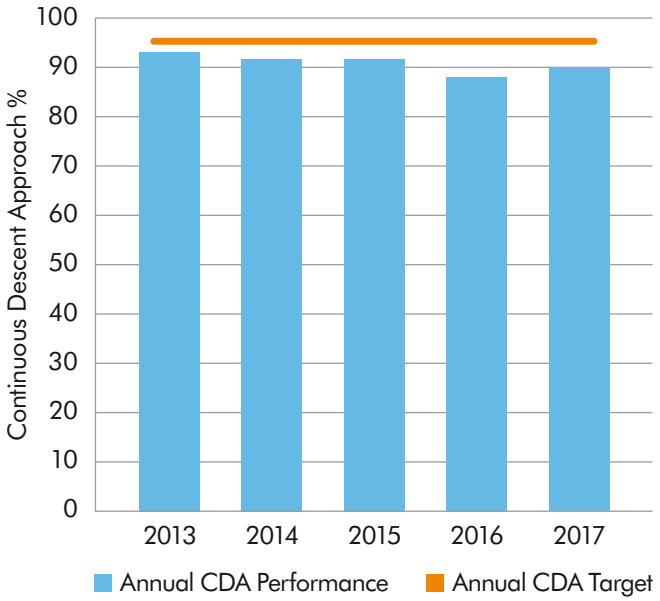
NIGHT NOISE

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Noisy aircraft penalty Between 23:00 and 07:00, departing aircraft must operate within a noise limit. The penalty for going over the permitted noise level is currently £750 plus £150 for each decibel above that level.	Due to the success of this action, since 2013 there has only been one night noise penalty which generated £900 in 2014. To ensure that our night noise penalty scheme remains relevant and appropriate proposals revisions have recently been prepared for consultation. We propose to reduce the maximum noise limit for departing aircraft less than 100 tonnes from 83dB to 81dB. Aircraft exceeding this maximum limit will pay £750 for the first dB over the limit and a further £150 for each additional dB over the limit. This action was met. New noisy aircraft penalty criteria have been proposed which we propose to implement in the new Noise Action Plan.	
QC8 and QC16 noise surcharge We will continue to penalise off-schedule operations by the noisiest aircraft types.	This action has been met, however, the airport believes further action is required to restrict the operation of QC4 aircraft in future. To meet this an additional surcharge is proposed. Since 2013 there has only been one night noise surcharge which generated £10,000 in 2014. We will maintain the existing ban on scheduled QC8 and QC16 aircraft operating at night. To ensure the loudest aircraft continue to be restricted at night, it is proposed that an additional surcharge is applied to QC4 aircraft. This will include departures of Boeing 747-400 and McDonnell Douglas DC-10 aircraft. We propose to introduce an additional noise surcharge charge of £2,500 per QC4 aircraft movement to the existing noise surcharges for QC8 and QC 16 aircraft departures between 23:00-07:00. Recognising the practical challenges faced by airlines which may need to upgrade their fleets, for scheduled services this charge will be phased in over the course of the Noise Action Plan. All proceeds from the charge are to be donated to the Airport Community Fund.	
Supplemental noise charges We will continue to apply noise-related supplements to flights that operate during the night.	This action was met, and a review of their effectiveness will be carried out during the next Noise Action Plan. Flights between 23:30 and 06:00 are subject to additional charges based upon the QC category of the aircraft. In the case of passenger flights, this is a 25% surcharge applied to aircraft that do not meet at least QC2 on departure. For cargo flights – arrivals and departures – the surcharge is based upon both the weight and the QC category of the aircraft. Cargo flights departing between 21:00 and 23:30 and between 06:00 and 07:00 are subject to additional charges based upon the weight of the aircraft. The airport plans to review the effectiveness of these supplemental charges during the next Noise Action Plan, taking account of the changes to the noise surcharges discussed above.	
Noise-related charges During 2015/16, we will review our system of noise-related charging to further encourage the operation of quieter aircraft types.	The airport has not yet completed this work. In the new Noise Action Plan a comprehensive review of noise related charges will be completed 12 months after the plan is adopted.	

ARRIVING AIRCRAFT

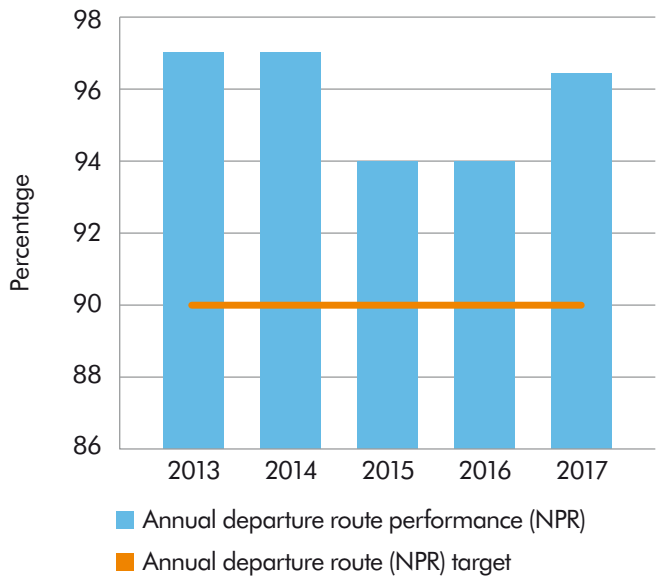
2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Low-power/low-drag Aircraft approaching the airport are expected to keep noise disturbance to a minimum by using a low-power/low-drag procedure.	The airport has published this procedure through section 7 of the UK AIP noise abatement procedures for East Midlands Airport and continues to work with operators to encourage its use. New work is currently underway through our involvement with Sustainable Aviation, which is exploring opportunities to minimise noise on arrival call 'Low Noise Arrivals'. This is due to complete by early 2019. It includes looking at the final approach when landing gear and flaps are deployed by the pilots. A further review of this is recommended in 2019, when the Sustainable Aviation low noise arrival work will be complete.	
Continuous descent approach In keeping with commitments made in the Airport Environment Plan, from 2014 our CDA compliance target will rise to 95%.	CDA performance has reduced by 3% since 2013. This is due to the following reasons: – The changing mix of aircraft using the airport – in late 2012 a new home-based operator started flying smaller propeller aircraft. During increased traffic periods, to maintain flight safety requirements, some jet aircraft are given speed control and/or extensions to their arrival track. This has led to some aircraft levelling off for longer than the maximum distance specified in the CDA criteria. – Operators that use the airport infrequently – Pilots that do not regularly fly to the airport are less familiar with the CDA requirements. – Avoidance of severe weather – To maintain safety pilots will stop landing approaches and fly around severe weather. In doing so the aircraft will level off and therefore fail to meet the CDA criteria. – The airport has raised the drop in performance through the Pilots Liaison Group and will continue to work with operators to improve performance going forwards.	

