

# Dublin Airport Sustainability Report



## Sustainability Vision

**Our sustainability vision is:**

“

To be a responsible airport operator  
by minimising our impact on the  
environment and our immediate  
neighbours, whilst supporting  
economic growth as Ireland's busiest  
airport and making a positive  
contribution to the society in which  
we operate

”

## Report contents

About this report	4
Director Dublin Airport Q&A	5
Business overview	7
What does sustainability mean to us?	8
How we manage sustainability	9
<b>Sustainability Issues</b>	
Environment	
Climate change & energy	12
Aircraft noise	14
Air quality	17
Sustainable transport	19
Waste management	23
Surface water	24
Water consumption	26
Wastewater	28
Biodiversity	29
Sustainable construction	31
Economic	
Economic contribution	32
Social	
Community relations	34
Our people	37
Passenger experience	39
Health & safety	41
Airfield safety & security	42



## About this report



### Welcome to Dublin Airport's first annual Sustainability Report.

This report is designed to provide readers with information on what sustainability means for Dublin Airport and how we manage it within our business. In addition, we are pleased to outline our first sustainability strategy.

The strategy includes our first set of objectives and targets in this area. For some sustainability issues Dublin Airport has been collecting detailed monitoring data for a number of years; for others 2009 will be the first year of this process. We are committed to improving our sustainability performance and reporting year-on-year, and expect to report our progress against key sustainability targets in future reporting years.

#### Key Stakeholders

This report is designed to provide information to all Dublin Airport's stakeholders. These include:

- Airlines;
- Ground handlers;
- Airport staff;
- Tenants, concessionaires and contractors;
- Other businesses and companies at the airport;
- Passengers and visitors;
- Local communities;
- Local and national government; and
- Sustainability and corporate responsibility opinion formers.

The scope of this report excludes rented retail spaces and other services provided by external contractors, unless otherwise stated.

The report is divided into the following two main sections:

#### Section One: Introduction

This section includes:

- Opening questions and answers from the Director Dublin Airport
- Business overview
- Dublin Airport's approach to sustainability
- An overview of the key issues affecting the airport

#### Section Two: Sustainability Issues

In this section we describe how Dublin Airport's sustainability issues are being managed; how we are performing and the objectives we have set ourselves to drive performance improvement in the future. The information specifically covers sustainability issues and does not include data on financial performance or our business partners.

For further information on Dublin Airport, our approach to sustainability or to offer feedback, please visit our website - [www.dublinairport.com/about-us/sustainability/](http://www.dublinairport.com/about-us/sustainability/)

We welcome your feedback on our sustainability performance and on this report.

## Director Dublin Airport Q&A

### What does Sustainability mean for Dublin Airport?

It's about operating responsibly – minimising our impact on the environment and our immediate neighbours; supporting economic growth as Ireland's busiest airport and making a positive contribution to the society in which we operate.

### Why is Sustainability important for the airport?

Considering Dublin Airport's high profile role in the regional and national economy, we are keen to highlight the importance of sustainability and managing sustainability issues.

Sustainability is now a mainstream consideration for all activities and operations in the aviation and airports sector. If we are to be truly successful, then we need to embrace the concept of sustainability, to minimise our negative impacts and enhance our positive impacts.

We are very aware of the three 'pillars' of sustainability (environmental stewardship, social responsibility and economic growth) and of the need to maintain a balance between these three factors in all our operations. Ultimately, not embracing the challenge of sustainability now is likely to result in greater problems in the future.

### What are the airport's key sustainability challenges and how are they managed?

A high profile and important issue, particularly for our local communities, is aircraft noise. We receive complaints from the surrounding communities regarding aircraft noise throughout the year, even though it is not an issue over which we as the airport operator have direct control. That said, we

have introduced a Noise and Flight Track Monitoring System to determine which flights deviate from their pre-assigned flight paths and we publish a monthly Noise & Flight Track Monitoring Report on our website. We also analyse and investigate all complaints and this data is also published in our monthly reports.

Given the scale of our operations (an average of 60,000 passengers pass through the airport each day, in addition to around 13,000 people who work there), another key issue is sustainable transport. We have appointed a Mobility Manager who is tasked with increasing the proportion of staff who travel to the airport by public transport or by car-sharing. The arrival of Metro North in a few years time will also greatly increase public transport options for employees, passengers and visitors. We work with the various transport providers to assist and promote access from the airport to Dublin City and beyond.

Energy and water consumption are also key sustainability issues. Our size and the nature of our operations mean that we are a significant energy and water consumer and we are constantly looking for ways to reduce demand in these areas.

Surface water quality is an important issue for both the airport and our local communities. We are in the process of installing a Surface Water Attenuation and Pollution Control System to better manage surface water runoff and any pollutants that may enter the drainage network in and around the airport. We have also installed state-of-the-art surface water quality monitoring equipment at the key streams on the campus.



Finally, given the rapid growth in passenger numbers at the airport over the last two decades, waste management is an ongoing challenge. In recent years, we have purchased new equipment to better manage waste and we have also increased our overall rate of recycling and waste recovery.

### We have many different stakeholders, all of whom are important to us. They include:

- Airport staff and contractors;
- Airlines and ground handlers
- Other businesses and companies based at the airport;
- Passengers and visitors;
- Local communities, including Portmarnock, St. Margaret's, Cloghran, Swords, Malahide, Balgriffin, and Santry, as well as other areas that are further away but can still be impacted by aircraft noise;
- Local and national government groups such as Fingal County Council and local elected representatives; and
- Sustainability and corporate responsibility opinion formers.

### How does Dublin Airport engage with its stakeholders?

Engagement activities include a Dublin Airport Stakeholders Forum, which takes place up to four times per year. This event enables stakeholders to raise any issues and queries that they may have and



## Director Dublin Airport Q&A *continued*

is also a useful vehicle for communicating new proposals, projects or activities that we are planning. The Forum has made an important contribution to the preparation and development of our Sustainability Strategy, which invited stakeholders' input.

We also engage with the following three working groups established by the Stakeholders Forum; Environmental Monitoring; Surface Access; and Economic and Customer Service.

Another useful medium is our community newsletter 'Your Airport'. This newsletter outlines current and future developments and includes various articles on the ways in which we are striving to better manage our operations and associated impacts on the community and the environment. The newsletter is distributed to 35,000 local households and is also available on our website: [www.dublinairport.com/about-us/community-affairs/community-newsletter.html](http://www.dublinairport.com/about-us/community-affairs/community-newsletter.html)

We are also active in the local community and we believe we have an important role to play in this respect. Examples include our very successful relationship with the GAA clubs in St. Margaret's, Portmarnock and Malahide, and with a local garden project for St. Cronin's National School in Swords. Last year, we supported a Transition Year trip from Portmarnock Community School to South Africa, as part of Marian Finnucian's charity 'Friends in Ireland'. All of this is in addition to our ongoing Schools Insulation Programme, through which we provide sound insulation in local schools in the vicinity of the airport.

A key aim of the Sustainability Strategy and our commitment to

annual sustainability reporting is to strengthen our relationship with stakeholders. We are aware that many of the local communities have issues with the airport and we are always looking for ways to improve our performance. Our Sustainability Strategy, and this report will – I hope – go a long way towards doing so.

### What about the airport's sustainability performance?

We have made significant investments and improvements in recent years regarding a number of issues, among them sustainable transport, aircraft noise, air quality, surface water quality and waste management. The arrival of a second terminal (T2) will ultimately lead to long-term improvements in our overall sustainability performance, which in turn will be driven by our Sustainability Strategy and the reporting process.

### How can the airport claim to be 'sustainable' when advocating a Northern Parallel Runway?

We believe that our plans to build a Northern Parallel Runway do not conflict with our sustainability goals and targets. Whilst we accept that many people may take a different view, we would argue that there is a need to keep sight of the three pillars of sustainability: environmental stewardship, social responsibility and economic growth. A truly sustainable organisation will seek a reasonable balance between all three, achieving economic growth whilst caring for the environment and maintaining a high degree of social responsibility.

It must be remembered that Ireland is an island-nation and that air travel is a physical necessity to ensure that Ireland functions as a successful, open, modern and independent state. Air travel from Dublin Airport brings significant economic and social benefits to the

airport's local communities, the Greater Dublin Area and to the nation as a whole. In the current economic climate, there is an even greater need for Ireland to build on and enhance our links to other regions of the world.

The decision to develop plans for a Northern Parallel Runway at the airport was not taken lightly. Alternatives were considered and discounted as they would result in greater environmental impacts while not providing adequate benefits (i.e. airport capacity) and being more costly to implement.

### How does the airport plan to enhance its sustainability over the next 3-5 years?

Our activities will be guided by the Strategy, which will be updated annually to reflect the evolving needs of the airport and its stakeholders. The publication of our first Sustainability Report will form a baseline from which we will annually gauge our performance. We have identified a number of key issues and have developed several objectives and targets to drive performance improvement in each case.

### How will Dublin Airport communicate its progress on sustainability issues?

Mainly through our annual Sustainability Report, which will be distributed to a target audience of stakeholders and will be available to download from our website. Hard copies will also be available on request. Additional reporting in such areas as noise, water quality monitoring and air quality monitoring will also be available from our website.

