

# Runway Data Sheet

Manchester Airport Community Information



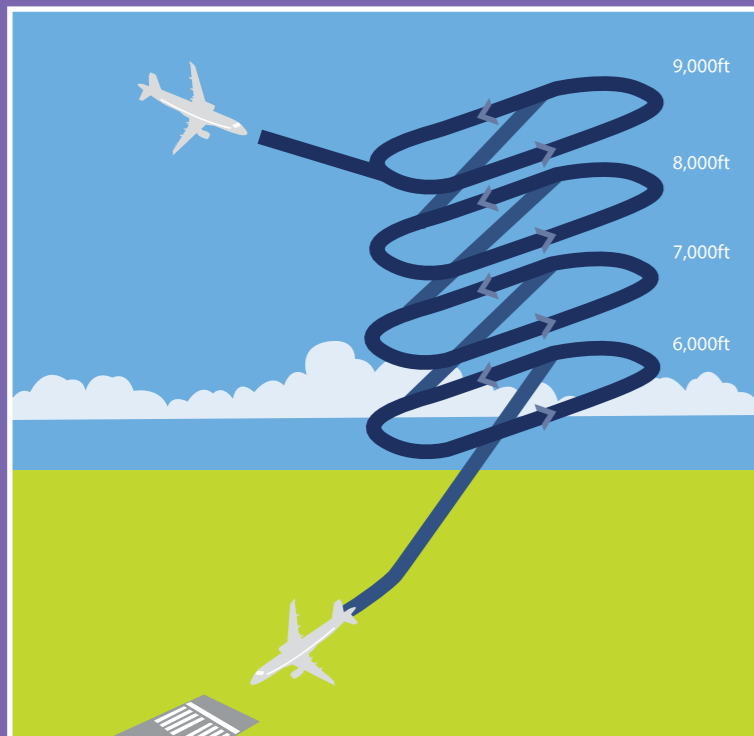
# Arriving and Departing Aircraft

Air Traffic Control (ATC) position and sequence aircraft on a descent pattern into the Airport from many directions relating to their point of origin.

Aircraft inbound to Manchester usually follow a prescribed route known as a Standard Arrival Route (STAR). Sometimes aircraft will follow their STAR to a holding stack, or, more often be directed from 50/60 nautical miles out onto a heading to intercept the Instrument Landing System (ILS).

## The holding stacks (15/20 nautical miles)

If an approach delay is expected instructions may be given to enter a holding pattern or 'stack'. Aircraft in the holding pattern circle at different heights around a central point until the way is clear for them to be guided into sequence for landing. Aircraft in the stack are separated vertically by 1,000 feet. The lowest level of the stack is 6,000 feet. There are 3 stacks in use at Manchester Airport, DAYNE, MIRSI, and ROSUN. DAYNE serves arrivals from the South, ROSUN from the north and east and MIRSI from the west. The stacks are located approximately 15/20 miles away from the Airport. Stacks are more likely to be used in poor weather when our movement rate decreases.



## Cleared to land (15/20 nautical miles, 6,000ft approx.)

The Approach Radar Controllers work closely together to establish the correct landing intervals between aircraft on final approach by instructing the pilots to adjust their height, speed and route so they are correctly separated. The spacing required between arriving aircraft depends on a number of factors, such as the prevailing weather conditions, the size of aircraft involved and the number of aircraft waiting to depart in between the landing aircraft.

A guide would be approximately 3 miles apart. Once established on the Instrument Landing System the pilot is in contact with the Aerodrome Controller who monitors the progress of the aircraft to the runway.

The Aerodrome Controllers also have the facility to monitor the aircraft's progress once on the ground by means of a special radar. This is extremely useful at night and in poor weather.

## Continuous Descent Approach

Whenever possible aircraft follow a smooth and continuous rate of descent, from level cruise to the runway, joining the Instrumental Landing System for the final stages of approach. These Continuous Descent Approaches reduce the noise heard on the ground and are better for the environment and airline as it saves fuel.