CONTINUOUS DESCENT APPROACH PERFORMANCE AGAINST TARGET



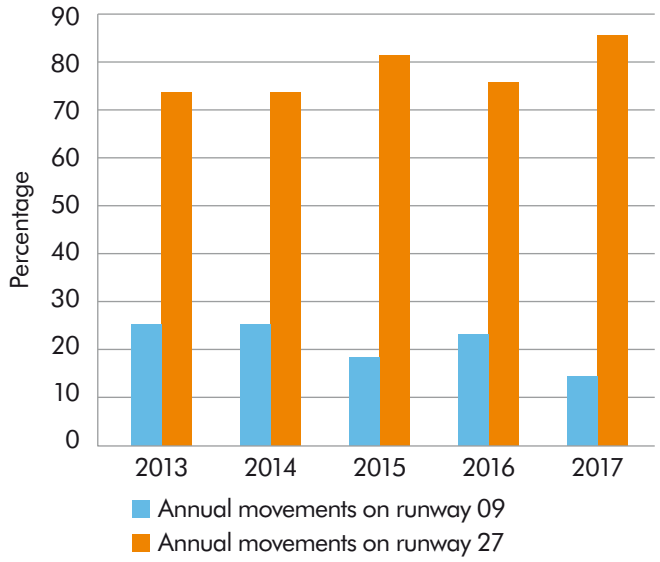
2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Reduced-engine taxi Through our work with our Sustainable Aviation partners and through our own stakeholder groups, we will try to develop a better understanding of the impediments to RET at East Midlands Airport and assess, promote and monitor take-up.	In reviewing this action, we have discussed the procedure with operators through our Pilots Liaison Group. To meet flight safety requirements, engine manufacturers require the pilots to run all the aircraft engines for a minimum period before take-off and after landing. Due to the short taxi times at the airport there is only very limited ability to carry out reduced engine taxi at East Midlands Airport. Whilst this action has been met, currently there is limited scope for application at East Midlands Airport. We will continue to monitor developments in this area.	
Ground power Through our stakeholder liaison groups, we will improve our understanding of ground power use, promote the ground power hierarchy and reinforce the policing of our APU restriction.	This action has been met. Section 12 of the UK AIP for East Midlands Airport provides specific limits on the use of APU's. (a) Use of APU shall be limited as much as possible. (b) APU may be used: (i) 5 minutes after 'On Blocks'; (ii) 30 minutes before Estimated Time of Departure (ETD). Except for operational extensions approved by the Duty Airfield Operations Supervisor" Through our involvement in Sustainable Aviation, we took part in a group to gather data and consider best practice. This included looking at use of ground power in aircraft turnarounds. Further work is currently underway to gather data from across the UK on the use of ground power and APU's. This work is targeting opportunities to improve operating practices and reduce noise and air quality emissions at the airport. A code of practice guide for aircraft turnarounds from this work is then planned. We will continue to monitor developments, including updates to the Sustainable Aviation code of practice.	
Reverse thrust To keep noise disturbance to a minimum in areas next to the airport, pilots should avoid using reverse thrust after landing.	This action is included in section 8 of the UK AIP for the airport. It focuses on avoiding the use of reverse thrust during the night time. This action has been met and the regulations remain in place.	

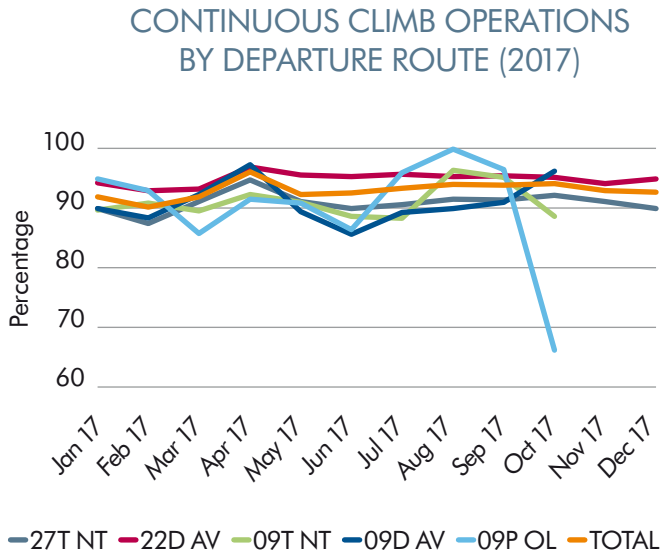
DEPARTING AIRCRAFT

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
'Off-track' departures We have an annual limit of no more than 10% off-track departures. We will routinely review the width of our NPRs and investigate the use of new operational procedures and technologies to see if changes could bring significant noise benefits to local communities.	Excellent departure track keeping performance has been achieved over the last five years. With the advent of highly accurate satellite based navigation systems on aircraft, we will now be able to review and improve the track keeping width that we can achieve, as part of a broader modernisation of our airspace arrangements. DEPARTURE ROUTE PERFORMANCE AGAINST TARGET  	