*Bob Milnara*

## Business Overview

### Dublin Airport at a glance



Ireland's principal international airport, Dublin Airport is amongst the 10 busiest airports in Europe. The airport opened in 1940 for commercial operations, since then it has been used by approximately 230 million people. Today, the airport accounts for 77% of Ireland's international passenger air trips and 69% of air freight. It handles on average 60,000 passengers per day, rising to 80,000 during the peak season. The airport catered for a total of 23.5 million passengers in 2008.

In transporting this number of passengers, there were a total of 211,890 aircraft movements in 2008, flying on 206 different routes. The top five destinations were London, Paris, Cork, Manchester and Birmingham. The airport operates 24 hours a day, 364 days a year, closing only on Christmas Day.

Dublin Airport is owned by the Dublin Airport Authority plc (DAA) an airport management company, whose role is to manage, operate and develop Dublin, Cork and Shannon airports in Ireland. This includes

both domestic and international airport retail management and airport investment.

#### Current infrastructure

Dublin Airport currently has one terminal building and one main runway measuring approximately 2.6 km and a cross-wind runway measuring approximately 2.0 km in length.

There are currently 89 aircraft stands catering for over 50 different airlines, both scheduled and charter. Airlines that fly to and from Dublin include Aer Arann, Aer Lingus, Ryanair, Continental Airlines, Air France, Delta, BMI, Monarch, SAS and Lufthansa.

#### Planned expansion

A second terminal is currently under construction and is due to open in 2010. This will initially provide capacity for 10 million passengers, redirected from the existing Terminal 1 allowing this terminal to be gradually upgraded in future years.

#### Importance to the local/national economy

In 2008, some 120 companies supported an estimated 13,500 full-time equivalent jobs at Dublin Airport. The full economic impact of the airport in terms of employment was estimated at 15,500 jobs locally (Fingal County) and 47,000 jobs in the Irish Republic, which represents 2.3% of employment in Ireland.

Precise estimates of the employment and income generated by the attraction, expansion and retention of economic activity as a result of access via an airport are hard to prepare. However, given the open nature of the Irish economy and its reliance on international trade, and the recognition that Ireland is an island nation, it is difficult to overestimate the importance of air services to the country. Dublin Airport has been a key element in a range of factors that has underpinned the past success of Ireland in general, and the Greater Dublin Area in particular, in the inward investment and inbound tourism markets.

#### Keeping the airport moving

On a day-to-day basis the airport has to work with a very large number of external agencies to ensure it runs safely and smoothly. These include:

- Individual businesses: providing catering, shopping, car hire, etc;
- Customs & Excise: controls the import and export of goods, including preventing illegal activities, such as drugs, tobacco and alcohol trafficking etc;
- Department of Agriculture: protecting the country against the introduction of diseases from abroad;
- Garda National Immigration Bureau (GNIB): a division of An Garda Síochána responsible for passport control;
- Irish Aviation Authority (IAA): is responsible for air traffic control and management, ensuring flying aircraft are safely separated;
- Public transport operators: taking passengers to and from the terminal from all around the country;
- An Garda Síochána: provide support in relation to security, criminal and terrorist activities at our airport.

## What does sustainability mean to us?

Sustainability at the airport means operating responsibly: minimising our impact on the environment and our immediate neighbours; supporting economic growth as Ireland's busiest airport; and making a positive contribution to the society in which we operate (See figure 1 below).

**Figure 1:**  
Sustainability at Dublin Airport



### 1. Environmental Stewardship

- We take responsibility for managing direct environmental impacts such as minimising our energy consumption, noise generation, waste production and water consumption;
- For environmental impacts partially outside our control, we exert as much influence as we can. This includes working with the Irish Aviation Authority (IAA) and airlines to minimise aircraft noise and working with concessions at the airport to manage waste.

### 2. Social Responsibility

- We aim to treat all our employees and contractors with fairness and respect;
- We ensure the airport is as safe and secure as possible for all who work at or visit the airport;
- We are committed to be a good neighbour to our local communities.

### 3. Economic Growth

- We make a significant contribution to national growth and to the local economy. This is achieved through the staff we employ and our relationships with business: both within the airport, those from which we procure goods and as a facilitator of international business travel;
- We also recognise the need to ensure that economic growth occurs in conjunction with environmental stewardship and social responsibility.

Our commitment to sustainability is underpinned by DAA's Vision, Mission and Values.

### DAA's Vision, Mission and Values

**Vision** - To deliver a quality airport travel experience to the best International standards.

**Mission** - To manage our airport business profitably, meeting customer needs and creating gateways for 21st century Ireland.

**Values** - The central value, delivery, reflects the challenge we face to deliver on our promises and is supported by the surrounding values:



**Delivery** means we do what we say we will do, delivering on promises.

**Efficiency** means doing things right the first time.

**Focus** means prioritising what's important and doing that well.

**Resourceful** means 'thinking outside the box', and being innovative.

**Professional Approach** relates to our conduct and standards, being ethical in our dealings with each other and our customers, and having consistent high standards and high quality.

**People Engagement** means involving people, being fully committed, and being prepared to go the extra mile.

**Open and Fair** means treating everyone with respect, being fair and equitable in our dealings, and demonstrating openness in communication.



## How we manage sustainability

### Strategy

We developed our first Sustainability Strategy this year with the aim of consolidating and improving our performance in this area. The development of the strategy has been a major undertaking, involving the airport's senior management team, staff from many different departments and our Stakeholder Forum. Environmental Resources Management (ERM) also assisted us in the development of the strategy.

The first step in developing the strategy was to establish what sustainability means for Dublin Airport. This was achieved through a number of internal and external workshops, which helped us identify the following issues, which were considered important for both the airport and its stakeholders:

- Air quality
- Aircraft noise
- Climate change and energy
- Community relations
- Health & safety
- Surface water quality
- Sustainable construction

- Sustainable transport
- Waste management
- Water consumption (including wastewater)

While other issues will also be managed and reported on, we recognise that the above require a particular effort, given their impact and stakeholder concern.

### Sustainability Vision

With the key issues finalised we then proceeded to develop our sustainability vision, which commits the airport,

*'to be a responsible airport operator by minimising our impact on the environment and our immediate neighbours, supporting economic growth as Ireland's busiest airport and making a positive contribution to the society in which we operate'.*

In order to focus our energies on performance improvement, we then developed a number of objectives and targets for each issue. These will be regularly monitored,

measured and reported on as part of the strategy (see Figure 2).

In effect, the strategy is a roadmap that should guide us towards achieving our vision, as well as improving performance along the way. The strategy will be updated annually to reflect the changing needs of the airport and expectations of our stakeholders.

### Policies

The strategy and vision we have outlined will be supported by a series of sustainability policies to clarify our commitment to sound management of sustainability issues.

**Figure 2:**  
Key features of the Sustainability Strategy



## How we manage sustainability *continued*

### Dublin Airport's Sustainability Policy Statement

#### Sustainability Awareness

- To develop and deliver a Dublin Airport Sustainability Awareness Programme for all DAA's Dublin Airport employees, the objective of which is to raise awareness of the concept of sustainability and the sustainability strategy.

#### Climate Change & Energy

- To develop and implement an energy reduction strategy and to take measures to manage Dublin Airport's carbon footprint.

#### Aircraft Noise

- To work in association with representatives of airlines, the Irish Aviation Authority (IAA) and aircraft maintenance companies, with the aim of abating the impact of aircraft related noise on the community within technical, safety and reasonable financial and national economic constraints.
- To track and monitor flight paths of departing and arriving aircraft and engage with the IAA where regular deviations exist.
- To publish a monthly Noise & Flight Track Monitoring Report.

#### Air Quality

- To monitor air quality at Dublin Airport for the health and benefit of the local communities and environment in accordance with international standards and legislative requirements.
- To continue to reduce air quality emissions for which we are directly responsible.

- To publish an Air Quality Summary Report every quarter, summarising the key findings of our ongoing monitoring programme.

#### Sustainable Transport

- To increase passenger and employee journeys to Dublin Airport being made by public transport, car-share and other non-car modes of transport.

#### Waste Management

- To reduce the proportion of waste generated and handled by Dublin Airport that goes to landfill and increase the proportion that we and, where possible, our waste contractors, recycle and recover.
- To encourage companies operating within Dublin Airport to increase their waste recovery rates.

#### Surface Water

- To ensure that surface water quality in streams and rivers within Dublin Airport is of an acceptable quality.
- To ensure that Dublin Airport works with local and national authorities and addresses flood risks for which the airport is responsible.

#### Water Consumption

- To reduce total potable water consumption at Dublin Airport for which DAA is directly responsible.
- To ensure that drinking water at Dublin Airport is of good quality.

#### Wastewater

- To continue to operate in compliance with Dublin Airport's trade effluent discharge licence.
- To minimise the impact that kitchen wastewater disposal might have on the wastewater treatment system.

#### Biodiversity & Landscape

- To work to minimise our impact on local biodiversity and where possible, seek to enhance biodiversity in and around Dublin Airport.
- To work to reduce the visual impact of the airport on the neighbouring community and also to progressively enhance our appearance over time.

#### Sustainable Construction

- To incorporate sustainable planning, design, and construction policy objectives into all future Dublin Airport projects.

#### Community Relations

- To be a good neighbour, fostering positive and open community relations, specifically for those communities most impacted by Dublin Airport.

