### 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 target. The closer the rings are to the airport, the louder the noise is. It 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 at manchesterairport.co.uk/insulation.

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

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### WANT TO KNOW MORE?

- There is a booklet like this one for each of our departure routes. Extra information is already available on our website in a range of formats including film and downloadable information sheets.
- If you would like to talk to us you could:
  - phone our Freephone number (0800 096 7967);
  - send an email to community.relations@manairport.co.uk;
  - come to an outreach session (details are on our website); or
  - look at the airspace change webpage www.manchesterairport.co.uk/airspacechange.
- You can watch aircraft movements and look at heights and positions over the ground using webtrak, which is on our website at manchesterairport.co.uk/webtrak.

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### ABOUT YOUR AIRPORT

Manchester Airport is the North West’s largest airport, with links to more than 200 destinations. It supports the region’s economy with 20,500 jobs and £1.7bn in grants since 1997. The Airport supports the region’s children in 2015. Communities asked us to keep the use of both runways at a minimum, so where possible we will operate at night, but flights are restricted. You can read more about our Night Noise Policy at manchesterairport.co.uk/nightoperations.

Manchester Airport has two runways. We use both runways to allow us to use Runway 2 between 10pm and 6am, unless we are doing maintenance on Runway 1. The use of both runways is permitted under planning permission. Runways are open can change from year to year. Times for we are doing maintenance on Runway 1.

Running Routes

- DATE: 2016
- USE OF RUNWAYS

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There are four routes with westerly departures shown on the diagram. These are used for an average 7% of our flights. In 2015 there were 3,795 departures on route LISTO2R (Runway 1) and route LISTO2Y (Runway 2) – 2% of all westerly departures.

Our information is based on the most recent complete year, which was 2015, and our busiest month in that year, August, compared to our quietest month, February.

The following graphics show the combined information from routes LISTO2R and LISTO2Y heading towards London and Southern Europe.

### Number of Days Westerly Departures Used by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days</td>
<td>288</td>
<td>337</td>
<td>344</td>
<td>310</td>
<td>339</td>
<td>327</td>
</tr>
</tbody>
</table>

In 2015, August was our busiest month of westerly operations on LISTO2R and LISTO2Y routes when there were 3,795 departures compared to just 255 in February. While February was our quietest month.

The maximum number of departures on a single day in August was 421 departures compared to a maximum in February of 20.

### Total Number of Westerly Operations Used Between 2010 and 2015

In February there were 9 departures during the morning peak hours of 6am to 8am. In August there were 22 departures during the morning peak period of 6am to 8am.

### Will Things Change in the Future?

Aircraft

Over time, airlines will buy new aircraft. The improved engines are quieter and more efficient. The new drone planes are able to climb quicker and with less friction, significantly reducing noise and emissions. All of this is beneficial to communities that the aircraft fly over.

Aircraft currently using the LISTO2R and LISTO2Y routes range from small 10-seat aircraft up to the larger 100-seat aircraft.

It is likely there will be changes in the future due to:
- a national policy, led by the CAA, to maximise 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.

Aircraft having been repositioned at Manchester Airport.

### Airspace

A review of upper airspace (above 24,500 feet) is taking place.

Aircraft are reviewed for upper airspace. Departure routing has been altered to take advantage of the changes. All the changes relate to three levels of airspace.

- High level – over 7,000 feet where aircraft are travelling to or from their final destination
- Arrival – below 7,000 feet heading to the final destination airport
- Departure – between 0 and 7,000 feet leaving the airport to join the high level routes

### 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, NGS will examine if this is the best way to control aircraft approaching the airfield and before they land.