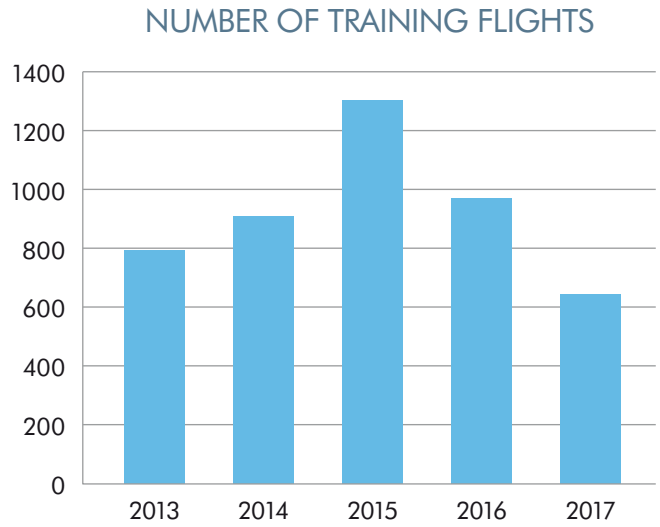
2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Preferred runway direction Where conditions allow, we prefer aircraft to take off in a westerly direction.	This action has been met with a growing majority of aircraft operations using Runway 27. It is recommended that the action is maintained and moved to the 'Monitoring and Reporting' section.	

AIRCRAFT MOVEMENTS BY RUNWAY DIRECTION



2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Continuous climb departure By 2014 we will develop the ability to monitor CCD and will report upon how well we are doing.	The airport's noise monitoring system has been enabled to produce continuous climb departure reports. The early results tell us that around 90% of aircraft achieve a continuous climb operation (CCO); this is relatively high and reflects the fact that airspace around East Midlands Airport is relatively uncongested. We will continue to monitor and report our performance and explore opportunities that broader airspace modernisation may provide to improve it further.  	

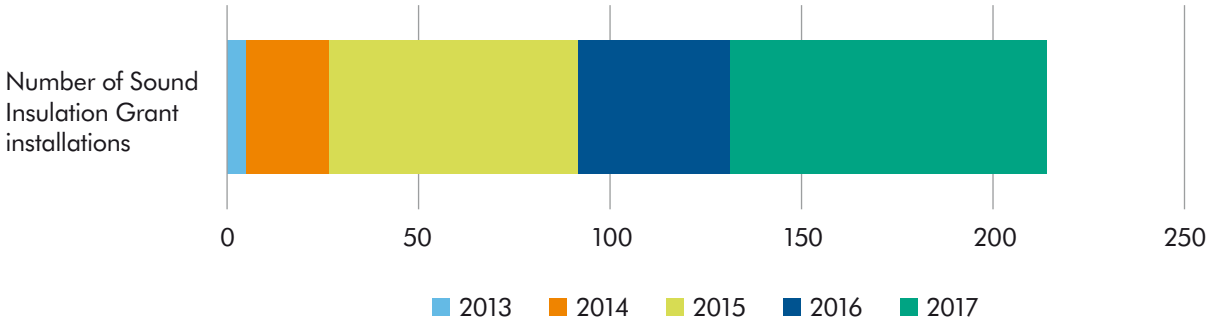
2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Training flights We want to better understand how the development of a pre-defined training circuit might potentially further reduce the number of people affected by training activity. Therefore, a review of the definition and controls that are applied to training aircraft will commence in 2015.	The airport has worked to improve the management of training flights since 2001. Commercial training flights are only allowed Monday to Friday, excluding Bank Holidays and only between 08:00 and 21:00 in winter and 07:00-20:00 in summer, with limits on which operators are allowed to carry them out. In 2016, the airport met with local parish councils to discuss community concerns. It became clear that arrangements for training circuits to the south of the airport could be improved. This was done, and improvements were noted by the local Parish Councils. An improved monitoring system for training flights was also set up in the airport noise monitoring system in 2017 with reports now shared with operators and with MENT. This action has been met. Further monitoring of performance trends is now required. We propose to move this action to the 'Monitoring and Reporting' section.	



MITIGATION AND COMPENSATION SCHEMES

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Sound insulation grant We will continue to run a Sound Insulation Grant Scheme to provide support to those people that are most exposed to aircraft noise at night.	East Midlands Airport introduced our Sound Insulation Grant Scheme (SIGS) in 2002 to offer financial support for the sound insulation of the properties most affected by aircraft noise. It was expanded in 2007 following a consultation as part of the airport's 2006 Master Plan. **The current SIGS** (2007) is based on noise contours for night-time aircraft movements in the summer period of 2001; this considers dwellings that were exposed to average night time noise levels (LEQ) of at least 55dB and/or are regularly exposed to single aircraft noise events of at least 90dB at night. Due to the efforts of the airport and our airlines, including ongoing investment in newer and quieter aircraft, the airport's noise contours (which were used to establish SIGSboundaries) are now considerably smaller than they were in 2001. To illustrate this, the area affected by average night time noise greater than 57dB in summer 2001 was 12.19km² – in 2015 this area had reduced to 8.6km². This means that despite the reduction in our noise footprint the airport has not reduced the size of the area which benefits from the scheme. The scheme is split into four zones: Zone A contains those dwellings exposed to average night noise levels of between 55dB and 60dB, Zone B contains those exposed to average night time noise levels of between 60dB and 66dB, Zone C contains those exposed to average night time noise levels of between 66dB and 69dB and Zone D contains those exposed to average night time noise levels exceeding 69dB. Since 2013 over 200 buildings have benefited from sound insulation grants. This action has been met and will continue to be offered going forwards.	