#### Health and Safety (H&S)

- To minimise all H&S incidents at Dublin Airport and, through raising awareness and active management of H&S, to ensure that Dublin Airport is effectively addressing H&S risks.

### Sustainability commitments

We are fully committed to improving our sustainability performance over the coming years. To ensure that we deliver on this, we have made the following commitments:

- Dublin Airport will publish an annual Sustainability Report;
- Dublin Airport will revise the Sustainability Strategy (and the associated policies, objectives and targets) each year to ensure that regular sustainability performance improvement is maintained and encouraged; and
- Dublin Airport will seek to influence passengers, employees and other operators and businesses based at the airport to improve their sustainability performance.

## How we manage sustainability *continued*

### Organisational structure supporting sustainability

The airport will ensure that there is senior management accountability for the success of the sustainability strategy. Each key issue will be the responsibility of a nominated manager, with the duty to manage and monitor our progress towards objectives and targets. Each manager will then report on performance to the airport's Environment and Sustainability Manager, who is responsible for the preparation of the annual Sustainability Report.

### Internal communications and engagement

One of the key objectives of our Sustainability Strategy is to develop and deliver a Sustainability Awareness Programme for all DAA's Dublin Airport employees, focusing on the objectives of the Sustainability Strategy and their role in achieving the objectives and targets.

### External communication and engagement

Stakeholder engagement is a key aspect of our day to day management of the airport. In 2005, we set up the Dublin Airport Stakeholders Forum in conjunction with Fingal County Council and Fingal Development Board. The main aim of the Forum is to strengthen relationships between Dublin Airport, its users and the people living and working in the surrounding communities. The Forum is currently independently chaired by Dr. Daniel O'Hare, founding President of Dublin City University (DCU).

Dublin Airport also keeps the wider community informed of developments and activities at the airport through the distribution of 'Your Airport' our periodical community newsletter. This is distributed free-of-charge to over 35,000 local households and is also available on our website [www.dublinairport.com/about-us/community-affairs/community\\_newsletter.html](http://www.dublinairport.com/about-us/community-affairs/community_newsletter.html)

As noted previously, the airport is active in the local community, primarily through our support for local community groups, sports clubs and schools. More information can be found in the Community Relations section of this report (p. 34).

### Legal and regulatory compliance

Legal and regulatory compliance is a pre-requisite for the airport. There is a range of legal requirements across all of our operations, including:

- Environmental standards, such as European air quality standard thresholds and water pollution;
- National requirements, such as compliance with the Environmental Protection Agency Act (as amended) and Health and Safety at work legislation; and
- Local regulations and conditions, such as our wastewater discharge licence from Fingal County Council and planning conditions from An Bord Pleanála.

The airport also has to comply with operating and aviation safety standards and regulations such as aircraft movements on the ground.

Dublin Airport endeavours to comply with all legal and regulatory requirements in its day-to-day operations. Where a non-compliance is identified, this is the subject of an investigation and remedial action, if required.

In many cases, such as air quality, Dublin Airport aims to exceed legal and regulatory requirements. Where there are no legal requirements or standards, the airport is setting its own voluntary standards and targets.

### Measuring and reporting performance

While the airport has been collecting detailed data and monitoring certain sustainability issues for a number of years, this is the first time an annual Sustainability Report has been produced and externally published. For some sustainability issues, 2009 will be the first year of data collection and performance monitoring. Consequently data will not therefore be available for all sustainability issues in this 2009 report. With regard to future reports however, we are committed to collecting data across a wider spectrum of sustainability issues and, as noted above, reporting on our performance.

In addition to our annual Sustainability Report, we also publish monthly Noise & Flight Track Monitoring reports. These reports and information are available via the airport website: [www.dublinairport.com/about-us/community-affairs/aircraft\\_noise/](http://www.dublinairport.com/about-us/community-affairs/aircraft_noise/)



## Sustainability Issues - Environment

### Climate Change & Energy

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed:

- To develop and implement an energy reduction strategy; and
- To understand and manage Dublin Airport's carbon footprint.

#### What is the issue?

It is now widely agreed that climate change is one of the greatest challenges facing the world today. The Environmental Protection Agency states in its 2008 State of the Environment Review that:

"Climate change is the most significant and challenging issue currently facing humanity. Large reductions in greenhouse gas (GHG) emissions will be required if dangerous and irreversible climate impacts are to be avoided".

Aviation contributes to climate change primarily through aircraft emissions from the combustion of jet fuel during flight, and to a much lesser extent through energy use at terminal buildings and offices, and emissions from ground operations equipment.

The Intergovernmental Panel on Climate Change estimates that global aviation is responsible for approximately 3.5% of the total human contribution to greenhouse gas emissions, and expects that this will rise to between 3% and 15% by 2050.

Aircraft emissions are not within the airport's control, however energy consumption within the airport itself is one of our largest contributors to greenhouse gas emissions. The growth of passenger numbers and airport staff

has resulted in an increase in energy consumption in recent years.

#### What is our approach to managing climate change and energy?

As part of our 2009 Sustainability Strategy we have committed to better understanding our carbon footprint and then consider ways to address and better manage this in future years.

We have been actively managing energy use at Dublin Airport for many years and are constantly seeking ways to further reduce energy consumption at the airport. This can be difficult to achieve, given the need for large-scale heating/cooling (depending on the time of the year) and for lighting at the airport – although in this respect we continue to review new energy efficient technologies. The new second terminal will include energy efficiency measures, and there will also be a general upgrading of the existing terminal, to improve our overall performance in this area.

With increases in cost of energy in recent years and a greater awareness of the impact of energy use on the environment, energy reduction has increased correspondingly. The challenge for Dublin Airport is to be inventive and aggressive in achieving further reductions in energy use. In early 2009 we installed an energy monitoring and targeting system and networked it to existing systems. As historical data profiles grow and are expanded we will gain a better understanding of our energy use in each area and will be better placed to achieve additional reductions. The Energy Strategy Group meet each month and discuss all energy related issues. Records are maintained showing areas targeted and reductions achieved.

## Sustainability Issues - Environment *continued*

We currently operate two Combined Heat and Power units (CHP) with a combined electrical output of 3.7 mega watts. The CHP's electrical output is used on site reducing our electrical import. Heat is a by-product of the generation process and is utilised for heating the terminal buildings and piers including domestic hot water. The use of CHP's on site and their associated efficiencies contributes to a global reduction in green house gas emissions.

### What is our performance?

Figure 3 shows quarterly energy consumption at Dublin Airport (in kWh) from 2001 to 2008. Energy consumption has increased over this period because of the large increase in passengers and staff and also the extensive upgrade works that have been undertaken in recent years.

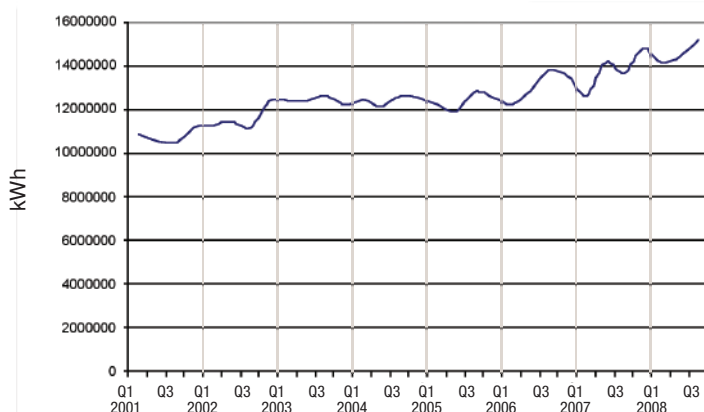
### Next steps

As noted above, we have committed to gaining a better understanding of our current carbon footprint with the intention of reducing this in future years. We will also undertake a series of actions over the coming months to reduce our overall energy consumption. These will include:

- Small changes in ambient temperatures in specific parts of the campus;
- Close control and ongoing analysis of building management systems to achieve further reductions in energy use;
- Reducing lighting and temperature demand in areas of low or infrequent usage;
- Extending the use of PIR (Passive Infra-Red controls) across the campus for areas such as toilets, escalators and air bridges;

- Reducing the lighting load in specific areas;
- Regular survey of all areas to identify scope for additional energy reductions;
- Detailed analysis of recently expanded energy management system to set further targets for energy reduction; and
- Active participation and cooperation with external agencies including current energy map training with SEI for progression to IS 393 certification.

**Figure 3:**  
Electricity consumption at Dublin Airport (2001-2008)





## Sustainability Issues - Environment *continued*

### Aircraft Noise

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed:

- To track and monitor flight paths of departing and arriving aircraft and engage with the Irish Aviation Authority (IAA) where regular deviations exist;
- To publish a monthly Noise & Flight Track Monitoring Report;
- To log, investigate and take appropriate action regarding all noise complaints received from the local community; and
- Work in close collaboration with the IAA in order to reduce the incidents of aircraft deviating from flight tracks.

#### What is the issue?

Aircraft noise at Dublin Airport is a serious concern for some areas of the local community. Noise is predominantly caused by aircraft approaching, landing and taking off and can be particularly disturbing at night.

