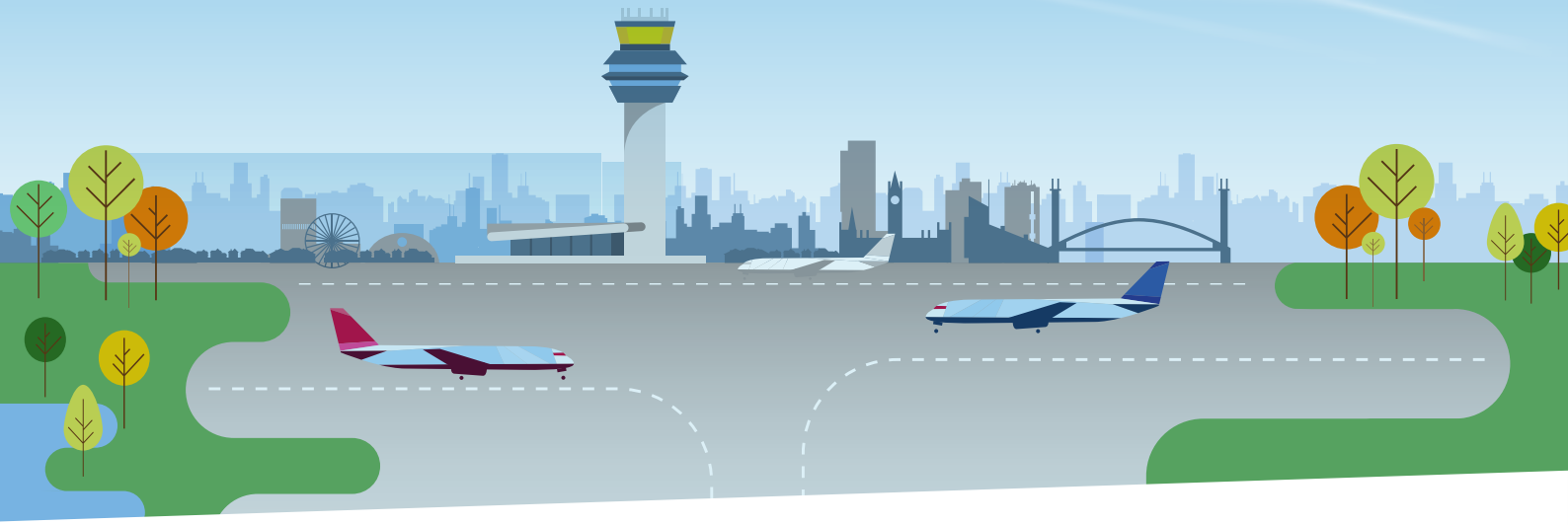
2019 DEPARTURES INFORMATION

Manchester Airport Departure Routes Information Pack

WESTERLY DEPARTURES IN EASTERLY OPERATIONS (ROUTE ASMIM1S)

Flying over: Heald Green / Didsbury / Sale / Streford / Urmston

This document explains how we operate and provides some information about the number of aircraft and passengers currently flying from Manchester Airport.



manchesterairport.co.uk

MAG Manchester Airport

ABOUT YOUR AIRPORT

Manchester Airport Group is the largest UK owned airport group with three airports.

MAG Manchester Airport

MAG East Midlands Airport

MAG London Stansted Airport

Manchester Airport officially opened on 25 June 1938 and is today owned by the 10 Councils of Greater Manchester and Industry Funds Management (IFM).

CARBON ACCREDITATION

In 2016, Manchester Airport became the first UK airport to be awarded Level 3+ carbon neutral status. In 2012 we achieved ISO 14001.

airport carbon accredited NEUTRALITY

VOLUNTEERING

9,270 volunteer hours in the community, from 558 volunteers, in 2018/2019.

COMMUNITY TRUST FUND

The airport has supported community groups with over £3.6 million in grants since 1997.

manchesterairport community trust fund
REGISTERED CHARITY NO. 1071703

BEST UK AIRPORT

Manchester Airport was voted the Best UK Airport in the Travel Weekly Globe Travel Awards 2020.

1939 saw **7,600** passengers per year…

…today it's grown to

29.5M

FLYING TO **220** DESTINATIONS

With new flights to Dhaka, Beijing, LA, Boston and Shanghai, from over 60 Airlines.

IN **2001** A SECOND RUNWAY WAS ADDED

2017 Manchester Airport joined the list of top 20 European airports.

OVER **100** STANDS

AND 200 ON-SITE OPERATORS

GROUND TRANSPORT

THE **5.5m** PASSENGERS

visiting Manchester Airport station have access to:

- 140 trains a day to over 100 destinations;
- 440 busses a day;
- 132 coaches a day; and
- City Centre tram every 12 minutes.

AeroZone

Supporting over 13,000 children in education every year. A new AeroZone school resource opens in 2020. For more information see **www.manchesterairport.co.uk/aerozone**.

HOW WE OPERATE

USE OF RUNWAYS

Manchester Airport has two runways. We use both runways during the daytime, but planning permission does not allow us to use Runway 2 between 10pm and 6am, unless we are doing maintenance on Runway 1.

As the number of flights has increased, we have needed to extend the times during which we use both runways. This happened in July 2018. The changes will reduce delays and increase efficiency. For more information about this see our web page at **www.manchesterairport.co.uk/dualrunwayuse**.

We have a Night Noise Policy which means that we do operate at night, but flights are restricted. You can read more about our Night Noise Policy at **www.manchesterairport.co.uk/nightnoise**.

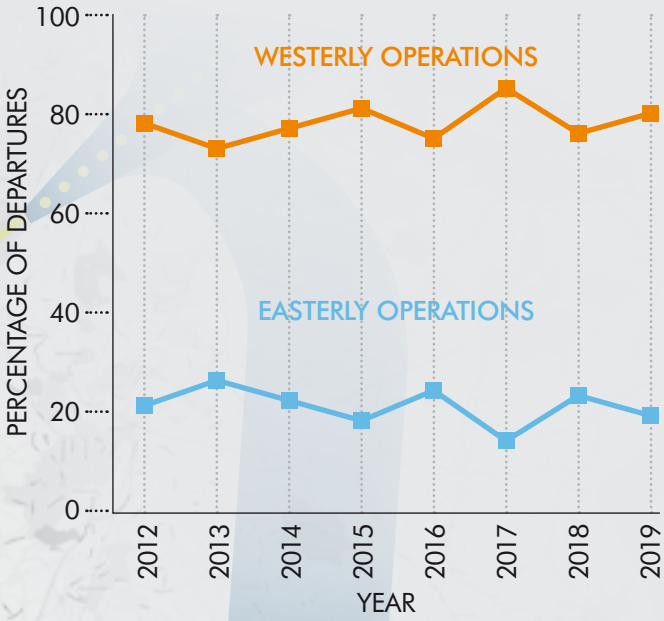
	TIMES WHEN TWO RUNWAYS USED
DAYS	Summer season from 30 March 2020
MONDAY TO FRIDAY	6.15am to 8pm
SATURDAY	6.15am to 4pm
SUNDAY	6.15am to 9.30pm and 1pm to 8pm

RUNWAY DIRECTION

For safety reasons, aircraft must land and take off into the wind. At Manchester Airport the wind usually blows from the west, meaning aircraft approach from the east (over Stockport and Heald Green) and take off to the west (towards Knutsford). This is known as 'westerly operations'.

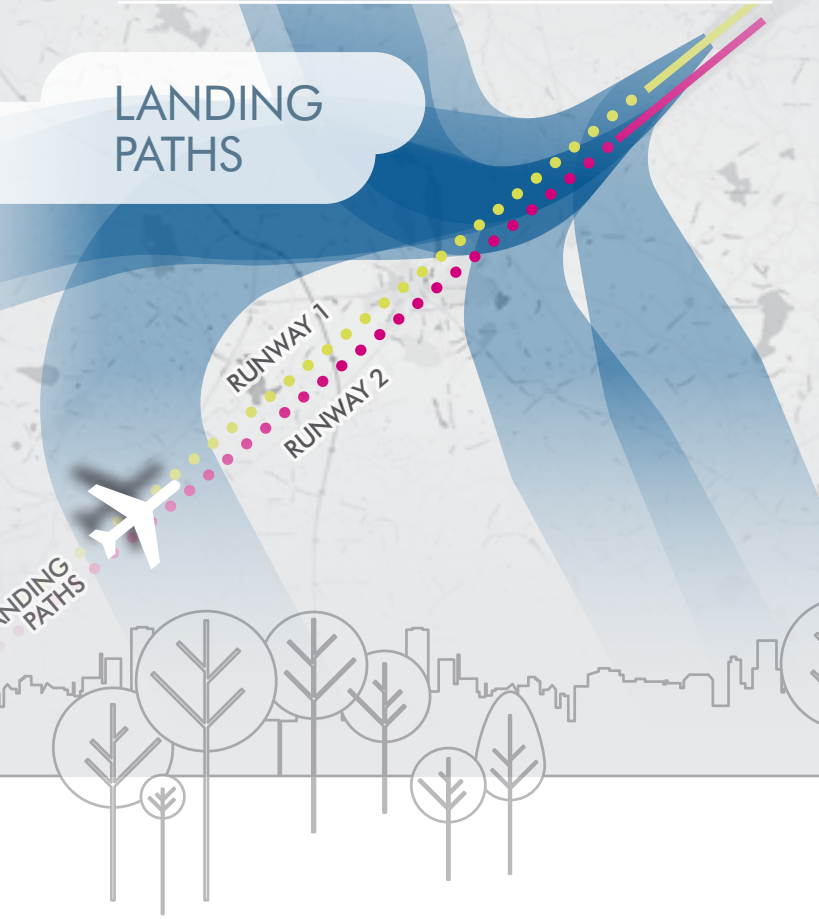
Sometimes the wind direction changes and moves to the east. In this case, aircraft approach from the west (over Knutsford) and take off to the east (over Heald Green and Stockport). This is known as 'easterly operations'.

On average, between 70% and 80% of our departures each year will be westerly operations. In 2019, 80% of flights were westerly operations and 20% of flights were easterly operations.