## The Initial Descent (10 nautical miles, 3,000-2,500ft approx.)

Arriving aircraft converge onto the Instrument Landing System from many points of origin. Because of this, in the early stages of landing, the distribution of aircraft will be over a wide geographical area.



## Go arounds

Occasionally an aircraft may not be able to land on the first approach and will go around for another. Go arounds may occur for a variety of reasons. Just one example might be; the cabin of an aircraft must be fully secured in terms of occupants and equipment before the captain will execute a landing. If this is not the case the captain will initiate a 'go-around'.

Manchester Airport, like all airports, has published procedures for 'go-arounds'. All such occurrences are fully co-ordinated with Air Traffic Control. Safety is paramount. Indeed, these manoeuvres occur in the interest of safety.

## Visual approaches

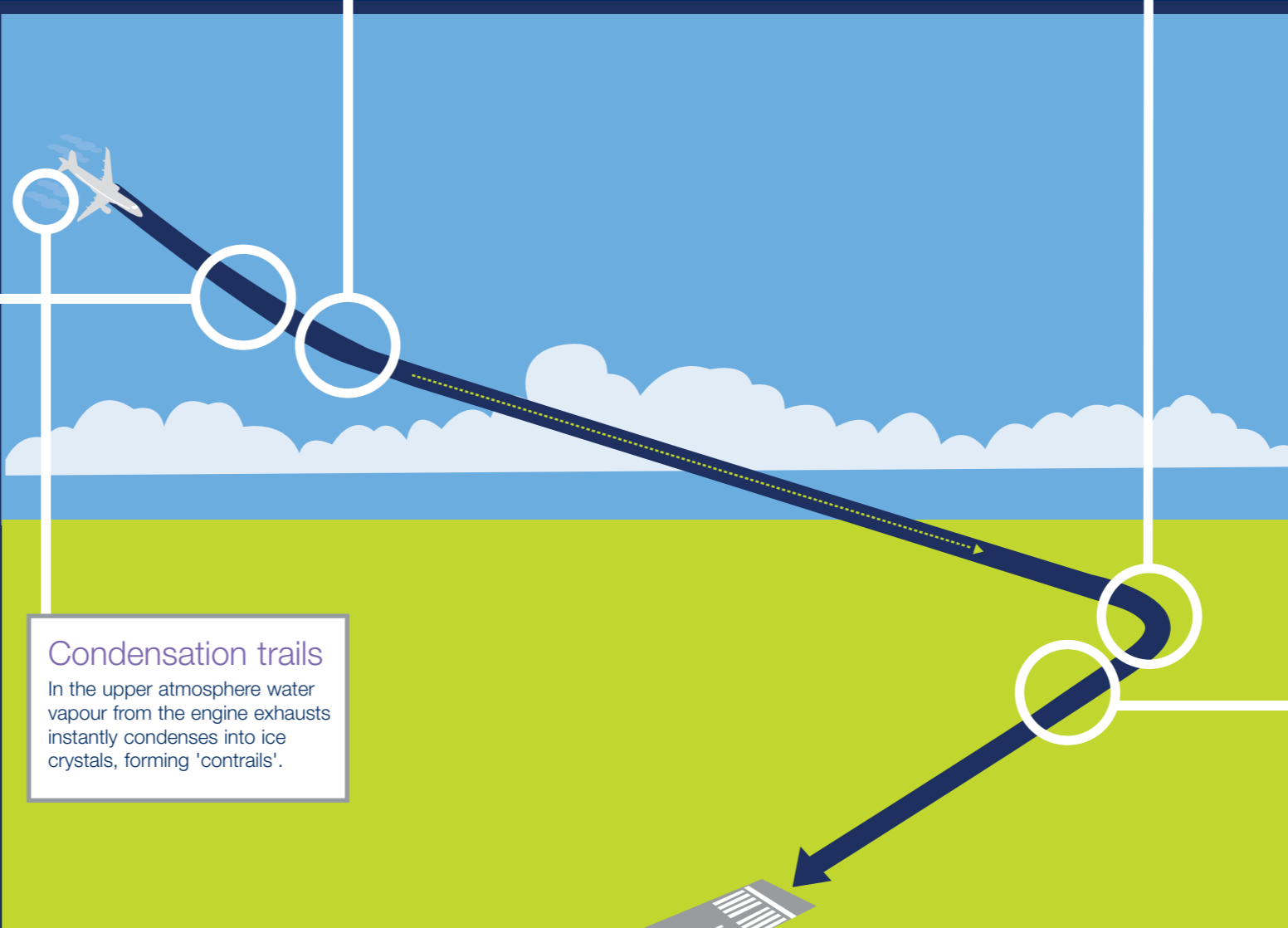
Sometimes navigational aids such as the Instrument Landing System need to be taken out of use for maintenance or replacement. In these circumstances aircraft approach Manchester Airport using different navigational aids and/or visual references. These landings are in no way unsafe but because they are likely to be offset from the usual approach path they have the potential to cause community disturbance.