GROWTH IN SOUND INSULATION GRANT INSTALLATIONS



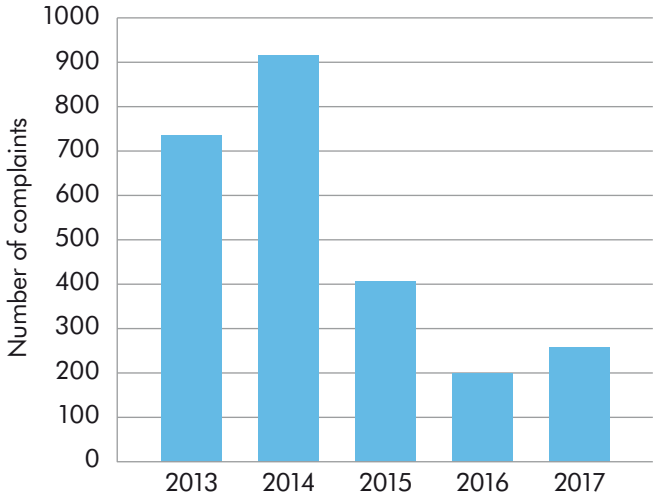
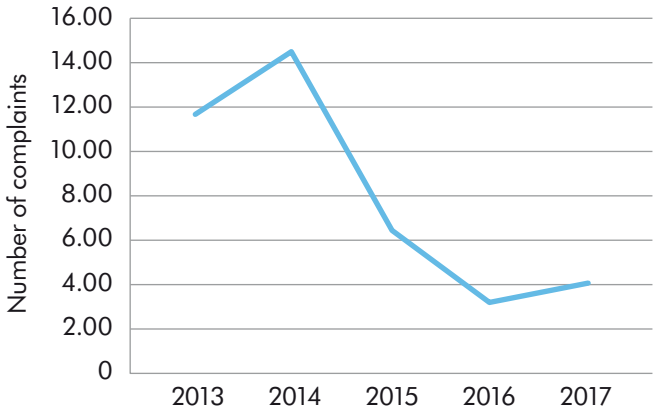
2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Vortex damage We will continue to operate a vortex damage repair and re-roofing scheme in its current format.	At East Midlands Airport there is only a very small area of Kegworth village that is potentially affected by aircraft vortices. Since 2007 a total of 63 properties have received at least one vortex strike and have been included in the Vortex Reroofing database. Since 2013 we have had 19 reported vortex strike incidents with an average of 6 new properties added onto the waiting list each year. All repairs have been completed within days of the incident being reported. Further work is also underway to reroof the most severely affected properties, prioritising those struck most often or suffering the most damage. 14 properties have been reroofed and 7 are currently under instruction for reroofing in 2018 This action has been met and will continue to be offered going forwards. However, as it is not directly a noise related issue the airport intends to remove it as an action in future Noise Action Plans.	
Community Fund We will continue to donate all the money we raise as a result of our environmental penalties to the East Midlands Airport Community Fund.	The East Midlands Airport Community Fund was established in April 2002 and since then over £925,000 has been awarded to over 1,180 projects, to bring lasting benefit to the communities around the airport. The Community Fund is managed independently by a Community Fund Committee that meets six times a year and is open to community groups within a defined 'area of benefit' that meet certain criteria. The Fund is currently supported by an annual donation of £50,000 from the airport and through the fines imposed when aircraft exceed our noise limits. The Community Fund awards grants to support eligible projects that have a long-lasting community, social or environmental benefit and can award a maximum of £2,000 per application. In 2016-17 a total of 78 groups were awarded £79,122. Of these there were; – 24 groups from Leicestershire benefitted from £27,632 in funding. – 27 groups from Nottinghamshire benefitted from £23,279 in funding. – 22 groups from Derbyshire benefitted from £23,587 in funding. – 5 groups in Staffordshire benefited from £4,624 in funding. This action has been met and will continue to be offered going forwards. It is also expected that some extra funds will become available through the QC4 surcharge discussed in the 'Noise Controls' section of this plan.	

MONITORING AND REPORTING

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Noise Monitoring System We will upgrade NTMS, our monitoring system by 2015. We will also take this opportunity to review the number and location of our fixed noise monitoring sites.	The noise monitoring system was upgraded in 2016. This enabled a range of detailed noise reports to be produced, using the system. – Details of noise complaints – Summaries of aircraft tack keeping – Summaries of continuous descent approaches – Reports of the loudest aircraft events over the noise monitors – Details of training flights These are now regularly shared with MENT and in our discussions with operators. Many reports are now shared on the airport website including noise reports for the villages of Kegworth and Castle Donington and annual noise contour maps. Visit **http://www.eastmidlandsairport.com/community/environment/managing-our-environment/reporting-and-resources/** for more information. The airport recently reviewed the fixed noise monitoring sites which resulted in a correction to data from the monitored noise results to take account of the fixed noise monitors not being at the ideal position of 6.5km from the start of the aircraft take off run. This change was discussed and adopted following the January 2018 MENT. This action has been met and the airport believe there may be opportunities to improve our noise reports to enhance our discussions with operators and the community in future.	