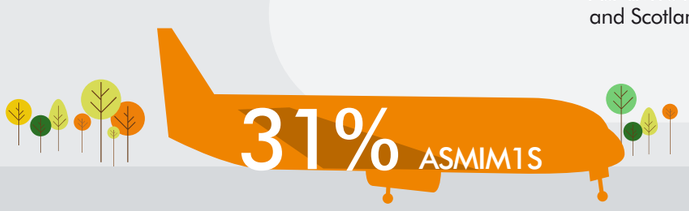
The wind direction may change several times in a day, so we may change our direction of operations to reflect this. The table above shows the percentage of movements in each direction over the last eight years.

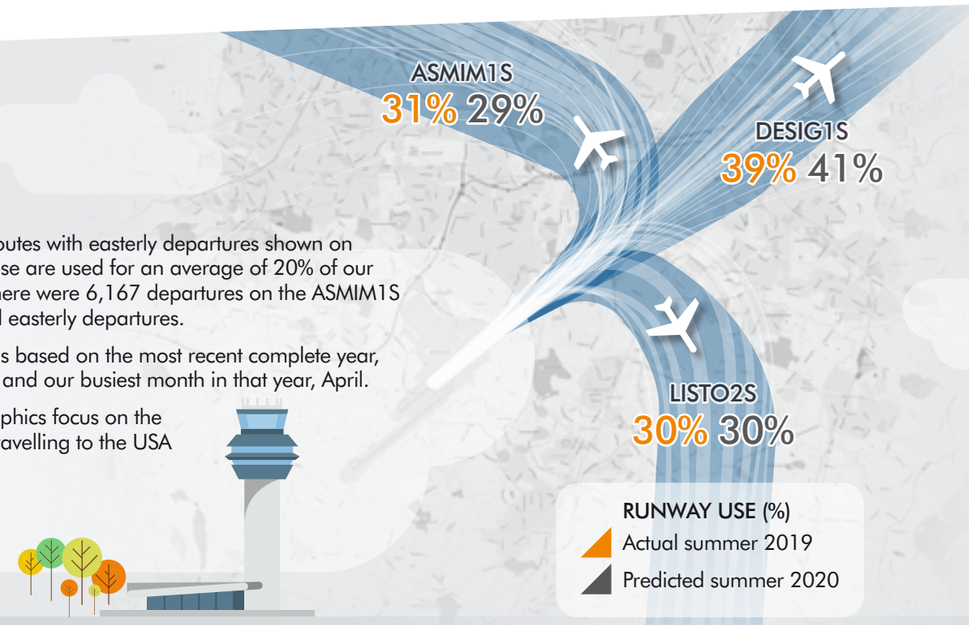
LANDING PATHS

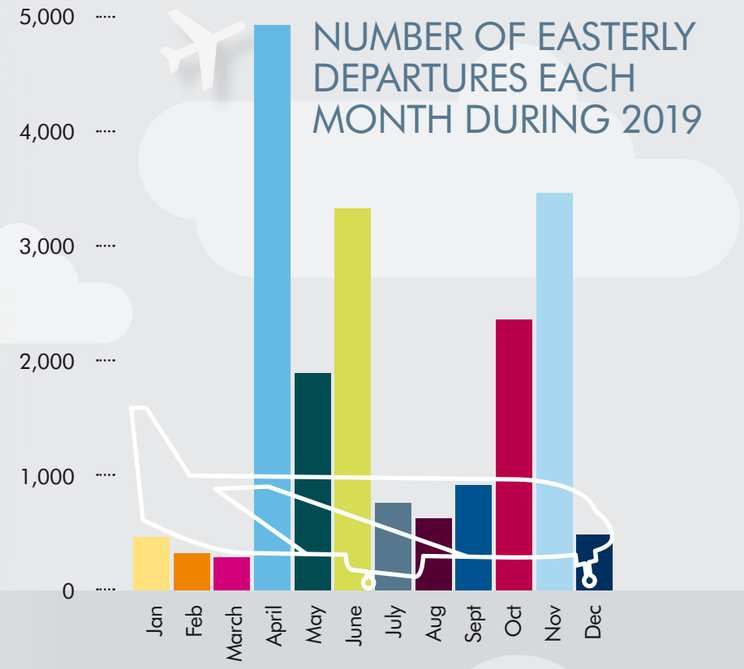


ROUTES DEPARTING TO THE EAST

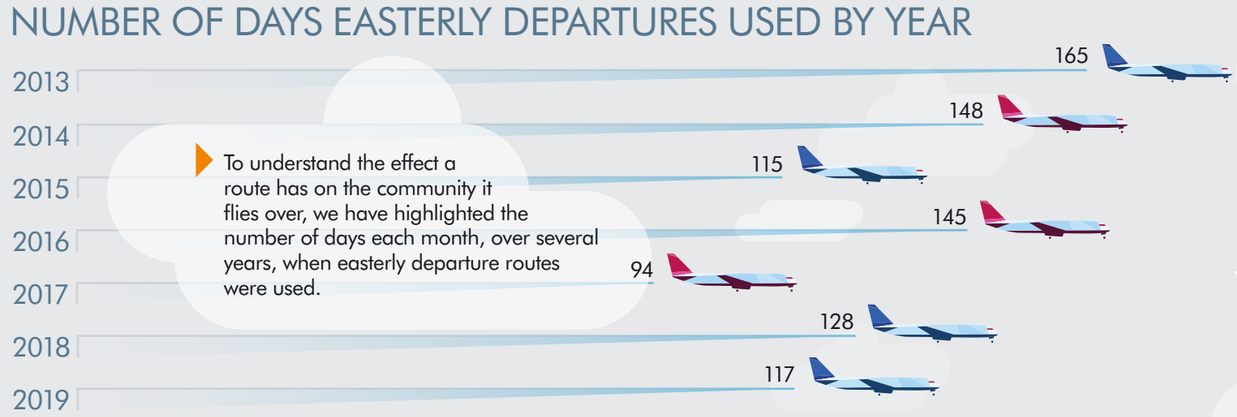
- There are three routes with easterly departures shown on this diagram. These are used for an average of 20% of our flights. In 2019 there were 6,167 departures on the ASMIM1S route – 31% of all easterly departures.
- Our information is based on the most recent complete year, which was 2019, and our busiest month in that year, April.
- The following graphics focus on the ASMIM1S route travelling to the USA and Scotland.





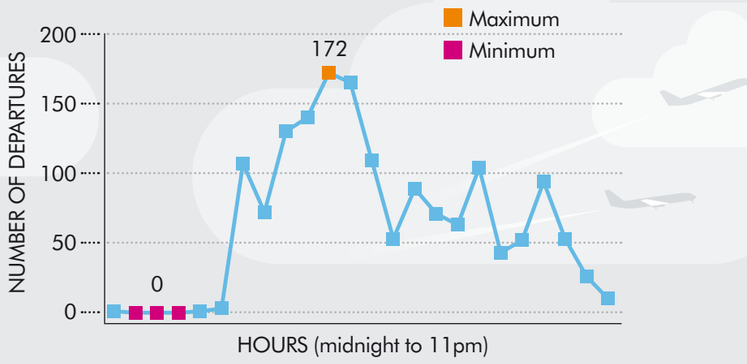


NUMBER OF DAYS EASTERLY DEPARTURES USED BY YEAR



- To understand the effect a route has on the community it flies over, we have highlighted the number of days each month, over several years, when easterly departure routes were used.

TOTAL NUMBER OF DEPARTURES PER HOUR IN APRIL 2019



- April was our busiest month in 2019 with the runway used for

1,557

departures using the ASMIM1S route.

- The direction of landing and taking off depends on the wind direction.

- During April there were…

337

departures during the morning peak hours of 10am to 12 noon

- The maximum number of departures on a single day was just…

96.

compared with just…

15

during the night period from 11pm to 6am.