## The final descent (7 nautical miles, 2,200ft approx.)

Most aircraft flying into Manchester Airport use the Instrument Landing System to guide them on a long and straight approach path. The ILS is a series of aeriels and radio transmitters, which are illustrated in the drawing below. Aircraft usually lock on to the system at distances greater than 7 miles from the runway.

The Instrument Landing System is an extremely sophisticated piece of equipment that gives aircraft a 'precise' trajectory of descent. Its accuracy is such that most aircraft have the ability to land 'blind' in poor visibility.

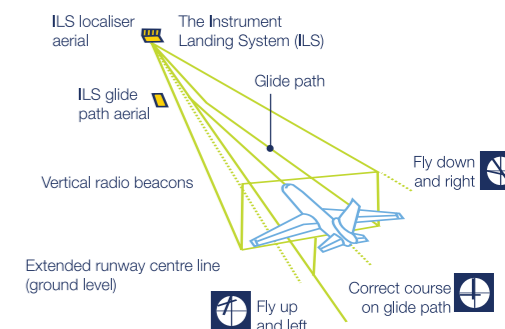
Manchester, in line with most other airports, has a glide slope of 3 degrees equal to descending 318 feet per nautical mile. All aircraft will therefore be at the same height when passing the same point. However an Airbus A380 by the nature of its size can look lower than a much smaller Embraer 145 for example.