Managing the impact of aircraft noise on neighbouring communities is the collective responsibility of the DAA, the IAA, and the airlines that operate at the airport. Flight paths and routes to and from the airport are regulated by the IAA and managed by Air Traffic Control (ATC). The IAA is also responsible for Noise Abatement Procedures (the flight 'rules' that must be obeyed by pilots during their approach and take off). The abatement procedures are enforced by ATC. The airport provides the infrastructure for aircraft departures

and arrivals, but has only limited control on the airlines and aircraft which are the primary source of noise

#### What is our approach to managing noise?

We take the management of noise impact extremely seriously and have a range of noise reduction measures in place.

#### Noise and Flight Track Monitoring

We work with the IAA to help them ensure that aircraft operate to specified flight paths using the Noise and Flight Tracking Monitoring System (NFTMS). This system monitors aircraft movements to and from the airport. The data collected assists in the investigation of all noise-related complaints.

#### Noise Action Plan

We strongly support a Noise Action Plan that has been developed by the four Dublin Local Authorities (Dublin City Council, Fingal County Council, South Dublin County Council and Dún Laoghaire-Rathdown County Council), to comply with the Environmental Noise Regulations (SI 140 of 2006). The plan includes actions designed to address noise impacts relating to the airport, including:

- Restrictions on ground-based engine testing;
- Management of land use around the airport to minimise residential exposure to airport-related noise;
- Implementation of the NFTMS and the dissemination of this information to the local community;
- Joint development of best-practice noise minimisation measures by DAA and IAA; and
- The commissioning and operation of a new Aircraft Navigation System, which should help to bring about less noise disturbance from aircraft movements.





## Sustainability Issues - Environment *continued*

All of these actions are either completed or will be completed in the near future.

### Noise Complaints Procedure

We take initial responsibility for investigating all noise-related complaints concerning the airport. When a complaint is received, we will investigate its nature and then liaise with the relevant section within DAA, the IAA or airline. We respond to each and every complaint received and we endeavour to provide an explanation for the noise. Monthly noise reports are published on our website addressing complaints received for the month in question.

From time to time – and unavoidably – a flight track has to be altered for safety and operational reasons, resulting in increased noise. Such instances, while clearly unfortunate, are a result of a necessary aircraft movement (for example due to weather or operational conditions) and not an unauthorised deviation from standard practice.

### Aircraft engine-testing protocols

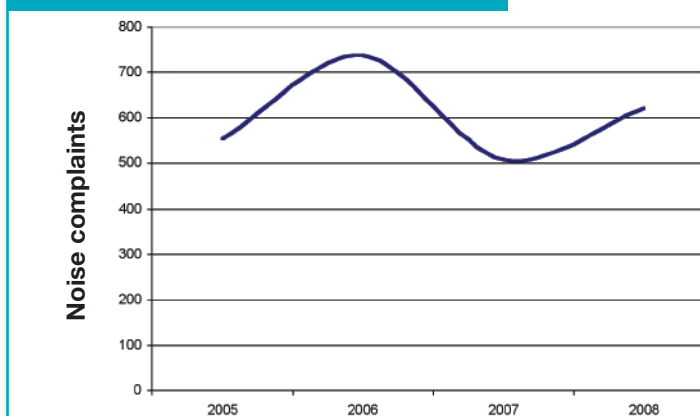
The purpose of engine ground testing is to ensure the safety of an aircraft engine after essential maintenance has been carried out. This is required to comply with international flight safety regulations.

Dublin Airport has a strict Engine Ground Running Policy to minimise any noise disturbance to the local community.

- There is a restrictive ban on engine ground runs between the hours of 23:00 and 06:00;
- There are restrictions as to the location on the airfield where engine test runs can be carried out;
- No testing is permitted on

**Figure 4:**

Noise complaints received by Dublin Airport for 2005 to 2008



Runway 23, (test site 1) before 09:00 and after 20:00;

- Engines are permitted to be tested on only one aircraft at a time;
- Prior permission must be sought from the Airside Duty Manager before an engine run takes place; and
- All details of engine runs are recorded by the Airside Duty Manager and the Airside Management Unit.

All complaints regarding aircraft engine testing are fully investigated by the Noise and Flight Track Monitoring team at Dublin Airport.

### Noise Insulation Scheme and Property Buy-Out Scheme

A Noise Insulation Scheme has been in operation since the opening of the current main runway in 1989, and we have also introduced a voluntary Residential Property Buy-Out Scheme. See the section on Community Relations on pages 34&35 for more details.

### Environmental Monitoring Working Group

In 2005, DAA established the Dublin Airport Stakeholders Forum as part of our efforts to engage with the local community. The Forum includes an Environmental Monitoring Working Group specifically to address issues such as noise. We continue to engage with the local community and Fingal County Council to reduce airport noise wherever possible. See the section on Community Relations on page 35 for more details.

### How do we respond to noise complaints?

We log, track and respond to each and every noise complaint received. Since 2005, we have been publishing monthly and annual data on the source, nature, and location of these complaints. Figure 4 shows the total number of noise complaints received from 2005 to 2008.

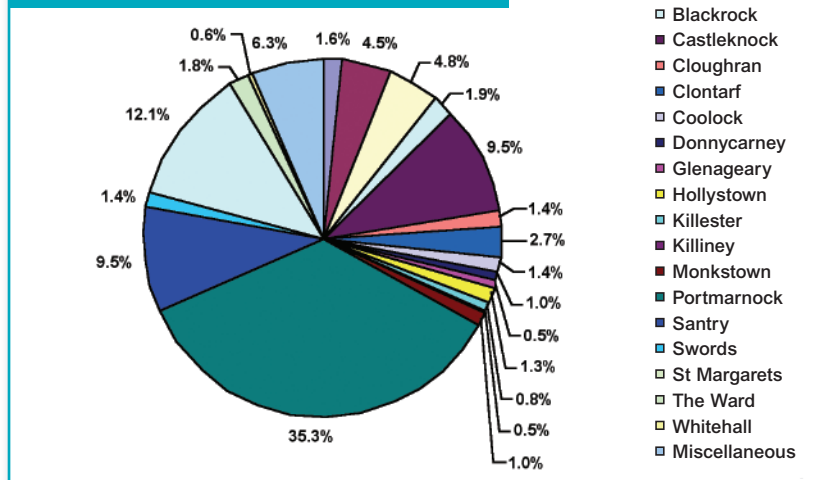
## Sustainability Issues - Environment *continued*

Annual complaints peaked in 2006 at over 700 before falling in 2007 to a low of approximately 500. The number then increased between 2007 and 2008, possibly due to DAA's programme of increasing awareness of the complaints facility and the associated NFTMS. There has also been an increase in the population living in new residential areas in the vicinity of the airport (for example Belmayne / Balgriffin and Hollystown). Figure 5 provides a breakdown of the locations of noise complaints in 2008.

The majority of noise complaints come from those communities located closest to the airport. 35% of the complaints received were from Portmarnock, an area located approximately 5km east of the airport, close to one of the main flight paths.

Further analysis shows that the level of complaints is seasonal, with most complaints made in the summer months. This is the busiest period at the airport and also when

**Figure 5:**  
Location of noise complaints in 2008



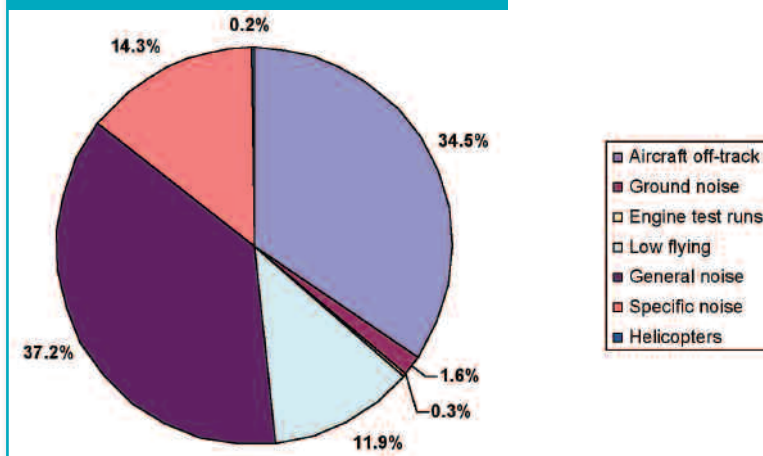
local communities are more likely to be using their gardens and outdoor spaces. Figure 6 provides a breakdown of the type of complaints received.

General noise accounts for the largest proportion of complaints, followed by complaints about aircraft thought to be flying outside their assigned flight paths. Specific noise was the next highest cause of

complaint, followed by low flying aircraft.

Whenever a complaint is received concerning an aircraft that is particularly noisy or flying off track, we immediately check the NFTMS to establish the exact circumstances of the flight. As well as "off track" complaints all "specific noise" complaints against individual aircraft are investigated for track accuracy as this can be a prime reason for the elevated noise levels experienced on the ground. A study of these investigations undertaken in 2008 shows that of the 292 aircraft investigated for being off track 67 (23%) were actually confirmed to be so.

**Figure 6:**  
Reason for noise complaints received at Dublin Airport in 2008



### Next steps

Dublin Airport is committed to working with the IAA to support better management of air space around the airport. The IAA introduced a new Aircraft Navigation System (PRNav) in May 2009. The system enables aircraft to fly within the defined environmental corridors with greater accuracy when approaching and departing from the airport.

## Sustainability Issues - Environment *continued*

### Air Quality

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed:

- To achieve “Fair” air quality status on a daily basis (where regionally achievable) as per the EPA’s Air Quality Index system.
- To continue to reduce air quality emissions for which we are directly responsible.
- To publish an Air Quality Summary Report every quarter, summarising the key findings of our ongoing monitoring programme.