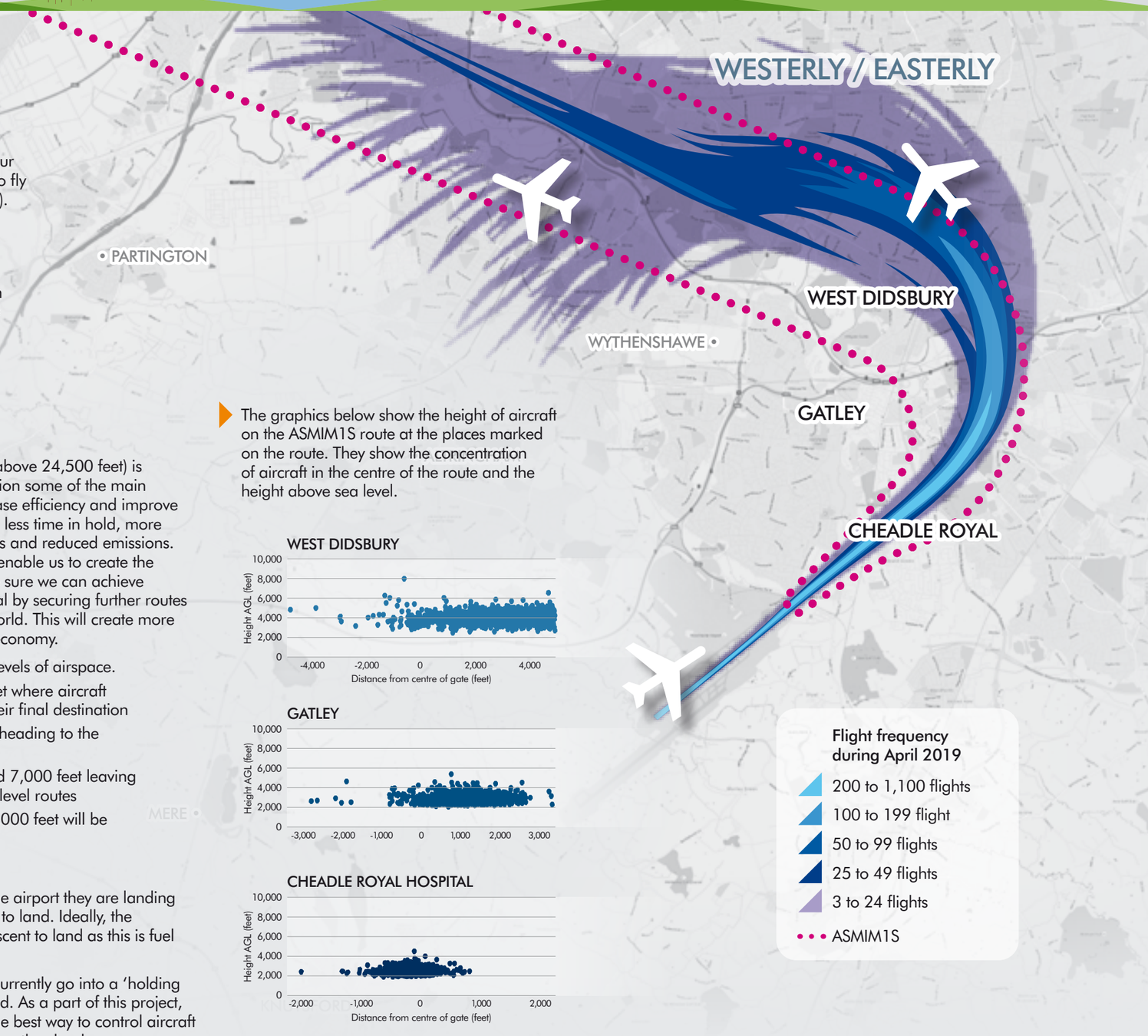
POSITION OF AIRCRAFT ALONG ROUTE ASMIM1S

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 whole route (for example, to 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
– The weight of the aircraft
– What technology the aircraft has on board
– Weather conditions

The map opposite shows the general position and spread of flights using the ASMIM1S route in April 2019. The colours show the position of aircraft on the route in April 2019. The key shows how frequently areas were flown over during April 2019.



CHANGES IN THE FUTURE

AIRCRAFT

Over time, airlines will buy new aircraft. The improved engines are quieter and more efficient. The new sleeker plane is 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.

MODERNISING AIRSPACE

In February 2017, the Department for Transport published 'Upgrading UK Airspace'. This document reviewed how modern aircraft can use the new technology on board for greater efficiency and reduced noise. The current departure routes for aircraft are based on navigation equipment on the ground. Modern aircraft can replace this method of navigation by using satellites. Satellite-based routes enable aircraft to more accurately follow the centre lines of departure routes while maintaining safety.

The Government has said that all UK airports must make these changes, and in December 2017 the CAA issued guidance on how airports should manage change in a document called Airspace Design CAP1616. This is available on the CAA website.

The first stage in the modernisation process is for an airport to issue a Statement of Need to the CAA for them to approve the start of a change process. We did this in March 2019 so that the CAA could give approval for change. In 2019 we engaged with communities, through focus groups and an online questionnaire, to develop our Design Principles. The CAA have approved these and you can see them, and read about how we developed them, in our Executive Summary document at **www.manchesterairport.co.uk/futureairspace**. During 2020 we will follow the process set out in CAP1616 to continue with Stage 2 (developing and assessing options for changes to flight paths).

AIRSPACE LEVELS

A review of upper airspace (above 24,500 feet) is taking place. This will reposition some of the main airways over the UK to increase efficiency and improve the customer experience with less time in hold, more timely arrivals and departures and reduced emissions. This review process will also enable us to create the best possible design to make sure we can achieve Manchester Airport's potential by securing further routes to destinations around the world. This will create more jobs and boost the region's economy.

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
– Changes that are above 7,000 feet will be managed by NATS.

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 currently go into a 'holding pattern' away from the airfield. As a part of this project, NATS will examine if this is the best way to control aircraft approaching the airfield before they land.

There is more information about arriving aircraft in our runway data sheet **www.manchesterairport.co.uk/runwaydatasheet**.

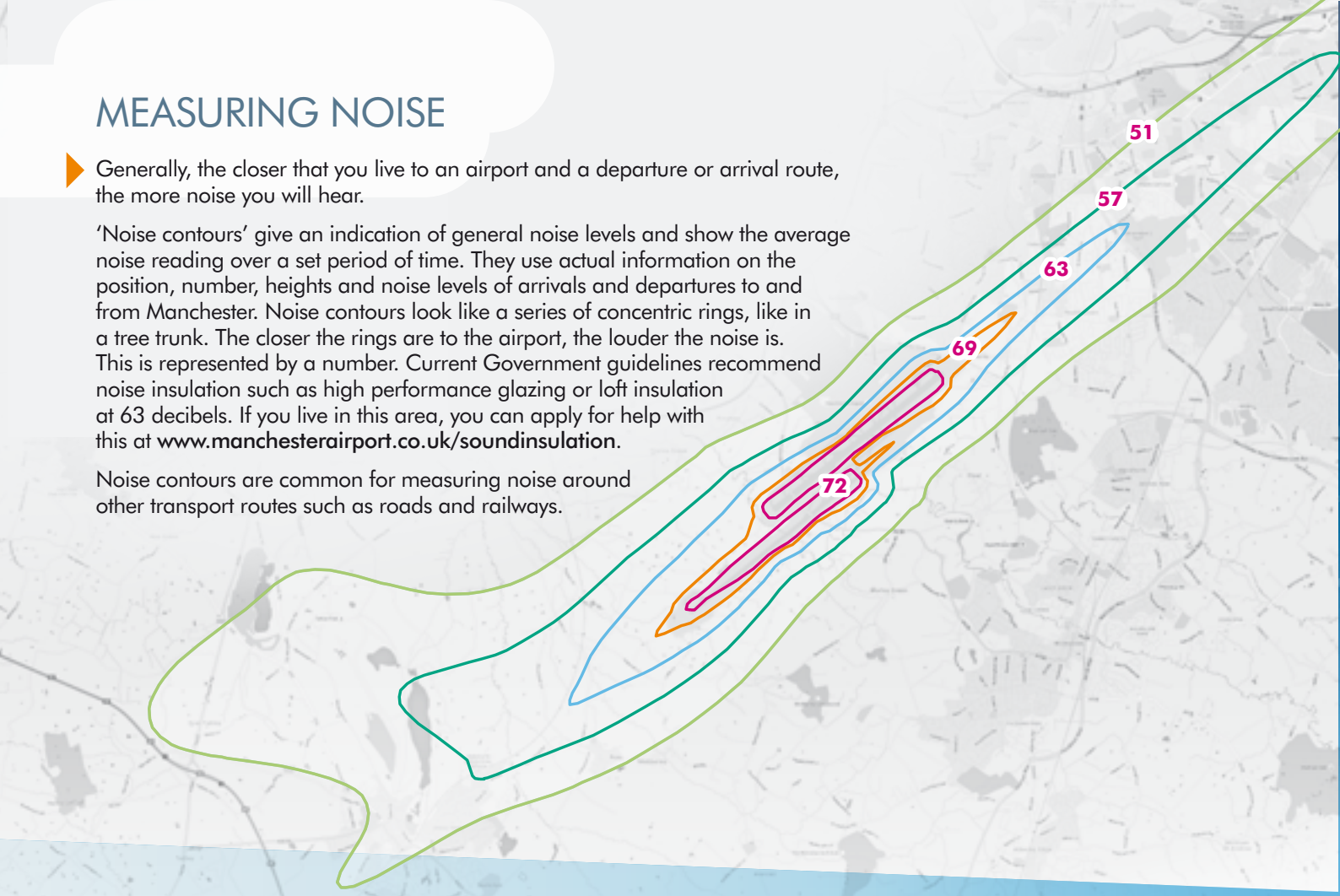
- The graphics below show the height of aircraft on the ASMIM1S route at the places marked on the route. They show the concentration of aircraft in the centre of the route and the height above sea level.

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 the 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 this area, you can apply for help with this at **www.manchesterairport.co.uk/soundinsulation**.

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



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There is a booklet like this one for each of our departure and arrival routes. Extra 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/runwaydatasheet**.

We will need to consult widely about changes to airspace in the future. If you would like to be on a mailing list to make sure you receive information direct, please email **future.airspace@manairport.co.uk**.

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– phone our Freephone number **(08000 967967)**;
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You can watch aircraft movements and look at heights and positions over the ground using **webtrak**, which is on our website at **www.manchesterairport.co.uk/webtrak**.

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NORTHERLY DEPARTURES IN EASTERLY OPERATIONS (ROUTE DESIG1S)

Flying over: Heald Green / Cheadle / Stockport / Bredbury / Hyde

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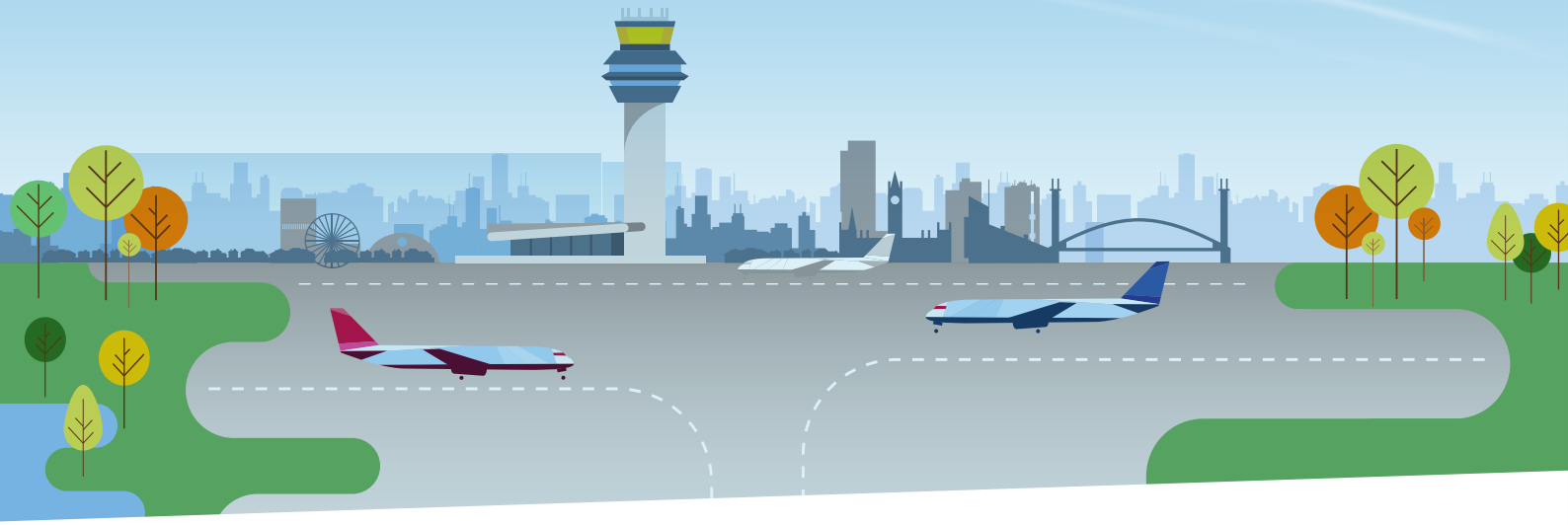