EFFECTIVE COMMUNICATION

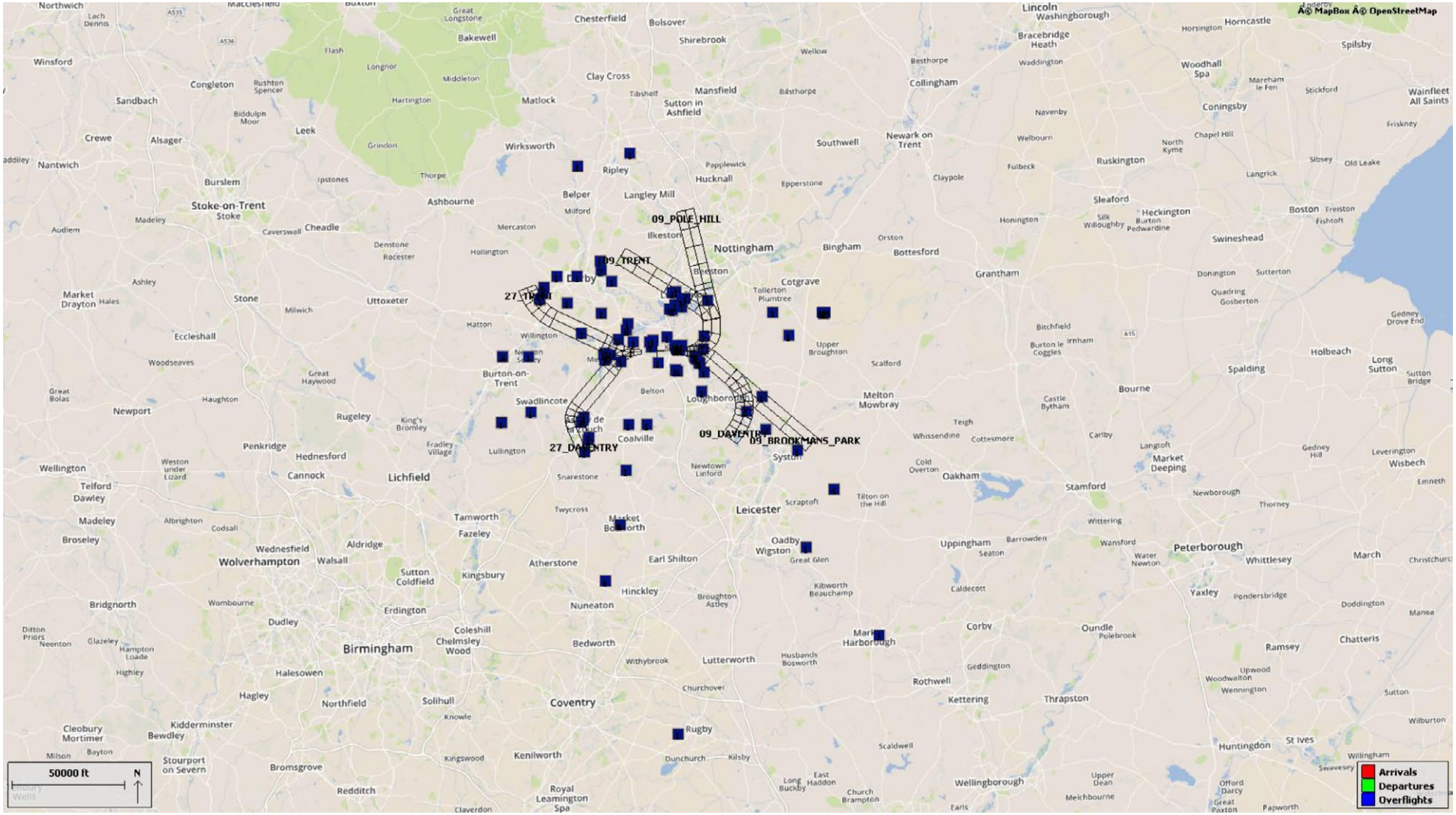
2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Community Relations Team. We will keep in touch with local people so that we can act on their comments and continue to respond to community concerns.	Individuals who have concerns are encouraged to contact the airport in a variety of ways including via the WebTrak online noise complaint system. Throughout 2013-2018 the airport has regularly kept in touch with local people, responding to community concerns and supported a wide range of community activities. Since the Airport Community Fund was established in April 2002, over £925,000 has been awarded to over 1,180 projects, to bring lasting benefit to the communities around the airport. This action has been met but continues to be relevant going forwards.	
Outreach centres. We will continue to run our community outreach centres in communities around the airport.	25 outreach events were held between April 2015 and December 17. Our events for 2018 are: – Castle Donington Medieval Market, Monday 7th May 2018 from 10:00 – Kegworth One Weekend, Saturday 2nd June 2018 from 10:00 – Breedon Summer Sunday, Sunday 24th June 2018 11:00 to 17:00 – Aston Well Dressing, Sunday 8th July 2018 11.30 to 17:00 – Diseworth Summer Fete, Saturday 8th Sept 2018 11:00 to 17:00 – Melbourne Arts Festival, Saturday 15th Sept 2018 10:00 to 17:00 To ensure these events are effective and accessible to as much of the local communities as possible, the airport has sought to combine them with other community events such as summer fetes, arts festivals and Easter and Christmas markets. This action has been met but continues to be relevant going forwards.	

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Complaints and enquiries We will continue to offer a range of ways for people to make enquiries or complaints about aircraft noise.	With the introduction of WebTrak, the airport has expanded the range of ways people can make enquiries or complaints about aircraft noise. The latest noise complaint trend data indicates that the number of complaints has significantly declined since 2014 with less than 5 complaints now received for every 1,000 air transport movements at the airport. We are also seeing less multiple complaints per person, dropping from an average of 4.8 complaints per person in 2013 to 1.8 complaints per person in 2017. This action has been met but continues to be relevant going forwards. NOISE COMPLAINT TRENDS  NOISE COMPLAINTS PER 1,000 AIR TRANSPORT MOVEMENTS  	

2013-2018 NOISE ACTION	PROGRESS	PERFORMANCE RATING
Responding to complaints We respond to all noise complaints within ten working days.	100% of complaints are investigated and responded to within 10 working days. This action has been met and continues to be relevant going forwards.	
Community flyer We will produce and distribute the Community Flyer at least three times each year to homes in the local area.	Community Flyer is distributed to over 33,000 homes in the areas surrounding the airport. It provides the latest information on our community, environmental and business initiatives and is designed to keep local residents informed of what's happening at the airport. We have produced the Community Flyer three times a year in summer, autumn and winter. It is also available on the airport's web-site. This action has been met and continues to be relevant going forwards.	
Community survey We will continue to produce and distribute the Community Survey, increasing its frequency to an annual survey and we will ensure the content of the survey and list of stakeholders is reviewed to keep it current.	We have carried out annual surveys since 2013 with our most recent survey underway at time of writing. The 2017 survey was distributed in January via Survey Monkey to a full list of local stakeholders, with a link published in the Community Flyer. We closed the survey at the end of March, with 110 responses. Around 43% of those who responded are members of the public, with 27% representing an organisation and 30% representing a community group. The survey results were analysed, and individual responses and requests responded to. Some headline responses are: – 69% felt growth at East Midlands Airport (EMA) is good for our local communities – 85% felt jobs at EMA are vital for our local communities – 37% felt there was a noticeable increase in EMA community involvement and activity in the past 3 years. – 36% felt their relationship with EMA had improved, whilst 11% felt it had deteriorated – 80% thought that EMA was a good and trustworthy neighbour and – 83% thought EMA was a responsible business – 89% thought EMA was a desirable place to work This action has been met and continues to be relevant going forwards.	