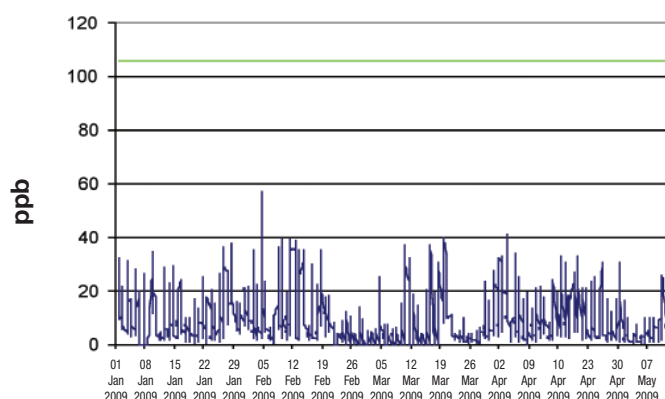
#### What is the issue?

The nature of aviation and associated activities at Dublin Airport results in air pollution from aircraft - as they land and take-off and also when they manoeuvre on the taxiways and apron. Air pollution also occurs when passengers and staff travel to the airport, be it by car, bus or taxi. The principle cause of this air pollution is the combustion of fossil fuels.

The impact of all the above activities on local air quality has been raised by the local community as a key concern. With regard to planning permission for the new terminal and runway, An Bord Pleanála has attached air quality monitoring conditions and we have implemented a comprehensive air quality monitoring programme, details of which can be found below.

**Figure 7:**

Nitrogen dioxide (NO<sub>2</sub>) monitoring data (1-hr avg.) at Dublin Airport



#### What is our approach?

In the summer of 2008, we invested in a Continuous Ambient Air Quality Monitoring Station sited in the heart of the airfield. This location is close to the apron area (without infringing on the cross-wind runway), and clear of the influence of the regional road network (which includes the M50 and M1 motorways). This station is now the fulcrum of our ambient air quality monitoring regime, which itself forms part of the wider community-based air monitoring programme. The Continuous Ambient Air Monitoring Station is key to maintaining a ‘listening watch’ in these areas with the intention of maintaining air quality standards at Dublin Airport.

The monitoring station uses chemical analysers to measure the concentrations of different parameters known to be associated with airport operations and aviation activities. These include:

- Nitrogen Oxides (NO, NO<sub>2</sub> & NO<sub>x</sub>);

- Sulphur Dioxide (SO<sub>2</sub>);
- Carbon Monoxide (CO);
- Ozone (O<sub>3</sub>);
- Total Hydrocarbons (Methane & Non-Methane);
- Benzene, Toluene, Ethyl-Benzene, Xylene;
- Particulates (less than 10 microns and less than 2.5 microns in size); and
- Met station (to determine wind speed and direction for dispersion patterns).

The measured concentrations are compared with limits set out in the National Air Quality Standards (NAQS), which themselves are based on the EU Directives for Air Quality. These seek to set long-term limits for the protection of human health and to protect ecosystems. Findings from the analysis will be made available on our website each quarter commencing when T2 opens in 2010.



## Sustainability Issues - Environment *continued*

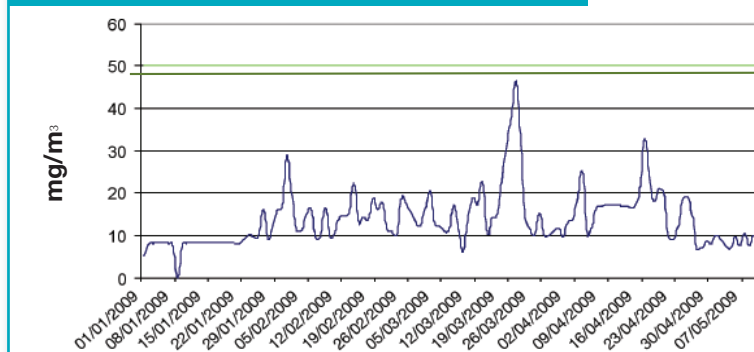
We also conduct community-based ambient air quality monitoring at fourteen locations in and around Dublin Airport. Methods include a roving continuous analyser at five of the sites and passive diffusion tubes at all fourteen. Monitoring takes account of the impact of wind dilution and dispersion effects. The overall aim is to build up a good knowledge of ambient air quality in and around the airport and to allay any concerns that the local community may have in this respect.

### What is our performance?

Air quality at Dublin Airport complies with all NAQS. Figures 7 and 8 show compliance data for Nitrogen Dioxide ( $\text{NO}_2$ ) and Particulate Matter 10 ( $\text{PM}_{10}$ ). These are key air quality pollutants that we monitor. While both parameters are within the current NAQS, overall emissions have been gradually increasing, in line with the general trend in aviation and passenger growth at the airport. The graphs represent actual monitoring data for the period January to April 2009 and the green line represents a relevant NAQS for the parameter in question (these can be obtained from the EPA's website:

**Figure 8:**

Particulate matter 10 ( $\text{PM}_{10}$ ) monitoring data (24-hr avg.) at Dublin Airport



[www.epa.ie/whatwedo/monitoring/air/standards/](http://www.epa.ie/whatwedo/monitoring/air/standards/)).

In addition to the NAQS, the EPA also has its own non-statutory Air Quality Index system. This is a five category scale (Very Good; Good; Fair; Poor and Very Poor) against which air quality can be categorised. Air quality at Dublin Airport can be classified as predominantly 'Good'. From our monitoring programme the air quality near Dublin Airport is better than the air quality beside the M50 and M1 motorways.

Some of the air quality parameters

that we monitor are affected by regional and national movements of air (such as ozone) and therefore air quality can be impacted by influences far removed from Dublin Airport, such as Atlantic Ocean ozone.

### Next steps

We are gathering air quality data from the new monitoring station and we will publish these findings every quarter on our website, commencing with the opening of T2 in 2010. We will also continue to engage with the EPA and Fingal County Council on these results.



## Sustainability Issues - Environment *continued*

### Sustainable Transport

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we are committed:

- To maintain and exceed, if possible, the existing level of 25% of all passenger journeys to Dublin Airport being made by public transport and other non-car modes;
- To increase non-car commuting amongst all Dublin Airport employees; and
- To increase car-sharing amongst all Dublin Airport employees.

#### What is the issue?

Dublin Airport has seen a considerable increase in passenger numbers over the last 15 years, and the issue of sustainable transport is set to become an even more important issue in future. In any one day an average of 60,000 people travel through the airport, a figure which can rise to 80,000 during peak times. In parallel with this, there has been a large growth in the number of airport staff and companies which support Dublin Airport. This is adding pressure to already congested roads around the airport. Road traffic congestion is not only an issue for those trying to get to and from the airport but it also affects local residents and

people working in the vicinity. Road traffic congestion also affects air quality and therefore has a negative impact on the environment and on people's health. Transport emissions are the fastest growing category of greenhouse gases in Ireland and road transport accounts for over 90% of these. There is an increasing risk that air quality standards will be exceeded in future years in Ireland.

Dublin Airport has a responsibility to promote the use of sustainable transport options as an alternative to private cars. There are also planning restrictions on the total amount of car parking that can be provided at the airport. There are currently 3,600 short term and 14,000 long stay parking spaces, and 3,500 privately owned parking spaces (remote from the terminal building). Demand already exceeds supply – demand for long term parking reached a peak of 20,500 spaces – yet within our planning conditions for T2 we are prohibited from providing additional car parking.

To this end we have in place a Dublin Airport Travel Plan, which is updated every 2 years. The overall aim of this Travel Plan is to encourage greater uptake of non-car modes of transport to the airport and encourage greater use of car-sharing. Specific objectives of the Travel Plan are to:

- Reduce single car user use for journeys to and from Dublin

Airport;

- Increase bus use amongst staff travelling to and from Dublin Airport;
- Significantly increase bicycle and motorcycle use amongst staff;
- Increase car-sharing;
- End the restrictions in licensed bus routes; and
- Promote teleworking.

This Travel Plan will help tackle road traffic congestion in and around the airport and the resulting greenhouse gas emissions. It not only benefits the environment but also makes business sense. Successfully implementing our Sustainable Transport Plan is important to ensure that we comply with our existing planning conditions for T2, as well as guaranteeing the long-term, sustainable growth of Dublin Airport.



## Sustainability Issues - Environment *continued*

### Accessing Dublin Airport

There are approximately 600 buses daily that provide public transport to the airport. Dublin Bus operates 8 routes to the airport from all across Dublin: these include a mix of direct and rapid services from the city centre to suburban routes. On average, there are 30 buses per hour serving the airport, with over 42 buses during peak periods in the morning and evening. The full Bus Eireann Nationwide Network serves over 1,000 destinations, supplemented by many routes offered by 8 private bus operators across Ireland. Aircoach, Flybus and Ubus are private transport operators that provide approximately 360 additional coach services daily from the Dublin area to the airport.

Dublin Airport has direct coach services to most of Ireland's cities and towns including Cork, Dundalk, Belfast, Derry, Inishowen, Letterkenny, Sligo, Athlone, Mullingar, Cavan, Monahan, Newry, Drogheda, Galway, Limerick, Waterford, and Wexford, each with various stops en-route.