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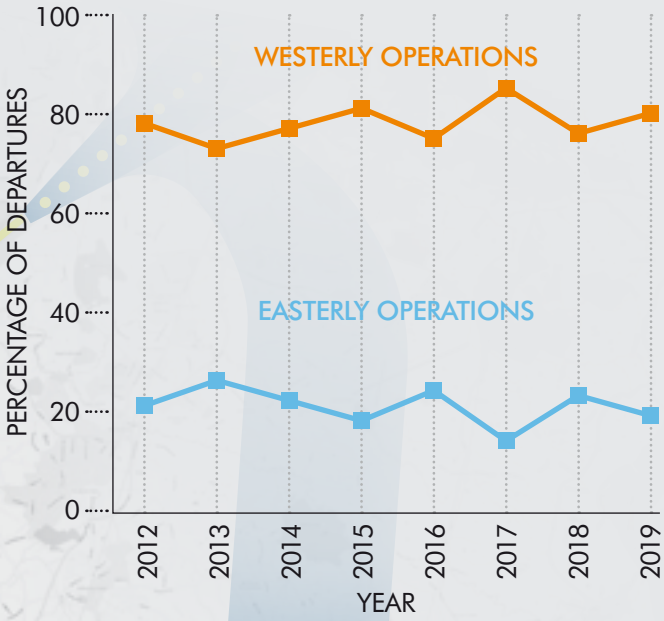
On average, between 70% and 80% of our departures each year will be westerly operations. In 2019, 80% of flights were westerly operations and 20% of flights were easterly operations.



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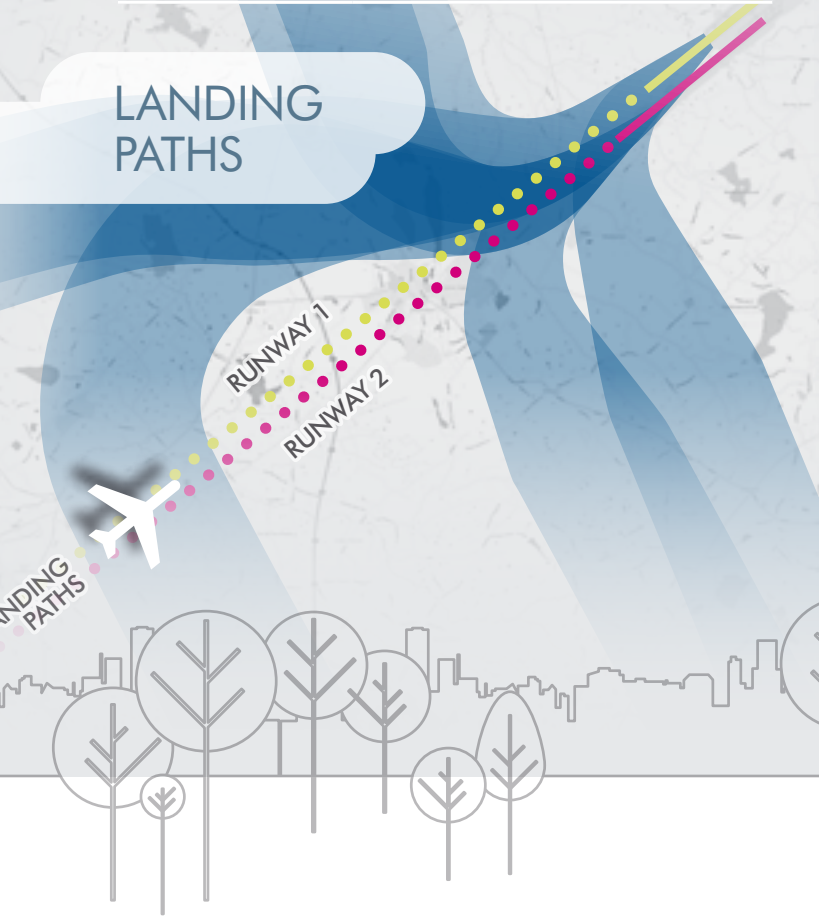
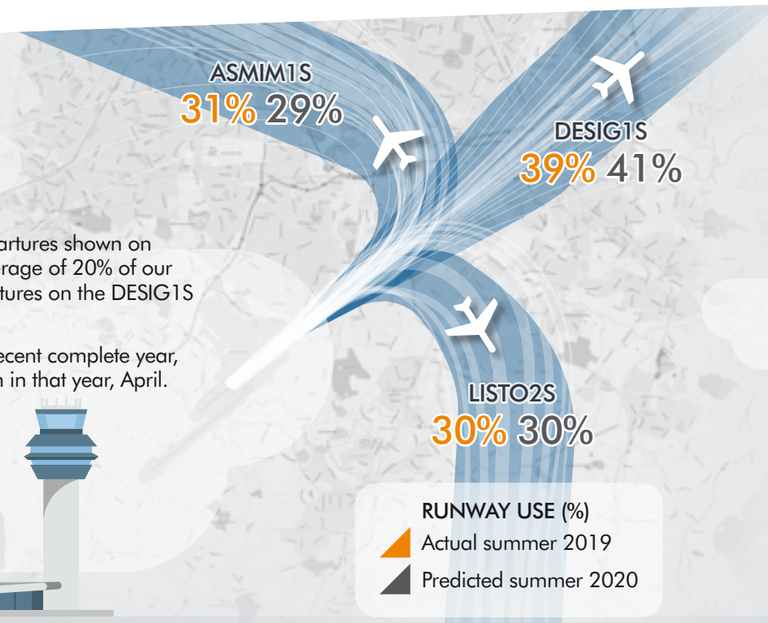
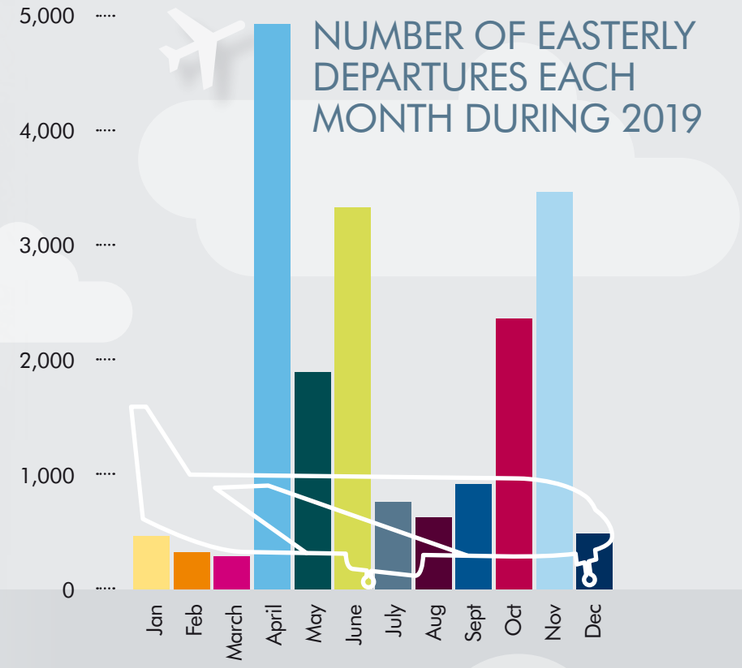


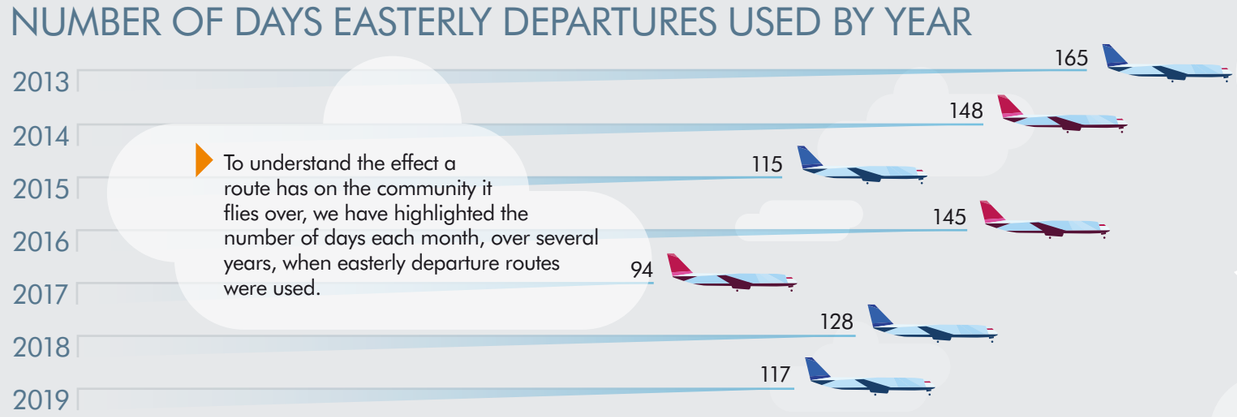
ROUTES DEPARTING TO THE EAST

- There are three routes with easterly departures shown on this diagram. These are used for an average of 20% of our flights. In 2019 there were 7,770 departures on the DESIG1S route – 39% of all easterly departures.
- Our information is based on the most recent complete year, which was 2019, and our busiest month in that year, April.
- The following graphics focus on the DESIG1S route travelling to northern Europe and the Far east.