APPENDIX F

GEOGRAPHICAL DISTRIBUTION OF NOISE COMPLAINTS (2017)


09_POLE_HILL
09_TRENT
27_TRENT
09_DAVENTRY
27_DAVENTRY
09_BROOKLANDS_PARK
Nottingham
Leicester
Coventry
Birmingham
Derby
Lincoln
Peterborough
50000 ft
N
Arrivals
Departures
Overflights
© MapBox © OpenStreetMap

APPENDIX G

CURRENT EXPENDITURE ON NOISE MANAGEMENT

KEY:
Type
Description – Approximate annual investment

STAFF COSTS

CSR Team, including Flight Evaluation, noise complaint handling and community relations– salary and training £115,000

COMPUTER AND EQUIPMENT COSTS

Renewal, calibration, repair, Software licenses, support development £200,000

PUBLICATIONS AND COMMUNICATIONS

Community engagement programme £17,000

COMMUNITY FUND

Annual Airport funding £50,000

NOISE INSULATION AND MITIGATION SCHEMES

Insulation, relocation, community buildings, and wake vortex £310,000

RESEARCH AND BENCHMARKING, FORECASTING

Future contours, support for Sustainable Aviation etc, studies for benchmarking £10,000

TOTAL ESTIMATED ANNUAL INVESTMENT £702,000

APPENDIX H

NAP 2019-2023
ACTION IMPACT TABLE

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 1: Night Noise Envelope Monitor, manage and annually report on performance against the airports 55dB L_{aeq} (8-hour) summer night time noise contour, aiming to progressively reduce it and ensuring it does not exceed 16km^2.	Retained	Night noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefits: the progressive introduction of different aircraft, which are more modern and quieter. Costs: EMA staff and reporting.	Annual publication of 55L_{aeq} (8 hour) summer night noise contour.	Annually
NAP 2: Chapter 4 operations Introduce new actions to ensure that the cost to airlines to operate older and noisier aircraft increases to accelerate progress towards our target of 100% of night flights to be by aircraft meeting the requirements of Chapter 4. We will publicly report the progress we have made.	Retained	Night noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefits: the progressive introduction of different aircraft, which are more modern and quieter. Costs: Purchase of new aircraft by airlines, charges to airlines for existing aircraft, EMA resources.	Changes to the Airport Conditions of Use. Monitor and report % of Chapter 4 aircraft operating at the airport to MENT.	Quarterly
NAP 3: Noisy aircraft Penalty Apply correction factors to the monitored noise results to take account of the fixed noise monitors not being at the ideal position of 6.5km from the start of the aircraft take off run. This is to enable the most accurate recording and the implementation of noise penalties. Reduce the maximum noise limit for departing aircraft less than 100 tonnes from 83dB to 81dB. By April 2019 aircraft exceeding this maximum limit will pay £750 for the first dB over the limit and a further £150 for each additional dB over the limit. The noise limits for other aircraft will remain the same.	Modified	Night noise	In excess of 14,900 people (Communities within and beyond the 48dB L_{night} noise contour).	Benefits: Quieter departing aircraft. Costs: Charges to aircraft operators. EMA staff and reporting costs.	Implement April 2019. Monitor and report aircraft exceeding the limits to MENT.	Quarterly

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 4: QC4, QC8 and QC16 surcharges Maintain the existing ban on scheduled QC8 and QC16 aircraft operating at night. By April 2019, introduce a new noise surcharge of £2,500 per QC4 aircraft departure between 23:00-07:00. This is in addition to the existing noise surcharges for any QC8 and QC16 night departures approved under exceptional circumstances. Recognising the practical challenges faced by airlines which may need to upgrade their fleets, for scheduled services this charge will be phased in over the course of the Noise Action Plan. For ad-hoc operators the charge will be effective in full from April 2019. All proceeds from the charge are to be donated to the Airport Community Fund.	Modified	Night noise	In excess of 14,900 people (Communities within and beyond the 48dB L_{night} noise contour).	Benefits: Quieter departing aircraft. Extra finances for the Airport Community Fund. Costs: Charges to aircraft operators. Administration costs for EMA.	Implement April 2019. Report number and cost of noise surcharges to MENT.	Quarterly
NAP 5: Review effectiveness of noise related charges to incentivise the use of Chapter 14 compliant aircraft at night Review our existing noise charges and change them where required to incentivise the operation of aircraft in the daytime wherever possible and to ensure that, where night time operations are necessary, they are undertaken by quieter aircraft types. *continued…*	Modified	Night noise	In excess of 14,900 people (Communities within and beyond the 48dB L_{night} noise contour).	Benefits: Better incentives for aircraft operators to use quietest aircraft at EMA. Quieter aircraft using airport. Costs: Charges to older, noisy aircraft operators. Administration costs for EMA.	Complete review and report outcome to MENT.	December 2019. Implement changes from 2020 as agreed

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 5: Continued… The principles we propose to inform the review are: 1. Night-time operations should incur a premium, 2. Chapter 3 aircraft that continue to operate at night should incur a premium, 3. Chapter 14 aircraft that operate at night should receive an incentive. It is proposed that the review is completed within 12 months and the effectiveness of the revised arrangements is reviewed at the end of the Plan (i.e. 2023). During the review we will continue to apply noise-related supplements to flights that operate during the night, detailed in the Airport Schedule of Charges.						
NAP 6: Continuous descent approach Improve our CDA performance to achieve a target of 98% for arrivals by 2023. This will include a review of the continuous descent approach criteria once the Sustainable Aviation 'low noise arrival' study is complete (anticipated in 2019).	Modified	Arrival noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefits: Increase in quieter arrivals to EMA. Costs: Airport, ATC and aircraft operator staff time.	Quarterly CDA progress reports to MENT/ICC.	Quarterly
NAP 7: Steeper approaches Work with airlines, air traffic control and regulators to evaluate the feasibility and noise benefits of steeper approaches by 2023. Then, if proven, take forward an airspace modernisation proposal with the operators and communities' support.	New	Arrival noise	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefits: Quieter arrivals close to airport. Costs: Aircraft and ATC simulator costs and airport airspace modernisation proposal costs.	Regular updates on progress to MENT/ICC.	Evaluation and proposal complete by 2023