The airport also caters for private taxis with a capacity of 300 taxis an hour at the pick-up and drop-off area.

Motorbikes and bicycles can also be used to access the airport. Secure parking and changing facilities are provided for staff who choose to cycle to work.

### What is our approach to managing sustainable transport?

Our overall aim is to reduce the number of single car user trips to and from the airport and increase the efficiency and reliability of the airport's public transport services. To achieve this we have implemented a number of measures. These include our appointment of a Mobility Manager responsible for improving the airport's sustainable transport performance, and the preparation of the Dublin Airport Travel Plan. The Mobility Manager works closely with the Dublin Transportation Office, Fingal County Council and the Department of Transport on all aspects of sustainability in travel and transport.

Some of the initiatives that have already been implemented include:

- Mobility Week:** Dublin Airport marks European Mobility Week annually in September ([www.mobilityweek-europe.org](http://www.mobilityweek-europe.org)) with an event involving companies promoting sustainable transportation at Dublin Airport. Bus companies who operate from Dublin Airport regularly support the event and are on hand to advise staff and passengers of the alternatives to using a private car to get to and from the airport. Other organisations offer generous staff discounts on bikes and equipment and offer test drives of electric personnel carriers to both staff and passengers.
- Promotion of new bus routes:** A number of new bus routes were opened recently to serve Dublin Airport. These new services link the airport with Laytown, Bettystown, Drogheda and Dundalk. Aircoach has opened a new route from the airport to Greystones, stopping at various points, including the O2 arena (formally the Point Theatre). Flybus has also recently commenced a premium bus service from Tallaght via Liffey Valley Shopping Centre to Dublin Airport. We are committed to ending the restrictions imposed on bus timetables that prevent operators from picking up and setting down commuters on licensed routes. We are liaising with the Department of Transport in an attempt to achieve this.
- Bus facilities and coach park:** Dublin Airport has recently invested approximately €3 million in bus and coach facilities. By 2011, we will have provided additional kerbside stops near the terminal buildings as well as at other points around the airport. By 2016 a new Coach Park and layover facility will be in place. New electronic bus information boards and improvements in directional bus signage are also being introduced this year.
- Staff bike hire scheme:** A free bike hire scheme was launched in September 2008 and already over 120 staff from DAA have signed up.



## Sustainability Issues - Environment *continued*

The scheme allows staff to travel around the airport campus by bicycle, instead of taking a car and is part of an overall effort to encourage sustainable transport among staff and to support more sustainable internal transport arrangements around the large airport complex. We will also be extending the scheme to other companies at the airport. Overall, we hope to encourage those who do not currently cycle to try it as a practical form of daily transport.

- Installation of cycling facilities and infrastructure:** Over 100 bicycle parking spaces have been provided for staff. When T2 opens there will be an additional 100 spaces provided. Dedicated showers for cyclists will be provided over the next 12 months in Terminal 1. We are also providing an additional 3 km of dedicated bicycle lanes on the Dublin Airport campus and this will bring the total to over 6 km. We are working closely with Fingal County Council through the Dublin Airport Stakeholders Forum with regard to improving the lane network outside the airport so that staff members can safely commute to Dublin Airport.
- Car-sharing:** the airport introduced a car-sharing scheme for staff in December 2007. Since its launch, over 12,000 kms and over 2,900 kgs of CO<sub>2</sub> have been saved by members choosing to share their trips to and from the workplace. In addition to DAA staff using the scheme, efforts will continue to include as many companies as possible in the scheme. It is our intention to

provide dedicated spaces for car-sharers at key points around the airport, thus providing further incentive and benefits to car-sharers.

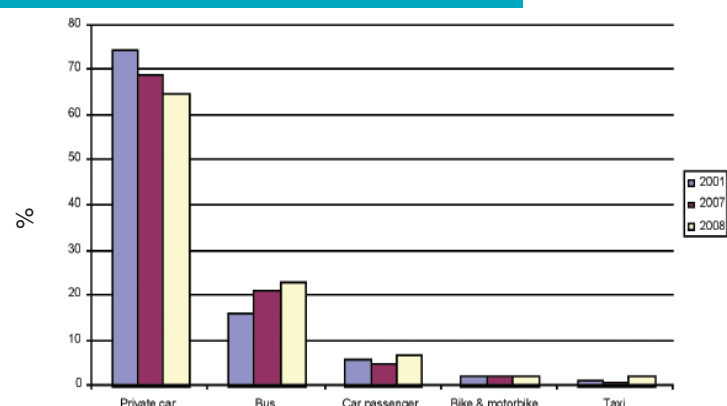
- Taxsaver Scheme:** The Commuter Taxsaver Scheme was introduced in December 2007 for all DAA employees. Staff can save up to 47% of the cost of travelling to and from the airport by bus.
- Cycle to Work Scheme:** This is a similar scheme to the Commuter Taxsaver Scheme. The Cycle To Work Scheme allows staff members to avail of a reduction of up to 51% on the purchase price of a bike which they will use to travel to and from Dublin Airport. To date, over 70 members of staff have availed of this scheme, with over €70,000 worth of bikes purchased.
- Flexi time:** We allow staff of certain grades to avail of flexi time, thus providing a degree of flexibility to their working day.

Flexi time is reassuring to those who avail of public transport on a regular basis. Should bus services be delayed for any reason the flexibility that flexi time offers allows an employee to work back the time lost due to a delay in arriving at work.

Investment in public transport over the next 5-10 years is crucial and requires us to continue to work closely with the Department of Transport and the Dublin Transportation Office, to ensure that the most efficient and sustainable transport options are put in place and widely used by airport customers and staff.

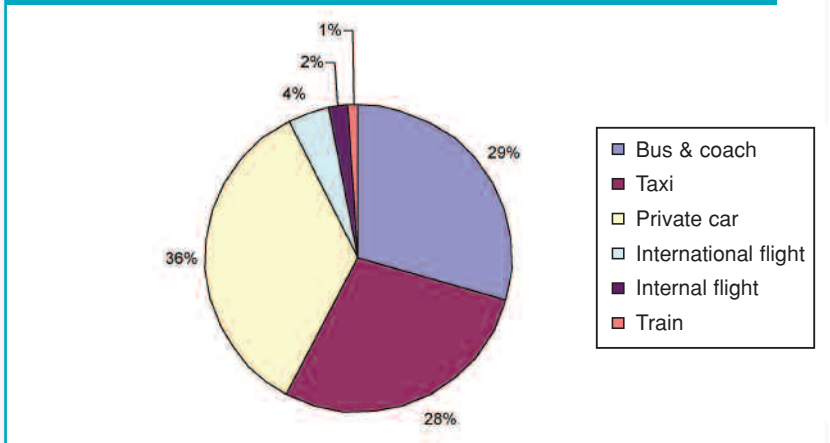
Central to increasing the use of public transport to access the airport will be the commissioning of Metro North, a rail link from Swords to Dublin city centre, via the airport. This development will provide a fast, frequent and reliable rail link to Dublin Airport and also increase access to the wider public transport network in the Greater Dublin Area. We have worked extensively with the Railway Procurement Agency (RPA) in the design and development of Metro North.

**Figure 9:**  
Staff mode of commuting to Dublin Airport



## Sustainability Issues - Environment *continued*

**Figure 10:**  
Passengers mode of transport to/from Dublin Airport in 2008



### What is our performance?

We conduct annual staff surveys to identify transport trends and measure the success of our mobility management initiatives. Results show that between 2001 and 2008 there has been a 9% reduction in the proportion of staff travelling to work at Dublin Airport

in a private car and associated increases in those using bus (a 7% increase) and car sharing/car passenger (a 2% increase). This data is shown in Figure 9.

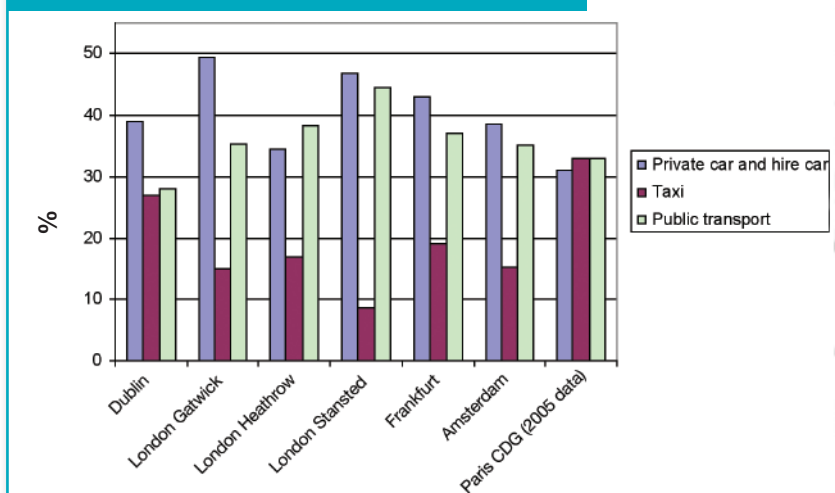
We began measuring passenger travel movements to and from the airport in 2008. This information (Figure 10) shows that at present

34% of passengers travel to the airport by private car. This is closely followed by those travelling to the airport by bus or coach (28%) and by taxi (27%). We will continue to measure passenger transport to and from the airport on an annual basis to identify trends and to monitor the effectiveness of our mobility management policies. Again, Metro North will encourage wider use of public transport to access the airport.