NUMBER OF DAYS EASTERLY DEPARTURES USED BY YEAR



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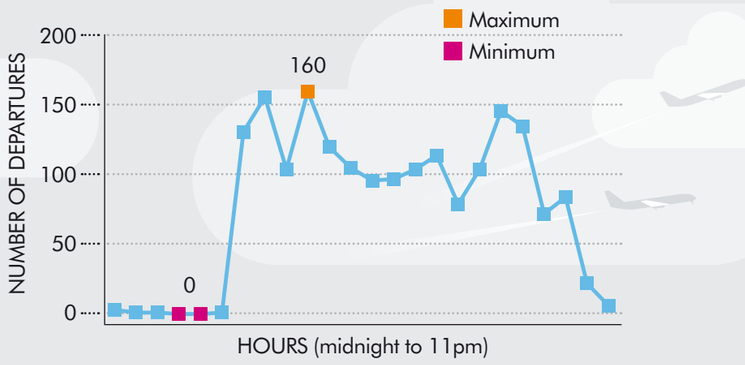
TOTAL NUMBER OF DEPARTURES PER HOUR IN APRIL 2019



- April was our busiest month in 2019 with the runway used for

1,841

departures using the DESIG1S route.

- The direction of landing and taking off depends on the wind direction.

- During April there were…

287

departures during the morning peak hours of 6am to 8am

- The maximum number of departures on a single day was just…

116.

12

compared with just…

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POSITION OF AIRCRAFT ALONG ROUTE DESIG1S

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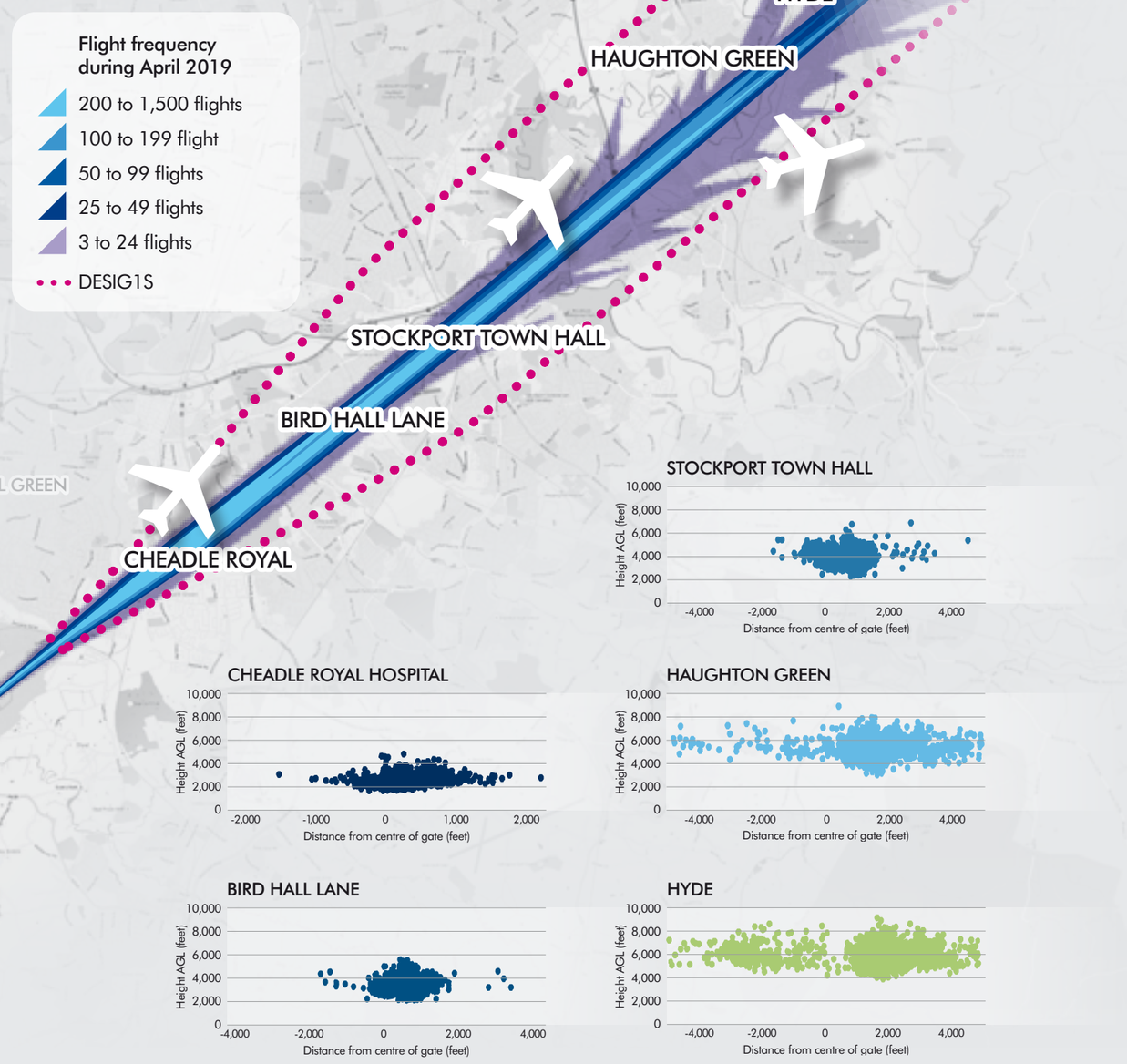

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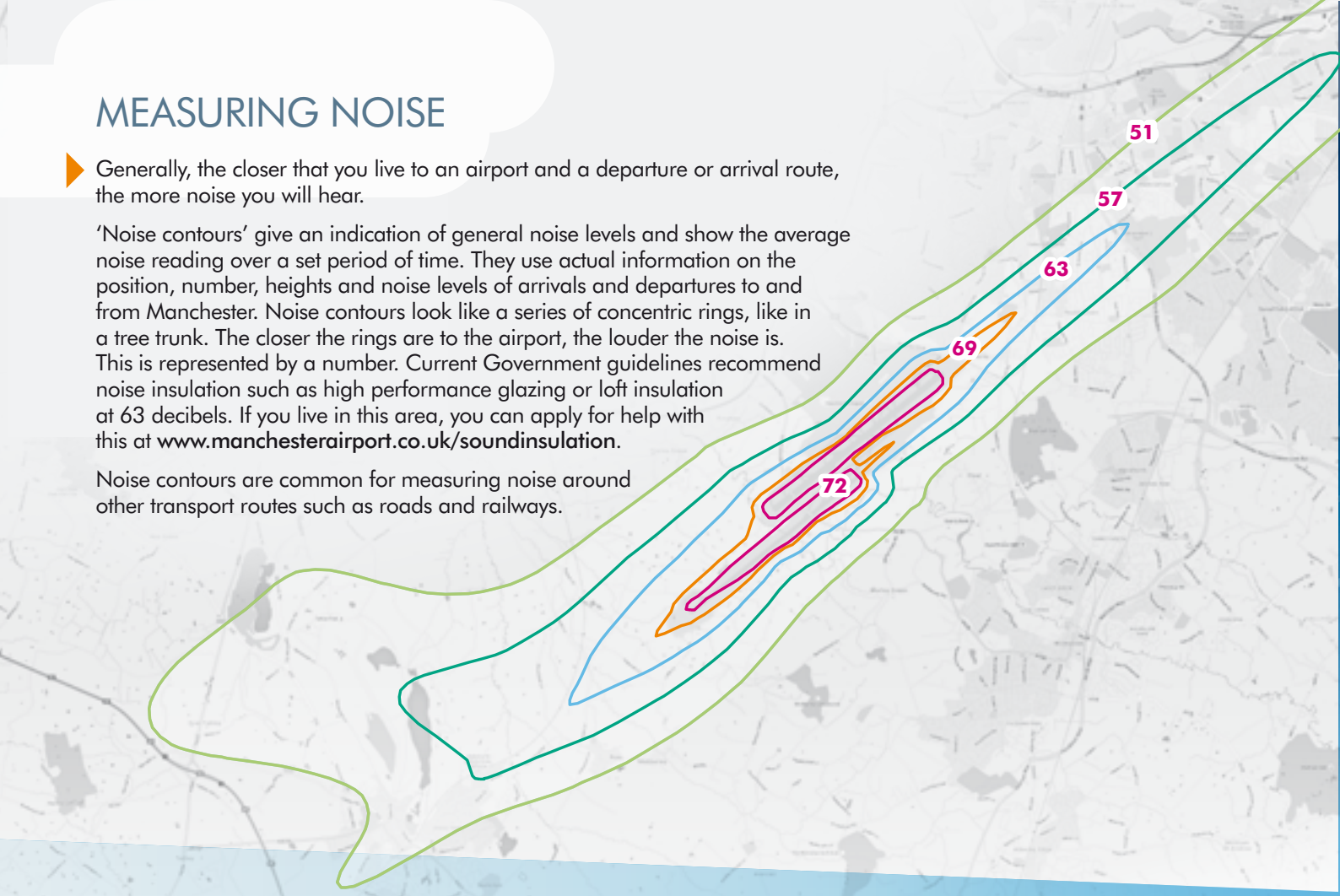

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SOUTH TURN IN EASTERLY OPERATIONS (ROUTE LISTO2S)

Flying over: Heald Green / Cheadle / Cheadle Hulme / Bramhall / Woodford / Mottram / Prestbury / Henbury

