MEASURING NOISE

Generally, the closer that you live to an airport and a departure or arrival route, the more noise you will hear. Noise contours give an indication of general noise levels and show an average noise reading over a set period of time. They use actual information on the position, number, heights and noise levels of arrivals and departures to and from Manchester. Noise contours look like a series of concentric rings, like in a tree trunk. The closer the rings are to the airport, the louder the noise is. This is represented by a number. Current Government guidelines recommend noise insulation such as high performance-glazing or loft insulation at 63 decibels. If you live in the area, you can apply for help with this your local authority.

Noise contours are common for measuring noise around other transport routes such as roads and railways.

WANT TO KNOW MORE?

There is a booklet like this one for each of our departure routes. Further information is already available on our website in a range of formats including films and downloadable information sheets. You can see them all at www.manchesterairport.co.uk/roadwaydata.

If you would like to talk to us you could:– phone our Freephone number (0800 967 967);– send an email to community.relations@manairport.co.uk; or– come to an outreach session (details are on our website). You can watch aircraft movements and look at heights and positions over the ground using webtrak, which is our website at www.manchesterairport.co.uk/webtrak.

Manchester Airport
Departmental Routes Information Pack

SOUTH TURN IN EASTERLY OPERATIONS
(ROUTE LIST02)
Flying over: Heald Green / Cheadle / Cheadle Hulme / Bramhall / Woodford / Mottram / Prestbury / Henbury

This document explains how we operate now and provides some information about the number of aircraft and passengers currently flying from Manchester Airport.
The accuracy with which an aircraft navigates depends on the following.
- The size of the aircraft
- What technology the aircraft has on board
- Weather conditions
- How the pilot interprets instructions

The map opposite shows the general position and spread of flights using the LISTO2S route in October 2016. At the beginning of the departure, the aircraft is dark blue. As it becomes higher above the ground, the colour changes to light blue (3000 feet) and finally to green at 5000 feet, which is the highest point at which the aircraft must stay on the route.

**WILL THINGS CHANGE IN THE FUTURE?**

**AIRCRAFT**

- On-time, airlines will buy new aircraft. The improved engines are quieter and more efficient.
- The new generation planes are able to climb quicker and offering the opportunity for greater efficiency and reduced noise.

**AIRSPACE**

A review of airspace (above 24,000 feet) is taking place. This will revolutionise some of the main airspace over the UK, reducing noise and emissions. All of this is beneficial to communities that the aircraft fly over.

- Aircraft currently using the LISTO2S route range from small 10-seat aircraft up to the larger 400-seat aircraft. The most common is the A320, a 200-seat aircraft, which accounts for 61% of all flights.
- It is likely there will be changes in the future due to:
  - A national policy, led by the CAA, to recognise airspace for improved efficiency and maintaining safety.
  - Satellite navigation replacing navigational aids on the ground, enabling aircraft to fly more accurately following the centre line of the departure route on each departure, and improved technology on board new aircraft offering the opportunity for greater efficiency and reduced noise.

**ARRIVALS**

- Aircraft currently approach the airport they are landing at and wait for an instruction to land. Ideally, the approach is a continuous descent to land as this is fuel efficient and quiet.
- If aircraft need to wait, they go into a ‘holding pattern’ away from the airfield. As part of this project, NATS will experiment if this is the best way to control aircraft approaching the airfield and before they land.

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**POSITION OF AIRCRAFT ALONG ROUTE LISTO2S**

Currently aircraft navigate using navigational equipment on the ground close to and around our runways. A series of instructions will navigate the aircraft along the entire route (for example, fly straight ahead for a set distance and then turn at a particular point to a compass bearing of …)

The accuracy with which an aircraft navigates depends on the following.
- The size of the aircraft
- What technology the aircraft has on board
- Weather conditions
- How the pilot interprets instructions

The map opposite shows the general position and spread of flights using the LISTO2S route in October 2016.

**DEPARTING ROUTES**

The graphics below show the height of aircraft on the LISTO2S route, at the places marked on the route. They show the concentration of aircraft in the centre of the route and the height above sea level.

You can see some aircraft from one airline and working together with the airline have turned south outside of the LISTO2S route. Our environment department noticed this and working together with the airline have resolved the problem.

**NUMBER OF DAYS EASTERLY DEPARTURES USED BY YEAR**

<table>
<thead>
<tr>
<th>Year</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>94</td>
</tr>
<tr>
<td>2011</td>
<td>157</td>
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<tr>
<td>2012</td>
<td>148</td>
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<td>2013</td>
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<tr>
<td>2014</td>
<td>145</td>
</tr>
<tr>
<td>2015</td>
<td>115</td>
</tr>
<tr>
<td>2016</td>
<td>145</td>
</tr>
</tbody>
</table>

**NUMBER OF DAYS EASTERN DEPARTURES EACH MONTH DURING 2016**

- During October there were 32% LISTO2S.
- The maximum number of departures on a single day in October was 18.
- In 2016 there were 7832 departures on the LISTO2S route.
- The changes relate to three levels of airspace.
- Departure – between 0 and 7000 feet leaving the departure control zone.
- Arrival – below 7000 feet heading to the final destination airport.
- High level – over 7000 feet where aircraft are flying at varying altitudes.

**TOTAL NUMBER OF DAYS EASTERN OPERATIONS HERE USED BETWEEN 2010 AND 2016**

- 1019 departures during the morning peak hours of 6am to 8am.
- 478 departures during the night period from 11pm to 6am.

**NUMBER OF DAYS EACH MONTH, OVER SEVERAL YEARS, WHEN EASTERN DEPARTURES WERE USED**

<table>
<thead>
<tr>
<th>Month</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
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<td>157</td>
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<tr>
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