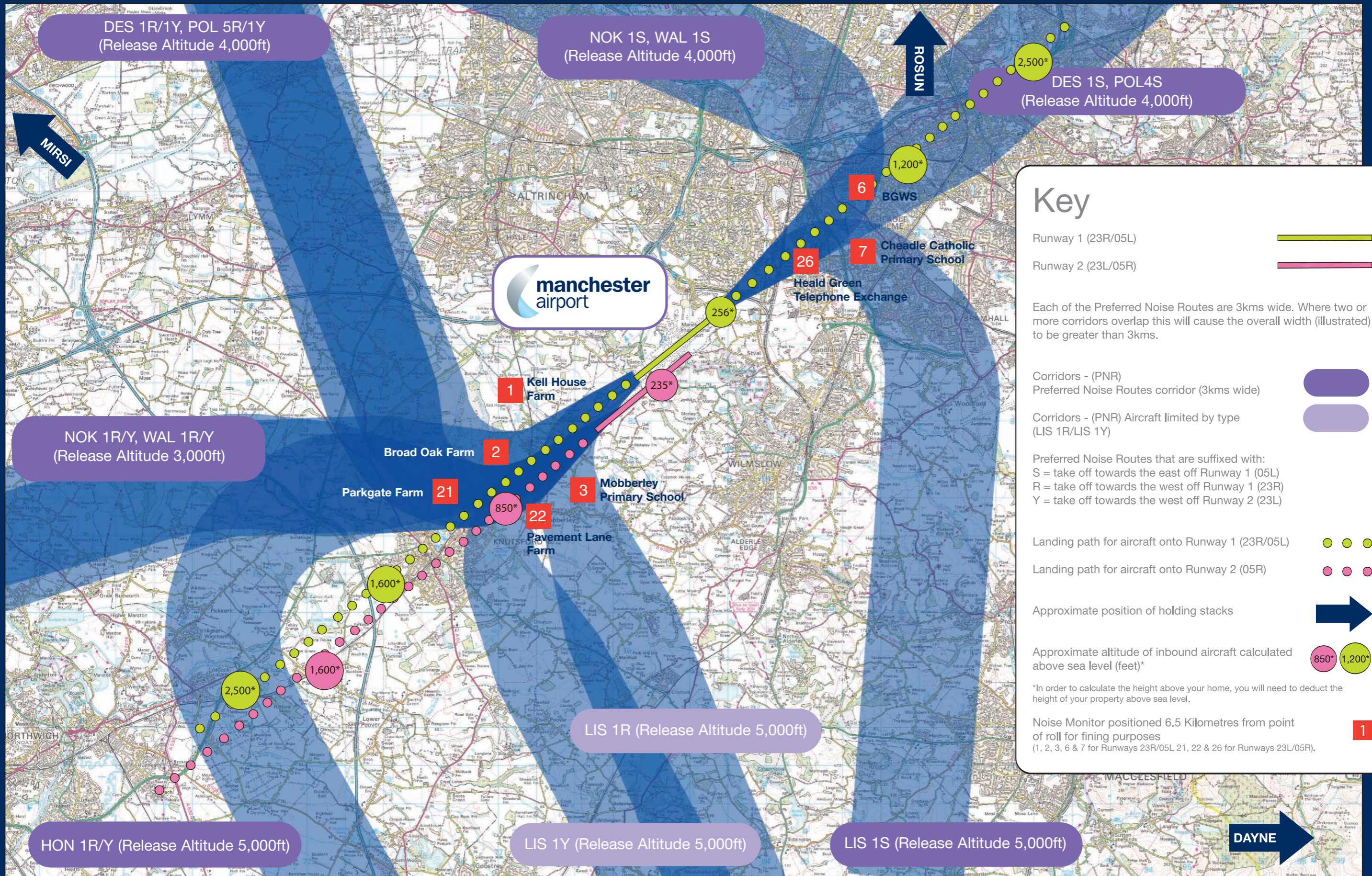
### Condensation trails

In the upper atmosphere water vapour from the engine exhausts instantly condenses into ice crystals, forming 'contrails'.


### The Instrument Landing System




During more common Westerly prevailing winds (avg 80% p.a.) aircraft will land from the North East over Greater Manchester onto the existing runway.  Approx 80% movements





### Key

Runway 1 (23R/05L) 


Runway 2 (23L/05R) 


Each of the Preferred Noise Routes are 3kms wide. Where two or more corridors overlap this will cause the overall width (illustrated) to be greater than 3kms.


Corridors - (PNR)  
Preferred Noise Routes corridor (3kms wide) 



Corridors - (PNR) Aircraft limited by type (LIS 1R/LIS 1Y) 

Preferred Noise Routes that are suffixed with:  
S = take off towards the east off Runway 1 (05L)  
R = take off towards the west off Runway 1 (23R)  
Y = take off towards the west off Runway 2 (23L)


Landing path for aircraft onto Runway 1 (23R/05L) 

Landing path for aircraft onto Runway 2 (05R) 


Approximate position of holding stacks 

Approximate altitude of inbound aircraft calculated above sea level (feet)\*  

\*In order to calculate the height above your home, you will need to deduct the height of your property above sea level.

Noise Monitor positioned 6.5 Kilometres from point of roll for fining purposes   
(1, 2, 3, 6 & 7 for Runways 23R/05L 21, 22 & 26 for Runways 23L/05R).

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 Approx 20% movements  
During periods of Easterly winds (avg 20% p.a.) aircraft will land from the South West over Cheshire. Their approach path will depend on which runway is in use.