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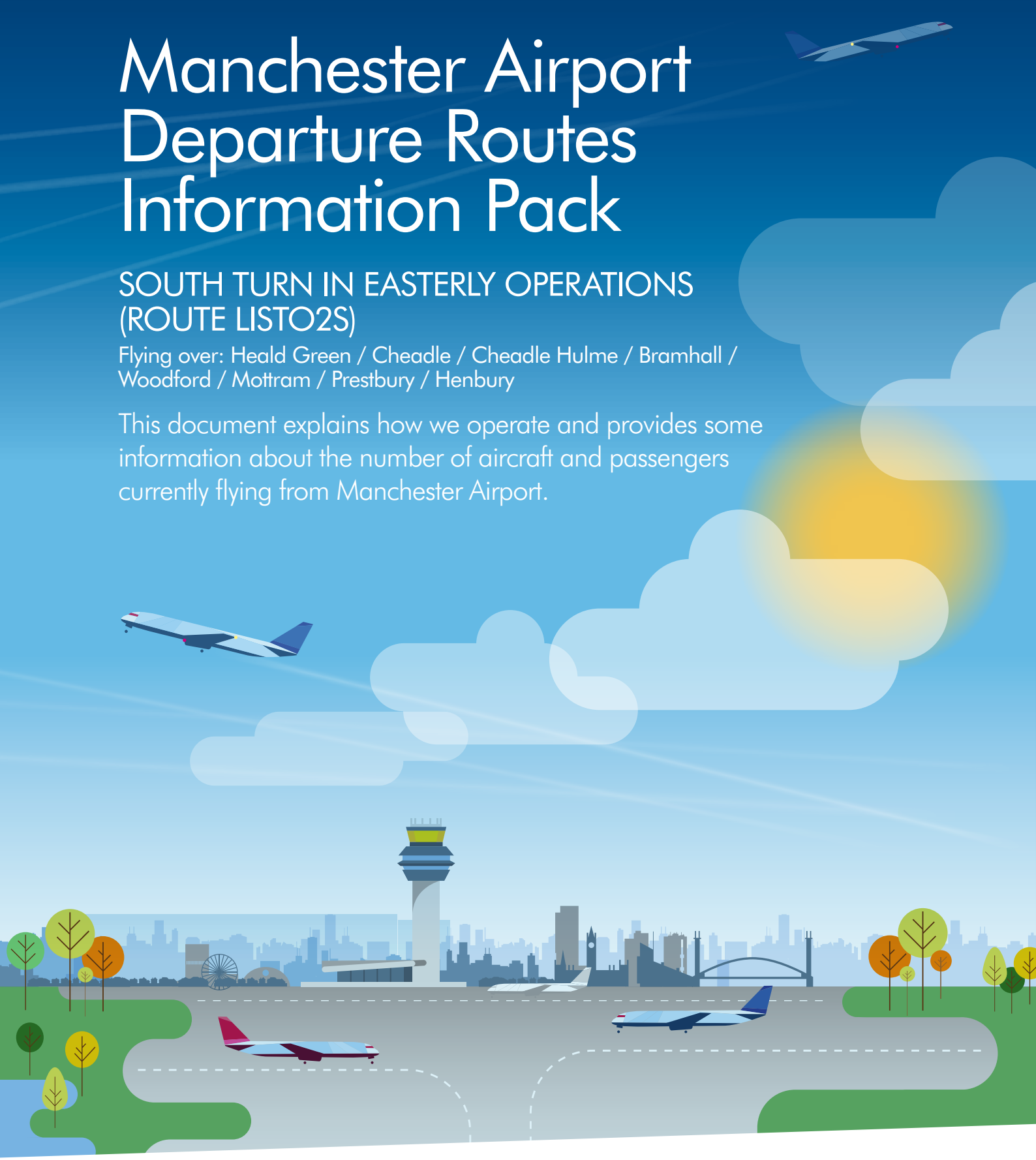

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MAG East Midlands Airport

MAG London Stansted Airport

Manchester Airport officially opened on 25 June 1938 and is today owned by the 10 Councils of Greater Manchester and Industry Funds Management (IFM).

CARBON ACCREDITATION

In 2016, Manchester Airport became the first UK airport to be awarded Level 3+ carbon neutral status. In 2012 we achieved ISO 14001.

airport carbon accredited NEUTRALITY

VOLUNTEERING

9,270 volunteer hours in the community, from 558 volunteers, in 2018/2019.

COMMUNITY TRUST FUND

The airport has supported community groups with over £3.6 million in grants since 1997.

manchesterairport community trust fund
REGISTERED CHARITY NO. 1071703

BEST UK AIRPORT

Manchester Airport was voted the Best UK Airport in the Travel Weekly Globe Travel Awards 2020.

1939 saw **7,600** passengers per year…

…today it's grown to

29.5M

FLYING TO **220** DESTINATIONS

With new flights to Dhaka, Beijing, LA, Boston and Shanghai, from over 60 Airlines.

2017 Manchester Airport joined the list of top 20 European airports.

IN **2001** A SECOND RUNWAY WAS ADDED

OVER **100** STANDS

AND 200 ON-SITE OPERATORS

GROUND TRANSPORT

THE **5.5m** PASSENGERS

visiting Manchester Airport station have access to:

- 140 trains a day to over 100 destinations;
- 440 busses a day;
- 132 coaches a day; and
- City Centre tram every 12 minutes.

AeroZone

Supporting over 13,000 children in education every year. A new AeroZone school resource opens in 2020. For more information see **www.manchesterairport.co.uk/aerozone**.

HOW WE OPERATE

USE OF RUNWAYS

Manchester Airport has two runways. We use both runways during the daytime, but planning permission does not allow us to use Runway 2 between 10pm and 6am, unless we are doing maintenance on Runway 1.

As the number of flights has increased, we have needed to extend the times during which we use both runways. This happened in July 2018. The changes will reduce delays and increase efficiency. For more information about this see our web page at **www.manchesterairport.co.uk/dualrunwayuse**.

We have a Night Noise Policy which means that we do operate at night, but flights are restricted. You can read more about our Night Noise Policy at **www.manchesterairport.co.uk/nightnoise**.

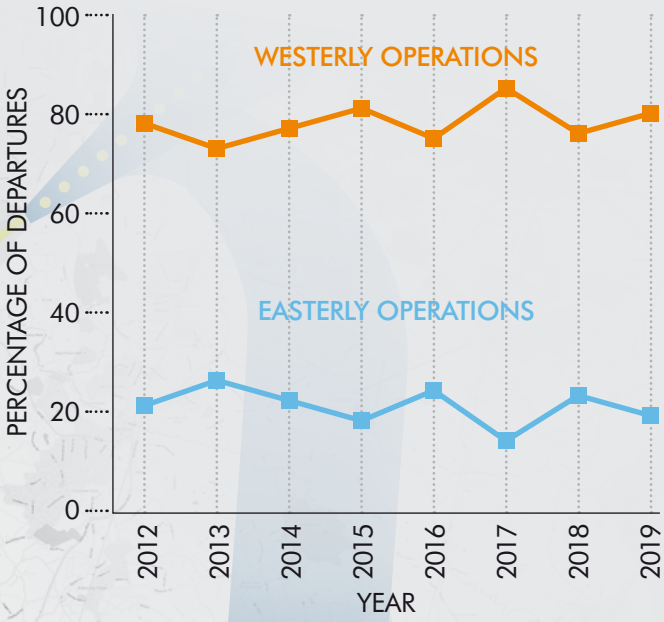
	TIMES WHEN TWO RUNWAYS USED
DAYS	Summer season from 30 March 2020
MONDAY TO FRIDAY	6.15am to 8pm
SATURDAY	6.15am to 4pm
SUNDAY	6.15am to 9.30pm and 1pm to 8pm

RUNWAY DIRECTION

For safety reasons, aircraft must land and take off into the wind. At Manchester Airport the wind usually blows from the west, meaning aircraft approach from the east (over Stockport and Heald Green) and take off to the west (towards Knutsford). This is known as 'westerly operations'.

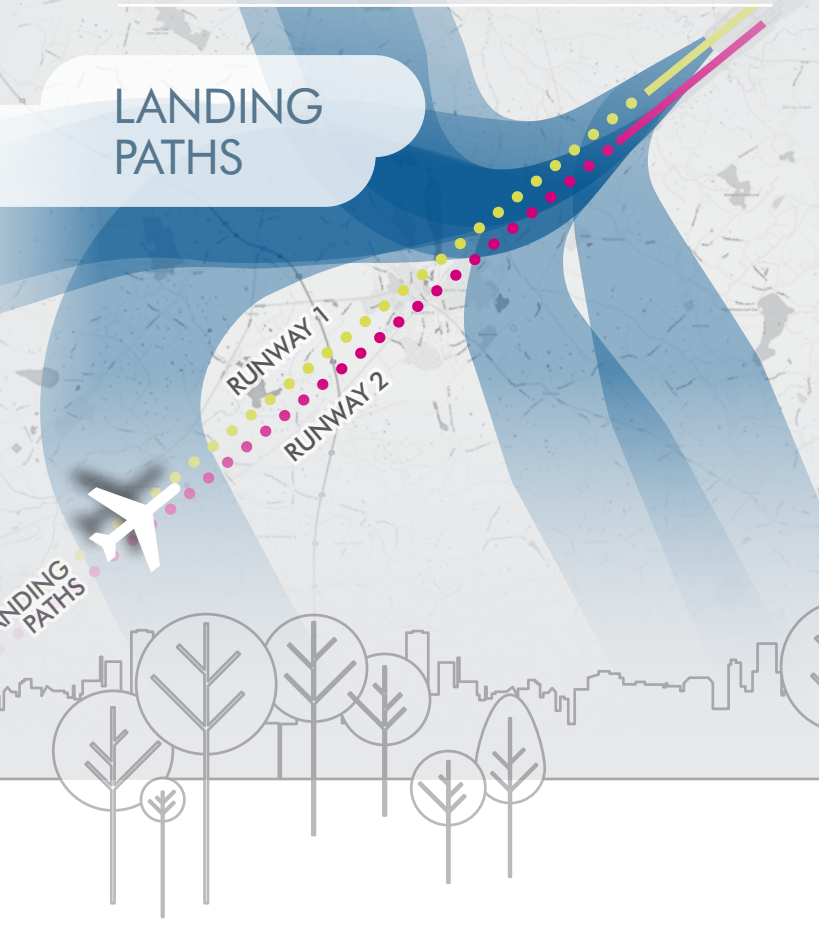
Sometimes the wind direction changes and moves to the east. In this case, aircraft approach from the west (over Knutsford) and take off to the east (over Heald Green and Stockport). This is known as 'easterly operations'.