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 8: Specified arrival routes Starting in early 2019, explore with the communities the options for specified arrival routes to the airport using new satellite based navigation technology, seeking to reduce noise impacts. Then, if proven, take forward an airspace modernisation proposal (ACP) with the operators and communities' support and implement by 2023.	New	Arrival noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefits: Quieter arrival routes to the airport. Costs: Airspace design and change proposal costs, airport, aircraft operator, ATC and community time to agree routes.	Regular updates on progress to MENT/ICC.	Start early 2019 Aim to apply for ACP by 2023
NAP 9: Low power, low drag approaches Work with operators to improve compliance with the published low power, low drag procedure. This includes reviewing operating instructions following the outcome of the Sustainable Aviation 'Low Noise Arrival' work anticipated in 2019.	Modified	Arrival noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced arrivals noise and emissions. Cost: Airline engagement.	Regular updates on progress to MENT/ICC.	Ongoing
NAP 10: reduced-engine taxi Continue to promote the use of reduced engine taxi at the airport where it is practical and beneficial to do so.	Retained	Ground noise	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced ground noise and emissions. Cost: Airline and ATC engagement.	Regular updates on progress to MENT/ICC.	Ongoing
NAP 11: Use of Aircraft Ground Power Work with our industry partners to identify and encourage quieter ways to service aircraft, for example through the use of alternatively fuelled vehicles and equipment	Modified	Ground noise	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced ground noise and emissions. Cost: Airline and ATC engagement.	Regular updates on progress to MENT/ICC.	Ongoing

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 12: Use of intersection departures We will continue to promote and encourage the increased use of intersection departures, especially from Runway 27 at night to reduce ground noise for local communities.	Retained	Ground noise	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced ground noise and emissions. Cost: Airline and ATC engagement.	Regular updates on progress to MENT/ICC.	Ongoing
NAP 13: Review effectiveness of ground noise procedures We will carry out a review into the effectiveness of our ground noise procedures and explore options for how these can be improved by end 2020.	Retained	Ground noise	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced ground noise and emissions. Cost: Airline and ATC engagement.	Report on outcome of review to MENT/ICC.	2020
NAP 14: Night time vehicle noise We will work with our business partners to identify and implement measures to minimise noise from vehicle movements on the airport at night. This will be informed by consultation with our immediate community representatives and be established by the end of 2019.	New	Ground noise	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced ground noise and emissions. Cost: Companies on the airport and vehicle modifications and/or restrictions.	Report on outcome of review to MENT/ICC.	2019
NAP 15: Departure track keeping Increase our departure 'on-track' keeping performance target to 98% by 2023 at the latest. Continue to monitor and report performance.	Modified	Departure noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced departures noise. Cost: Airline and ATC engagement.	Regular updates on progress to MENT/ICC.	Ongoing

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 16: Explore options to improve the effectiveness of NPR's Work with stakeholders, local authorities and the ICC to identify priorities for changing the route or reducing the width of the airport NPR's to minimise people overflown. This is to create a priority list of noise reduction options based on the community view of the most noise sensitive areas first. This will form the basis of an airspace modernisation options analysis proposal and be implemented as soon as possible in a priority order agreed between the airport and ICC. With the aim for all changes to be complete by early 2022.	New	Departure noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: ongoing operational improvement, resulting in reduced departures noise. Cost: Time costs for Airport, aircraft operator, ATC, MENT, ICC and other stakeholders.	Regular progress reports and final report to MENT/ ICC.	By early 2022
NAP 17: Continuous Climb Departures (CCD) Explore with airlines and air traffic control, the opportunities to increase use of continuous climb departures through airspace modernisation. Prioritise with communities and seek to implement airspace modernisation as required as soon as possible and be complete by early 2022. Continue to monitor and report CCD performance.	Modified	Departure noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Noise reduction of improved climb performance due to less aircraft being stop climbed . Cost: Stakeholder engagement, ACP design and approval costs .	Opportunities report to ICC/MENT. Monitoring report once operational.	Initial report by early 2020 ACP implemented by 2022.
NAP 18: Off track departure fines We will seek to extend our system of noise fines to penalise airlines that persistently fail to meet the requirements of our departure flight paths. Within the first year of this updated NAP, we will work with stakeholders to ensure that any changes to our penalty systems are fair to all parties and deliver the right incentives.	New	Departure noise	Not applicable	Benefit: Incentivise operational improvement, resulting in reduced departure noise. Costs: Aircraft operator charges and Airport Noise and track keeping monitoring system and staff time.	Regular updates on progress to MENT/ICC.	Implement scheme by end 2019

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 19: Noise study into preferential runway use policy We will undertake a study to understand the noise effects of our policy into the preferential use of runway 27 by 2020.	New	Departure noise	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefits: Ensure net noise reductions achieved through preferential use of runway 27. Costs: EMA costs to review performance and produce report.	Report of study to MENT/ ICC.	2020
NAP 20: Sound Insulation Grant Scheme Continue to operate a Sound Insulation Grant Scheme to provide support to those people that are most exposed to aircraft noise at night.	Retained	Mitigation and Compensation Schemes	Dwellings exposed to average night time noise levels (LEQ) of at least 55dB and/or are regularly exposed to single aircraft noise events of at least 90dB at night	Benefit: Reduction in indoor noise levels for those significantly affected by aviation noise levels. Cost: Management of the program.	Periodic reports on progress to MENT/ICC.	Ongoing
NAP 21: Community Fund Continue to donate all the money raised as a result of our environmental penalties to the East Midlands Airport Community Fund. The airport will continue to carry out regular reviews of the Community Fund the ensure it remains effective.	Modified	Mitigation and Compensation Schemes	Communities within the Airport Community Fund boundary (see NAP)	Benefit: Makes available charitable funding in areas closest to and affected by airport operations. Cost: Management and financial commitment to the scheme.	Regular reports on activity shared with ICC.	Ongoing
NAP 22: Peak noise events report Establish and share a new report that identifies the noisiest 10% of aircraft night operations by mid 2019. This report will be used to challenge performance with operators and explore options to reduce noise.	New	Monitoring and reporting	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Seeks to prevent loudest aircraft events. Costs: Airport, Aircraft operator engagement.	Quarterly report to MENT.	Quarterly from mid 2019
NAP 23: Preferred runway direction Where conditions allow we prefer aircraft to operate in a westerly direction. Regular reports on runway usage will continue to be produced.	Retained	Monitoring and reporting	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Monitor and challenge performance. Costs: Airport, Aircraft Operator, ATC engagement.	Quarterly report to MENT.	Quarterly