## More information available online



### Runway Data Sheet

We have a web-based version of this data sheet available on-line. There are film clips of a pilot and air traffic control officer describing how they control aircraft when landing and taking off from Manchester Airport. There are also clips of Airport colleagues describing how we monitor aircraft noise and track keeping and distribute aircraft noise fines to the communities that have been disturbed through the Manchester Airport Community Trust Fund. **For more information please visit: [manchesterairport.co.uk/communityoperations](http://manchesterairport.co.uk/communityoperations).**



### Finding out more about us

We aim to be accessible to our community so that we can answer questions and address individual concerns. Please email us at [community.relations@manairport.co.uk](mailto:community.relations@manairport.co.uk) and we can add you to the distribution of our regular enews letter. We are at Knutsford Library each Tuesday and also visit communities around the airport through the year. **To find out when we are holding an outreach event in your area or for more information, please visit [manchesterairport.co.uk/livingneartheairport](http://manchesterairport.co.uk/livingneartheairport), [manchesterairport.co.uk/keepingintouch](http://manchesterairport.co.uk/keepingintouch).**



### Working in our community

Manchester Airport, have a close and active partnership with our local communities. We focus our community work on the areas closest to the airport and prioritise those with the greatest social and economic need. We work largely to improve employment opportunities and enhance the delivery of education in schools. **To find out more please visit: [manchesterairport.co.uk/workinginourcommunity](http://manchesterairport.co.uk/workinginourcommunity).** We also have an education website [magworld.co.uk/education](http://magworld.co.uk/education). Through this site we provide support to the curriculum for teachers and students from preschool children until leaving school at 18.



### Mitigation Schemes

Taking responsibility: We provide a number of measures to reduce the disruptive effects of our operations in those areas most affected. **For more information visit [manchesterairport.co.uk/mitigationschemes](http://manchesterairport.co.uk/mitigationschemes).**



### The Sound Insulation Grant Scheme

The Scheme offers those most effected by our operations the opportunity to insulate their home against aircraft noise. The position of the property will determine the assistance available. **To find out more information about our Sound Insulation Grant Scheme and how you can insulate your property against aircraft noise please visit [manchesterairport.co.uk/soundinsulation](http://manchesterairport.co.uk/soundinsulation) or telephone our freephone number 08000 967 967.**



### The Vortex Repair Scheme

Vortices are circulating currents of air caused by moving aircraft. Whilst most vortices are broken up by the natural flow of air before they reach the ground, sometimes they can reach roof level, causing movement or slippage to tiles on properties close to the Airport. We have a repair scheme in place to fix such damage to roofs. **To find out more please visit [manchesterairport.co.uk/vortex](http://manchesterairport.co.uk/vortex) or telephone our freephone number 08000 967 967.**



### The Community Trust Fund

The Community Trust Fund has gifted over £2.5 million since its launch. The Trust awards grants to local groups to help support:

- Community,
- Social, and
- Environmental projects within our Area of Benefit

**Information on the Community Trust Fund is available online and applications can be uploaded electronically at: [manchesterairport.co.uk/CommunityTrustFund](http://manchesterairport.co.uk/CommunityTrustFund). For further information please email [trust.fund@manairport.co.uk](mailto:trust.fund@manairport.co.uk) or telephone 0161 489 5281.**

## You can reach us at:

Community Relations, Manchester Airport PLC, Manchester M90 1QX

Freephone 08000 967 967

[community.relations@manairport.co.uk](mailto:community.relations@manairport.co.uk)  
[manchesterairport.co.uk/livingneartheairport](http://manchesterairport.co.uk/livingneartheairport)

## or visit us at:

Our weekly outreach session at Knutsford Library each Tuesday between 09.30 - 12.30, 13.15 - 17.00.  
On the first Tuesday of each month we operate an afternoon/evening session between 12.00 - 19.00.

All information correct at time of going to print March 2011.