On average, between 70% and 80% of our departures each year will be westerly operations. In 2019, 80% of flights were westerly operations and 20% of flights were easterly operations.



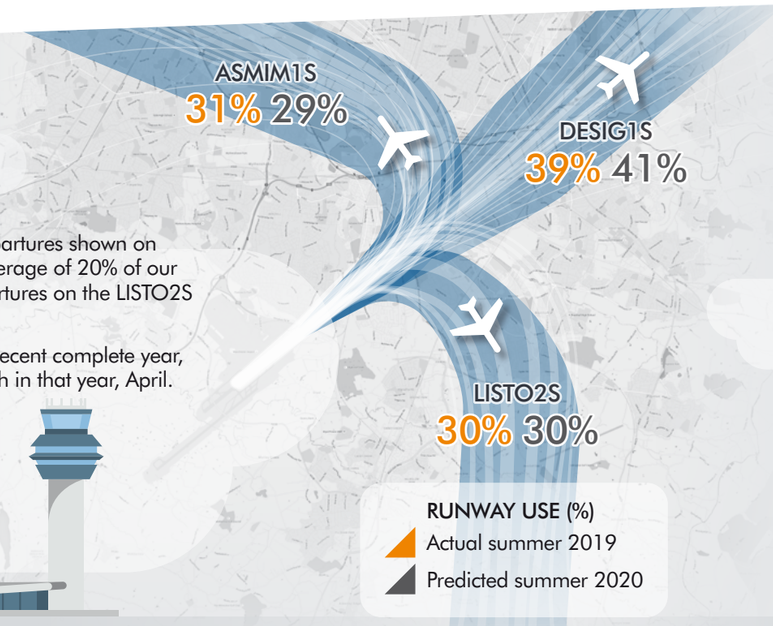
The wind direction may change several times in a day, so we may change our direction of operations to reflect this. The table above shows the percentage of movements in each direction over the last eight years.

LANDING PATHS

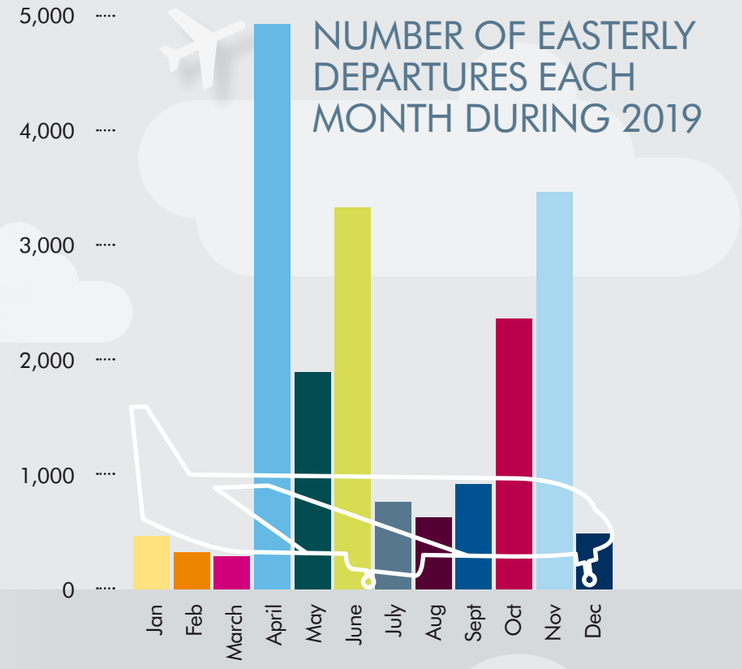


ROUTES DEPARTING TO THE EAST

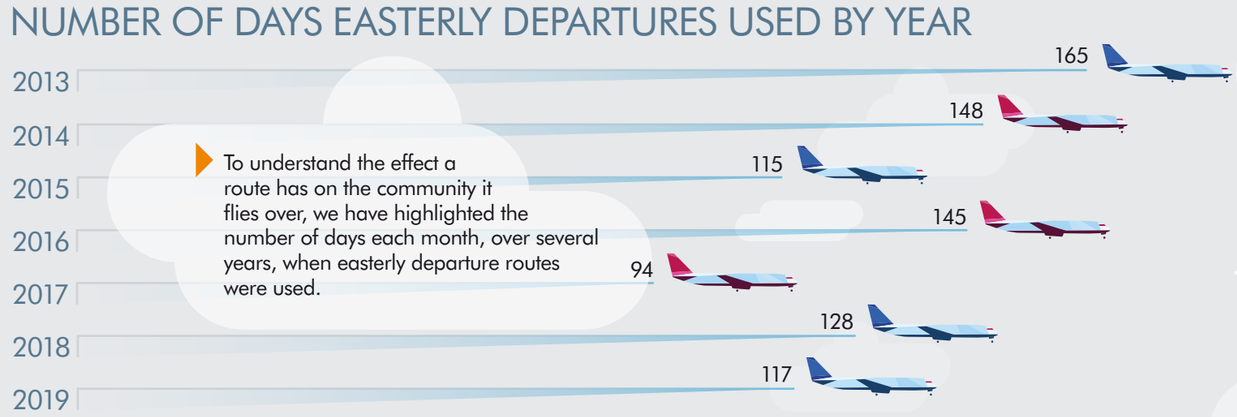
- There are three routes with easterly departures shown on this diagram. These are used for an average of 20% of our flights. In 2019 there were 5,841 departures on the LISTO2S route – 30% of all easterly departures.
- Our information is based on the most recent complete year, which was 2019, and our busiest month in that year, April.
- The following graphics focus on the LISTO2S route travelling to southern Europe and London.



NUMBER OF EASTERLY DEPARTURES EACH MONTH DURING 2019

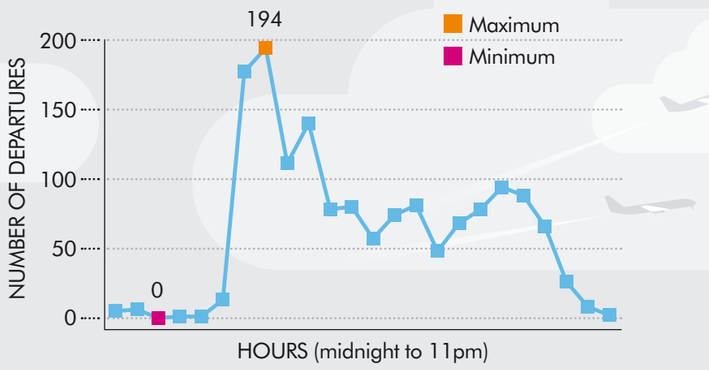


NUMBER OF DAYS EASTERLY DEPARTURES USED BY YEAR



- To understand the effect a route has on the community it flies over, we have highlighted the number of days each month, over several years, when easterly departure routes were used.

TOTAL NUMBER OF DEPARTURES PER HOUR IN APRIL 2019



- April was our busiest month in 2019 with the runway used for

1,496 departures using the LISTO2S route.

- The direction of landing and taking off depends on the wind direction.

- During April there were…

371 departures during the morning peak hours of 6am to 8am

- The maximum number of departures on a single day was just…

98.

28 compared with just… during the night period from 11pm to 6am.

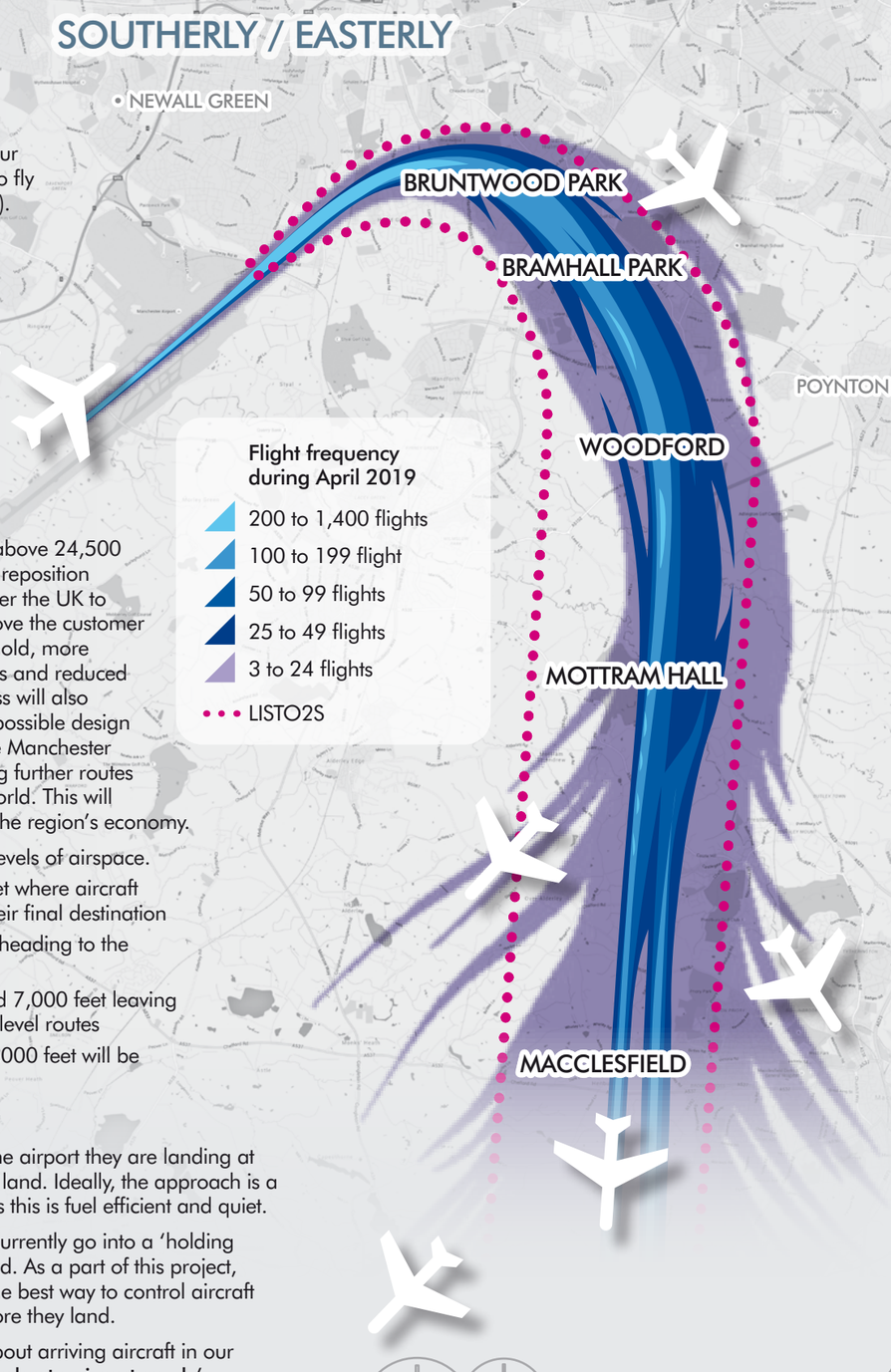
POSITION OF AIRCRAFT ALONG ROUTE LISTO2S

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 whole route (for example, to 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.