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 24: Training Flights Report Monitor and report performance to identify trends and any compliance issues. Address issues as necessary.	Modified	Monitoring and reporting	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefit: Monitor and manage training flight nois. Cost: Airport, Aircraft Operator, ATC engagement.	Quarterly report to MENT.	Quarterly
NAP 25: Low noise arrivals report We will review the current continuous descent approach (CDA) reporting procedures in light of a Sustainable Aviation 2018 'Low Noise Arrivals' study. Implement changes where agreed and report progress by end of 2019.	New	Monitoring and reporting	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Increase quiet arrivals to the airport. Cost: Airport, Aircraft Operator, ATC engagement.	Quarterly report to MENT.	From end 2019
NAP 26: Initiate a 'Quiet flight performance' reporting system Establish and publish a new airline noise performance report by mid 2019, based on a range of key noise criteria, including complaints received, continuous descent arrivals, continuous climb departures, adherence to noise limits, departure track keeping and percentage of Chapter 4 and 14 aircraft in the operator's fleet. An annual award for the highest performing airline is also proposed. This effectiveness of this report will be reviewed on a regular basis with the ICC and prior to producing the next Noise Action Plan.	New	Monitoring and reporting	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Highlight best practice and incentivise aircraft operators to reduce noise. Cost: Airport to set up report and pay costs for annual award.	Quiet Flight report shared with aircraft operators and MENT/ICC.	Quarterly

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 27: Identify smarter ways to work with industry partners in reducing noise We will review the effectiveness of the Pilot Liaison Group at East Midlands Airport. Specifically looking at identifying the root causes of common environmental impacts and to evaluate and manage potential solutions. Any revisions to the terms of reference for the group, including how it will work with the ICC, will be agreed by mid 2019.	New	Monitoring and reporting	Not applicable	Benefit: Quieter aircraft operations through sharing best practice. Cost: Airport, Aircraft operator, ATC engagement.	Clarification to ICC of any changes to how the group works with the ICC.	Mid 2019
NAP 28: Review community noise monitor programme Review and agree a programme for community noise monitoring in consultation with the ICC by end 2019. This includes installing an additional noise monitor at Melbourne ahead of any possible changes to airspace.	New	Monitoring and reporting	In excess of 2,400 people (Communities within and beyond the 60dB L_{den} noise contour).	Benefit: Better quality aircraft noise data and informed decision making. Cost: Monitor, data analysis and reporting.	Aircraft noise monitoring reports for community locations.	To be agreed with ICC by end 2019
NAP 29: Stakeholder reference groups Establish new stakeholder reference groups as and when necessary to inform any airspace modernisation proposals, as we seek to modernise airspace arrangements. These will include the airport, operators, air traffic and community representatives to develop options and, where relevant, take forward airspace modernisation proposals to reduce noise. Agree the terms of reference for these groups with the ICC by early 2019.	New	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Increased transparency and engagement in development of airspace modernisation process. Cost: Airport meeting facilitation.	Terms of reference for group.	Early 2019

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 30: Continually improve noise complaint and enquiry process Regularly review the airport process for handling noise complaints and enquiries to improve the transparency and effectiveness of the system. This will include consultation with the ICC. First review to be complete by mid 2019 with agreed actions implemented by end 2019.	New	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Increased effectiveness of noise complaint and enquiry management. Cost: Airport investment in noise complaint system and staff time.	Report of review with improvement actions.	Mid 2019 with actions implemented by end 2019
NAP 31: Provide and regularly review effective engagement with communities Continue to provide regular opportunities to engage with local people to understand their concerns and respond effectively to them, to include community outreach events and a community newsletter. Develop and review the effectiveness of our engagement programme regularly through benchmarks like the BITC Community Mark and our own annual Community Impact surveys.	Retained	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Better engagement between airport and communities. Cost: Airport investment in meetings, staff time, surveys and benchmark activity.	Community Impact survey results. Effectiveness Benchmark report.	Ongoing
NAP 32: Carry out regular Community Survey Carry out an annual community survey to collect views on how effectively the airport is managing aircraft noise issues as well as other issues. Results from the survey will be shared with the ICC, operators, air traffic control and community groups and used to inform any future noise actions.	Retained	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Understanding and responding to community concerns. Cost: Staff time and survey costs.	Survey report to ICC, operators, ATC and community groups.	Annually

NAP ACTION	STATUS	IMPACT AREA	NUMBERS OF PEOPLE AFFECTED	EXPECTED COST AND BENEFIT	PERFORMANCE INDICATOR & REPORTING	TIMESCALE
NAP 33: Noise related community Investment Provide specific information on aircraft noise related community investment as an appendix to the annual airport Community Investment Report. This will aim to clearly show how noise fines are used to support the communities affected.	New	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: More transparent information to communities. Cost: Staff time.	Report on community investment.	Annually
NAP 34: Provide educational and skill development material on aircraft noise Develop educational material on aircraft noise management. This will include facilitating visits to the airport and information materials and is proposed to support our 'Inspiring Young People' programme.	New	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: Educational and skill development for local communities. Cost: Staff time and development of educational materials.	Report on activities to ICC.	Annually
NAP 35: Noise Action Plan Progress Report We will produce at least two reports to the ICC summarising progress made by the airport against this Noise Action Plan. First report to be produced by mid 2020.	New	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: More transparent sharing of progress on delivering NAP. Cost: Staff time and report costs.	Two progress reports.	Mid 2020 for first report
NAP 36: Improve access to noise information on the airport website Review and implement changes by mid 2019 to improve the accessibility of noise information on the airport website.	New	Effective Communication	In excess of 12,900 people (Communities within and beyond the 55dB L_{den} noise contour).	Benefit: More accessible information on aircraft noise for stakeholders. Cost: Staff time and website costs.	Feedback to the airport from users.	As required