Figure 11 shows how our sustainable transport performance compares to other airports in Europe.

It can be seen that Dublin Airport compares favourably with the other airports in relation to the percentage of public transport: we stand at 28% passenger use of public transport while the remaining airports range from 33% to almost 45%. This is an impressive performance, considering Dublin Airport does not have a dedicated rail line serving the airport. When Metro North opens, we hope that there will be an increase in the overall modal share of public transport.

**Figure 11:**  
Comparison of passenger transport data for key European airports



### Next steps

We have set targets for increasing the use of public transport in our Mobility Framework Plan and our Sustainability Strategy and we will work towards achieving these. We are also currently considering additional bus routes to Dublin Airport, which are currently poorly served by public transport options. We shall engage with Dublin Bus and other operators so as to assist the provision of these additional services.

## Sustainability Issues - Environment *continued*

### Waste Management

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed:

- To set up a Dublin Airport Waste Management Working Group;
- To increase the proportion of overall waste that we recycle and recover;
- To increase the proportion of waste recovered, where possible, by our waste contractors; and
- To encourage companies operating at the airport to increase their waste recovery rates.

#### What is the issue?

Dublin Airport is one of the largest producers of waste in the Greater Dublin Area. In 2008, we catered for a total of 23.5 million passengers – a figure that has increased every year over the last 16 years. It is not surprising due to the size and nature of airport activities, that a significant volume of waste is generated each day. We currently make significant efforts to manage our waste, through recycling and recovery, and to ensure that as far as possible waste is diverted away from landfill.

Waste management is an important issue for all industry sectors in Ireland and indeed globally. The historical use of landfill, resulting in significant emissions of the

greenhouse gas methane, is gradually being replaced by alternative treatment and disposal technologies. The disposal of waste via landfill can also cause considerable environmental damage locally through the production of highly polluting leachate which is harmful to natural resources such as soil and groundwater.

Diverting waste from landfill is mandated in Europe by the Landfill Directive. Under this Directive, which Dublin Airport has a duty to comply with, biodegradable waste diversion targets have been set for Member States. This has resulted in an increase in overall recycling and waste recovery rates in recent years, including in Ireland.

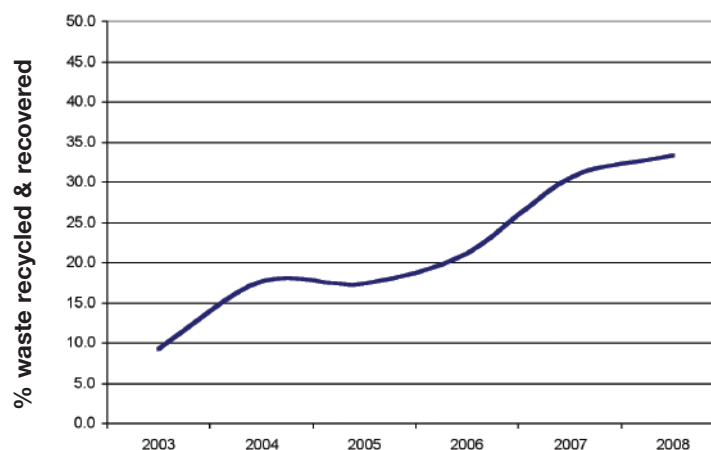
#### What is our approach to waste management?

We are currently aiming to increase the rate of recycling from all of our waste streams. In 2008, we

contracted a new specialist waste contractor for Dublin Airport. The new contractor aims to increase the level of material recovered and recycled from our municipal waste stream, rather than it being sent to landfill.

We have trialled recycling facilities in public areas providing passengers with a convenient means of recycling their waste and further reducing the volume of waste we send to landfill. To date this has not been as successful as we had hoped, with non-recyclable and recyclable waste regularly disposed of together. This 'contaminates' the recycling waste, meaning it can no longer be sent for recycling. We are currently considering alternative approaches to increase passenger and public recycling.

**Figure 12:**  
Dublin Airport recycling & recover rates for the period 2003 to 2008





## Sustainability Issues - Environment *continued*

### What is our performance?

Dublin Airport managed a total of 4,783 tonnes of waste in 2008 compared to 4,733 tonnes in 2007, a small increase of 50 tonnes (1%). The amount sent for recycling in 2008 was 1,597 tonnes (33%) compared to 1,446 tonnes (30%) in 2007. Since 2003, there has been a significant and year-on-year increase in the overall level of recycling and recovery at the airport. This trend is illustrated in Figure 12.

As a result of the newly appointed waste contractor at the end of 2008, we achieved a recycling and recovering rate of 42% for the final three months of 2008 - a significant increase compared to the earlier part of the year. Our aim is to improve this performance although the recent downturn in worldwide recycled materials markets may make this a challenging target for the immediate future.

### Case study - Composting

One of the many initiatives we have taken to improve waste recovery rates involves the introduction of a facility to collect kitchen waste suitable for composting. In 2007, 85 tonnes were recovered and in 2008, 73 tonnes were recovered, despite major building works, which at times disrupted the collection process.

### Unregulated Landfill Site

In 2008 historical waste material was identified during excavation works for the installation of a new foul sewer connection on lands at Dublin Airport. This site is a legacy of the waste management practices that existed prior to the introduction of legislation and regulation for this type of material. The waste encountered during site investigation works was general waste (similar in profile to waste found in a domestic bin) mixed with soil and aircraft catering waste.

In order to ensure that any potential environmental impact is minimised the DAA has commissioned RPS Group to carry out a detailed environmental site investigation in accordance with the EPA Code of Practice for Environmental Risk Assessment for Unregulated Waste Disposal Sites, 2007. This will determine the extent of waste material and possible contamination on the site and define the most appropriate course of action. DAA and RPS are liaising with the relevant agencies and authorities on this matter and the results will be made available when studies are concluded.

### Next steps

Dublin Airport aims to increase the rate of overall waste recycling and recovery over the coming years. We will also encourage non-DAA companies operating at Dublin Airport to increase their rate of overall waste recycling and recovery.

## Surface Water

### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed:

- To ensure that surface water quality in streams and rivers within Dublin Airport is of an acceptable quality;
- To ensure that Dublin Airport works with local and national authorities and addresses flood risks for which the airport is responsible; and
- To ensure that DAA and non-DAA employees are fully aware of the potential for spillages and that remedial action is undertaken, when required.

### What is the issue?

Surface water is a key local community concern which we are strongly committed to managing. There are two main issues associated with surface water: contaminated runoff from the airport apron, and downstream flooding of waters and streams. Runoff, generally from the airside, runway and maintenance areas, can enter local streams, potentially polluting the water quality and impacting on flora and fauna. Surges in flow can have a variety of impacts locally, for example, flooding downstream low lying areas.

## Sustainability Issues - Environment *continued*

Historically, the majority of the airport's active surface area has drained into six local streams, all within its boundaries. The most important of these is the Cuckoo Stream, which receives the greater part of airport drainage. The streams merge downstream of the airport with other watercourses to become three rivers, the Sluice, the Mayne and the Santry River, which discharge into the sea at Portmarnock, Baldoye, and Bull Island at Raheny, respectively.

The management of surface water is not only a key issue for the local community – it is also an aviation safety risk for the airport. Given the size, scale and nature of operations at Dublin Airport, it is essential that we do not allow any water to settle and pond on the airside pavement. Surface water greatly increases the risk of accidents involving aircraft and/or airside vehicles due to aquaplaning and skidding on the water or ice (depending on the time of year). Water also obscures markings that delineate safe zones and clearances from aircraft. Ponded surface water may also attract birds – another significant risk to aircraft at the airport.

### What is our approach?

We are currently in the process of installing a new surface water drainage system to better manage this issue. The existing drainage network has been undergoing a significant upgrade over the last few years, with the installation of a number of new facilities close to the approach to the main runway on the eastern side of the airport. Two phases of the surface water attenuation and pollution control system on the Cuckoo Stream have

been completed, and these will provide significant storage capacity during heavy rainfall.

All of these surface water works involve two main aspects:

- A surface water attenuation facility is designed to smooth the drainage rate in the receiving streams at the airport. This has the positive effect that the flow is steady and consistent. This system allows collected drainage water to be released at a controlled (and more natural) rate, improving the conditions for aquatic species in the stream. Phase 1 of the attenuation facility is now complete and operational. Phase 2 is currently being commissioned and Phase 3 will follow sometime after 2010.
- Pollution containment tanks have been installed in parallel with the surface water attenuation system. In the event of any deterioration in water quality in the drainage system, online water quality analysers will activate sluice gates (penstocks) to decant the polluted water into the tanks and prevent it from entering the local streams. Any transferred water can then be dealt with, helping to protect the quality of the streams outside of the airport.

We have installed on-line water quality analysers on the streams. This will provide continuous information on water flow and quality characteristics, giving a more consistent record of performance. It will also trigger immediate action in the event of quality deviations, ensuring that the

water systems in and around the airport are safeguarded.

We will continue our existing and established surface water quality monitoring activities. Regular routine sampling and analysis is currently carried out in accordance with standard methods of water examination. Samples are taken from over 30 designated locations along the streams. These are then sent to an accredited laboratory for chemical analysis, after which concentration levels are compared with the target levels agreed with Fingal County Council. The results are shared with the council's Water Services Department and with the operators. If warranted, practices and procedures are reviewed and appropriate actions agreed.