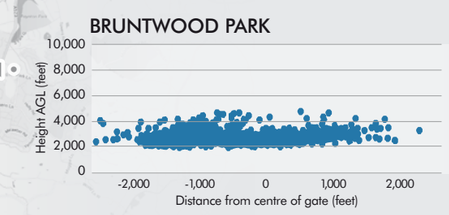
– The size of the aircraft
– The weight of the aircraft
– What technology the aircraft has on board
– Weather conditions

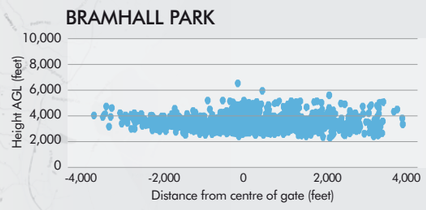
The map opposite shows the general position and spread of flights using the LISTO2S route in April 2019. The colours show the position of aircraft on the route in April 2019. The key shows how frequently areas were flown over during April 2019.

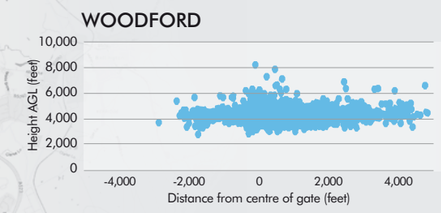


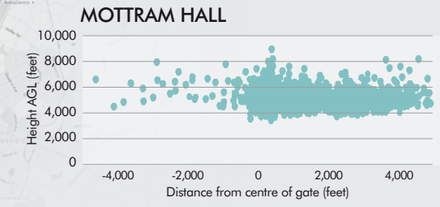
- The graphics below show the height of aircraft on the LISTO2S route at the places marked on the route. They show the concentration of aircraft in the centre of the route and the height above sea level.

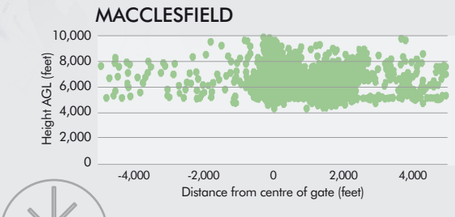
You can see some aircraft from one airline turned south outside of the LISTO2S route. Our environment department noticed this and working together with the airline have resolved the problem.











CHANGES IN THE FUTURE

AIRCRAFT

Over time, airlines will buy new aircraft. The improved engines are quieter and more efficient. The new sleeker plane is 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.

MODERNISING AIRSPACE

In February 2017, the Department for Transport published 'Upgrading UK Airspace'. This document reviewed how modern aircraft can use the new technology on board for greater efficiency and reduced noise. The current departure routes for aircraft are based on navigation equipment on the ground. Modern aircraft can replace this method of navigation by using satellites. Satellite-based routes enable aircraft to more accurately follow the centre lines of departure routes while maintaining safety.

The Government has said that all UK airports must make these changes, and in December 2017 the CAA issued guidance on how airports should manage change in a document called Airspace Design CAP1616. This is available on the CAA website.

The first stage in the modernisation process is for an airport to issue a Statement of Need to the CAA for them to approve the start of a change process. We did this in March 2019 so that the CAA could give approval for change. In 2019 we engaged with communities, through focus groups and an online questionnaire, to develop our Design Principles. The CAA have approved these and you can see them, and read about how we developed them, in our Executive Summary document at **www.manchesterairport.co.uk/futureairspace**. During 2020 we will follow the process set out in CAP1616 to continue with Stage 2 (developing and assessing options for changes to flight paths).

AIRSPACE LEVELS

A review of upper airspace (above 24,500 feet) is taking place. This will reposition some of the main airways over the UK to increase efficiency and improve the customer experience with less time in hold, more timely arrivals and departures and reduced emissions. This review process will also enable us to create the best possible design to make sure we can achieve Manchester Airport's potential by securing further routes to destinations around the world. This will create more jobs and boost the region's economy.

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
– Changes that are above 7,000 feet will be managed by NATS.

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 currently go into a 'holding pattern' away from the airfield. As a part of this project, NATS will examine if this is the best way to control aircraft approaching the airfield before they land.

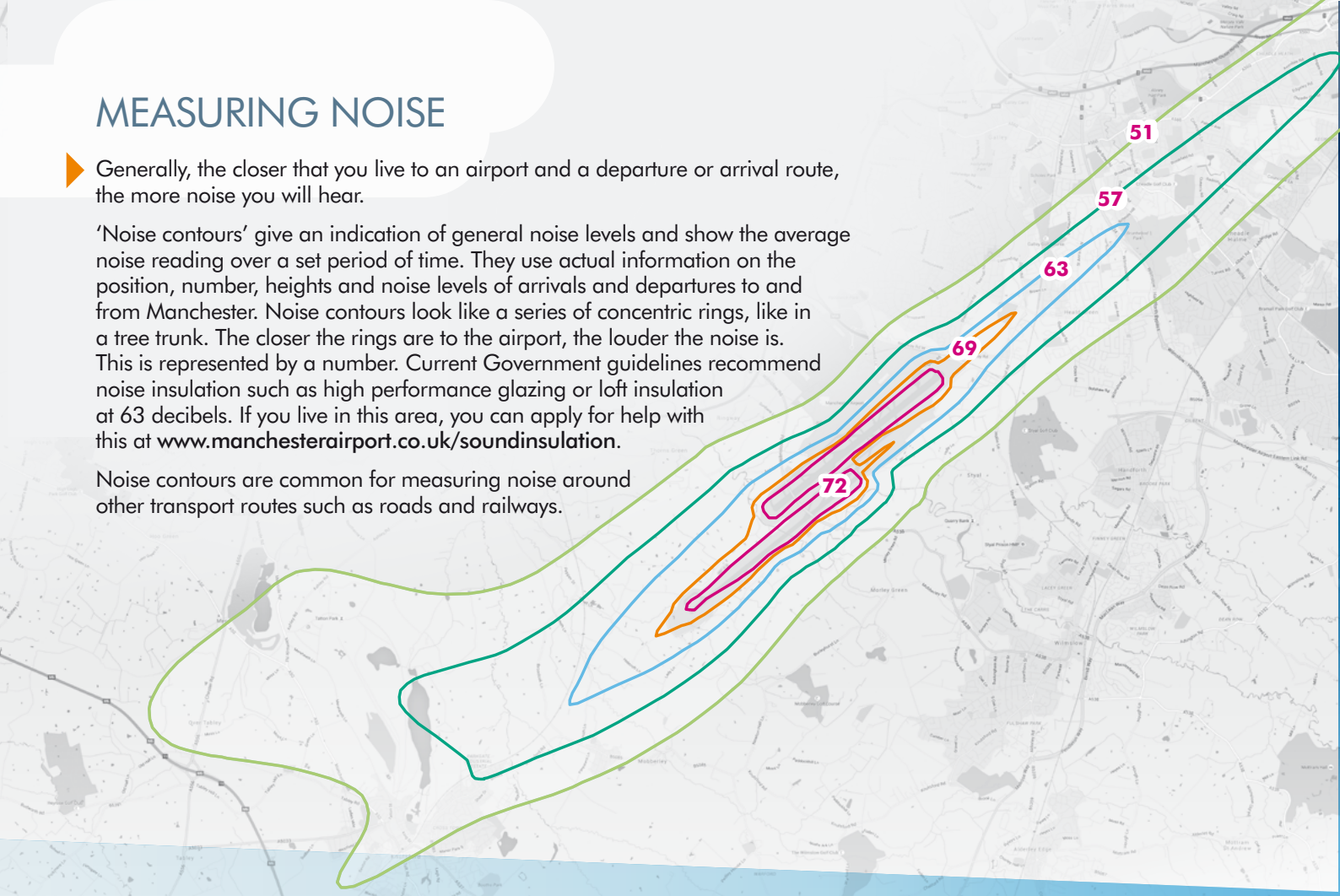
There is more information about arriving aircraft in our runway data sheet **www.manchesterairport.co.uk/runwaydatasheet**.

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 the 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 this area, you can apply for help with this at **www.manchesterairport.co.uk/soundinsulation**.

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 and arrival routes. Extra 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/runwaydatasheet**.

We will need to consult widely about changes to airspace in the future. If you would like to be on a mailing list to make sure you receive information direct, please email **future.airspace@manairport.co.uk**.

If you would like to talk to us you could:

– phone our Freephone number **(08000 967967)**;
– send an email to **community.relations@manairport.co.uk**; or
– come to an outreach session (details are on our website at **www.manchesterairport.co.uk/outreach**).

You can watch aircraft movements and look at heights and positions over the ground using **webtrak**, which is on our website at **www.manchesterairport.co.uk/webtrak**.