

Air Quality Report 2006



Maintain the $40\mu\text{g}\text{m}^{-3}$ NO_2 contour within the Airport boundary and away from residential properties.



14 properties within the $35\mu\text{g}\text{m}^{-3}$ contour.

Objective: "We will continue to reduce air quality related emissions."

Our Environment Plan to 2030 sets out our policies and targets for controlling environmental impacts associated with the Airport's activities. This report presents progress against those targets and actions.

Air quality can be affected by a number of different pollutants that in high concentrations can harm human health. There are many pollutant sources at the Airport, such as staff and passenger cars, aircraft, operational vehicles and heating plant.

Air quality is a complex subject as different pollutant sources produce different quantities of each pollutant. The pollutant of greatest relevance to Airport operations and EU limit values is nitrogen dioxide (NO_2).

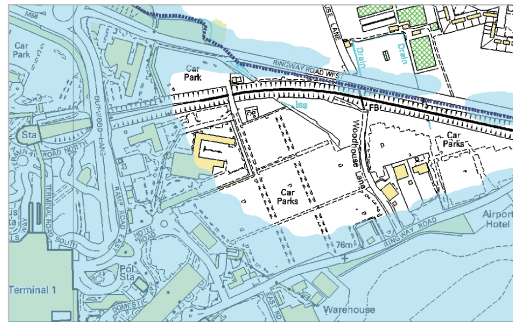
Air quality contours

In order to protect human health, the EU and UK Government have set air quality limits in ambient air that must not be exceeded. The limit for NO_2 is $40\mu\text{g}\text{m}^{-3}$ measured as an annual average. We can calculate, monitor and model NO_2 emissions to produce a contour.

The latest NO_2 contour that has been produced is the $35\mu\text{g}\text{m}^{-3}$ for 2005. This contour represents the Greater Manchester Air Quality Management Area (GM AQMA). We will also report the $40\mu\text{g}\text{m}^{-3}$ NO_2 contour in the future.

The $35\mu\text{g}\text{m}^{-3}$ NO_2 contour encloses a large part of the Airport's operational area including the runways, taxiways and terminal areas. The contour also includes areas alongside the M56 motorway. Properties between Junctions 5 and 6 and south of the motorway are counted because the air quality here is strongly affected by Airport emissions.

In the future, we will report the area (hectares) of the NO_2 $40\mu\text{g}\text{m}^{-3}$ annual average contour for just Airport emission sources as well.

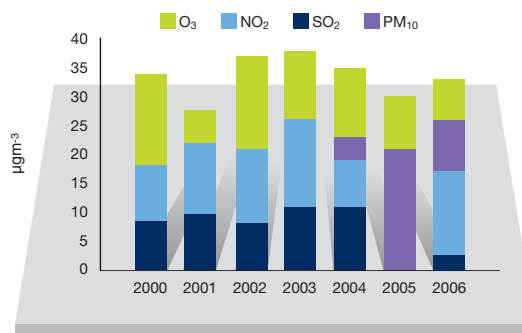


Legend

- Airport Operational Area Boundary
- Greater Manchester Air Quality Management Area

Air Quality monitoring

We maintain, jointly with Manchester City Council, an air quality monitoring station near the Airport, called 'Manchester South', that forms part of a national network. The pollutants monitored are NO_2 , particulate matter (PM_{10}), sulphur dioxide (SO_2) and ozone (O_3).



The data gathered at Manchester South is continuous monitoring data and allows for a comprehensive assessment against standards and limits.

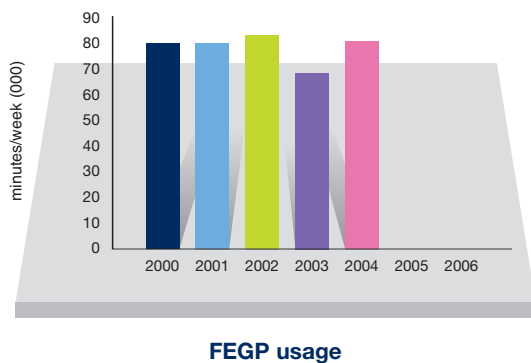
Airport emissions

The main sources of Airport emissions of NO₂ are aircraft and local road traffic.

We have not previously calculated our emissions every year. The latest information we have is for 2005. In the future we will report 2006 emissions and the total emissions each year

Fixed Electrical Ground Power

We promote fixed electrical ground power (FEGP) (mains electricity) to supply an aircraft's electrical systems whilst parked. We do this by maintaining FEGP on all permanent aircraft stands and upgrading it as necessary.



FEGP usage

We are working towards implementing a ban on Auxilliary Power Unit (APU) and Ground Power Unit (GPU) usage for 2010 onwards whilst aircraft are on FEGP served stands (allowing for a specified minimum operational running time for the APU).

2006 Actions and Progress

Some Airport emissions are within our direct control, such as from our energy use and our own vehicles. However, the majority of Airport emissions arise from the activities of our Service Partners.

Raise awareness of vehicle exhaust emission limits on the airfield.

All airside vehicles must comply with MOT equivalent vehicle standards and our 'switch-off' policy. We hosted Manchester City Council's 'Cleaner Vehicles Campaign' for 3 days to raise awareness of vehicle exhaust emission standards on the airfield. Over 50 vehicles were tested and the failure rate was 10% (all diesel vehicles) against the MOT emission limits.

Replace gaseous analysers at the 'Manchester South' station.

The NO_x, SO₂ and O₃ analysers at the Manchester South station were ageing and becoming less reliable. We have replaced them as a preventative maintenance measure. The national network requires over 90% data capture each year.

Produce a fleet reduction and replacement programme.

We have reviewed our total operations fleet and identified cost and environmental savings that can be made through a process of rationalisation and replacement. The 3-year programme will reduce the number of our operational vehicles by 7% from 215 to 199. The new vehicles will also be less polluting and more efficient.

Focus for 2007

The main areas of work in 2007 will include the following:

- Install a PM_{2.5} particulate monitor at the Manchester South station;
- Implement the first year of the fleet reduction and replacement programme;
- Produce 2006 Airport emissions data and produce 2006 air quality contours.



98% availability of FEGP on each aircraft stand.



We achieved 99.9% availability of FEGP in 2006.

2006