Additionally, we also commission twice-yearly macro-invertebrate samples from the six streams within the airport. These studies examine the biological diversity of the streams.

### What is our performance?

Water quality in the airport streams is currently of variable quality. There are a number of reasons for this. The majority of the drainage systems are in underground pipes that are not open to natural sunlight and air exchange. The length of open ditches (with ongoing water flow) is relatively short - this is deliberate due to the risk of bird hazard to aviation safety in close proximity to the airport. This means that the drainage system is not in a position to naturally sustain a large variety of biodiversity as confirmed by our twice-yearly macro-invertebrate surveys. The water systems are also prone to periods of very low (even zero)

## Sustainability Issues - Environment *continued*

flows, which can have a substantial impact on all types of aquatic life as their habitats disappear altogether.

Spillage and pollution events – for example oils, aviation fuels and de-icing liquids – generally arise due to operator activities. Where possible, sources of pollution are traced and the polluter bears the cost of spillage clean up. Strict procedures are in place to minimise the risk of stream pollution due to spillages. In such cases, the pollution containment facility will provide a significant level of protection to the downstream watercourse.

As noted above, some of the streams are currently prone to low flows. During dry periods, many of the drainage channels and pipes actually dry out and are not in a position to sustain life. The same is true for some of the ditches, resulting in the retained water becoming stagnant and developing natural algal blooms in open areas.

Finally, environmental management plans have been put in place to minimise the impact of the airport's construction programme for T2, Pier E and other airside projects on the quality of the streams.

### Next steps

The development of the surface water attenuation system and the online water quality monitors will improve the airport's management of surface water. More generally, the gradual upgrade of the drainage network will extend these benefits across the airport. The findings of the monitoring programme will be reported every quarter on our website, commencing with the opening of T2. We fully acknowledge the current surface water quality issues and look forward to implementing and reporting on the improvements described.

We are also participating in the Fingal East Meath Flood Risk Management Scheme (FEM-FRAMS), which is being led by Fingal County Council. This is a region-wide flooding study to examine the causes and locations of flooding, and also assess potential solutions. The study commenced in the summer of 2008 and it is hoped to be concluded by summer 2010. DAA has already made a number of inputs to the study and we will continue to play a central role as one of the key stakeholders. Further information can be found at: [www.fingaleastmeathframs.ie](http://www.fingaleastmeathframs.ie).

## Water Consumption

### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed:

- To reduce total potable water consumption at Dublin Airport for which DAA is directly responsible; and
- To ensure that drinking water at Dublin Airport is of good quality.

### What is the issue?

Historically, water consumption and supply has not been a significant sustainability issue in Ireland, particularly when compared to other issues, such as waste management and climate change. However, the issue is gaining a higher profile and will soon be a key challenge for the Dublin Region to address. Current water supplies are under pressure from significant population and employment growth in the region over the last fifteen years. Fingal has experienced water shortages in the last few years and potable water is now regarded as a finite resource. A major study is currently underway to identify options for the region's future water supply ([www.watersupplyproject-dublinregion.ie](http://www.watersupplyproject-dublinregion.ie)). The study is considering ten new water supply options, the majority of which include extracting water from other parts of Ireland and pumping it to Dublin. It is estimated that water supply requirements in the Dublin Region could increase by 48% from 2007 to 2031.





## Sustainability Issues - Environment *continued*

Alongside this growing demand, water costs have increased substantially in recent times. It is a trend which could well continue in future years as water supply issues become an even greater challenge for the region. This in itself provides a further incentive for us to reduce our overall water consumption.

### What is our approach?

We are seeking to manage our water consumption through a combination of monitoring and the pro-active installation of water use and conservation systems.

Consequently, we are currently expanding water metering and undertaking an aggressive approach to early leak detection. This allows us to undertake timely repairs as part of the overall water saving priority. We have also connected water meters to a new energy management system to allow detailed analysis of data in each area. In terms of infrastructure, we are investing significantly to gradually renew the airport's old water mains pipework as part of utilities upgrade works. For example, we have installed a brand new 14,500m<sup>3</sup> underground reservoir and distribution network, including state-of-the-art chlorine disinfection boosting and UV treatment systems.

As part of this process, we have also recently created the new post of Utilities Infrastructure Manager with specific responsibility for addressing issues like water leaks and general water consumption.

We have already fitted most toilet taps in passenger areas with

passive infrared (PIR) detection which will greatly reduce water lost from free-flow taps by shutting off the water flow when the person has finished using the tap. We will be expanding the PIR scheme to urinals and other areas over the next few years.

A number of areas within the airport have converted from discharging spent cooling water to recycling it, or using alternative means of cooling. Chillers and heat pumps are other examples where cooling water was traditionally wasted and is now recycled. Water savings are documented as part of our annual energy savings campaign and we are always seeking ways to save on our overall water consumption.



### What is our performance?

In recent years we have had a few large scale leaks - mainly due to construction works. These leaks were only for short periods; typically less than 24 hours. Overall, efficiencies in processes and technologies described above have resulted in the more optimal use of water. Latest figures show that water consumption is steady, despite the large increase in

passenger numbers and expansion over the last seven or so years.

Despite progress to date, we recognise the need to further improve our performance in the context of a major capital expenditure and airport expansion programme. Given that our water consumption levels will rise in the short-term as the new areas of the airport get commissioned and opened, it is unlikely that consumption levels will be a true reflection of overall performance. When the current pace of development steadies, then consumption figures against performance will be transparent and more meaningful.

### Next steps

We will continue to monitor and take action on any leaks that are identified. We will also continue to invest in water conservation technologies and water management systems across the campus. A key challenge for our new Utilities Infrastructure Manager is to achieve further reductions in overall water consumption.

## Sustainability Issues - Environment *continued*

### Wastewater

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed:

- To continue to operate in compliance with Dublin Airport's trade effluent discharge licence; and
- To minimise the impact that kitchen wastewater disposal might have on the wastewater treatment system.

#### What is the issue?

Wastewater refers to all used waters and effluent collected within the airport. Issues such as surface waters and drinking water quality are addressed separately in this report. Wastewater and effluent management is a vital utility that underpins the ongoing operations of services at the airport. Failure in this system could result in closure of part of the airport and could also pose a significant health and safety risk.

In this respect, kitchen wastes can be an important issue as they can block and severely impact the collection system, resulting in expensive remediation works and operational disruption. Another issue is the long-term impact on the capacity of the regional wastewater collection and treatment system. The large growth in the population and level of employment in the Greater Dublin Area over the last fifteen or so years has resulted in

the regional wastewater network being placed under pressure. The significant passenger and employee growth at Dublin Airport has made its own contribution.

Discharge to the wastewater collection system is governed by Trade Effluent Discharge Licences issued by Fingal County Council. This includes performance criteria on volume, flow rate and quality aspects of our wastewater discharges.

#### What is our approach?

Currently, we manage and maintain the collection network through a proactive, preventative maintenance regime. We also provide maintenance services to the tenants and operators connected to the sewer.

We have recently completed the installation of a significant sewer upgrade across the airfield. This connects into Fingal County Council's collection system extension from the North Fringe Sewer and then runs to the Ringsend Waste Water Treatment Plant in Dublin city centre.

We have ongoing liaison and dialogue with a number of key companies; in particular airport caterers, regarding potential risks and challenges to the airport's wastewater collection system. Grease, coffee grounds and other kitchen wastes have been an ongoing challenge in maintaining the free flow condition of the sewer pipes. To address this risk, we have set out a standard Service Level Agreement for catering companies to protect the wastewater collection network.

We have established minimum network specifications and standards, which have evolved following reviews of network arrangements. These have been effective and we have fed lessons learned back into the design of new infrastructure to protect the system from foreign obstacles that typically arise at airports. Moving forward, we are constantly on the look-out for opportunities to make improvements in the wastewater collection system.

#### What is our performance?

We currently operate under a Trade Effluent Discharge Licence. This was granted in 1985 when the airport was operating with two million passengers. In 2008, we had 23.5 million passengers. We have been in ongoing dialogue with Fingal County Council to update this licence to take account of the increase in passenger numbers.

Our licence covers effluent at the point of discharge, including constituents from aircraft overhaul and high volume catering activities. Although we do not generate trade effluent Fingal County Council still regards the complexity of activities within the site as warranting a licence. Under the current licence, monthly samples are taken for chemical laboratory analysis and the flow throughput is recorded and reported to the Council.

The completion of the sewer upgrade across the airfield provided a suitable opportunity to submit a revised application for a Trade Effluent Discharge Licence, which is currently underway. A key issue for the future is the frequency of contributions from the Pollution Containment Tanks from the

## Sustainability Issues - Environment *continued*

surface water treatment system and the impact this may have on our overall wastewater generation.

In the last few years Fingal County Council has started to review the practices of operators at the airport, and has started to issue individual Trade Effluent Discharge Licences. We have facilitated this process and continue to work with both the Council and the various airport operators. The benefit of this approach is that it ensures that the companies disposing of the wastewater are directly licensed, rather than DAA being licensed for non-DAA wastewater. It also ensures that the Council is fully aware of the various sources of wastewater at the airport, thereby better managing the collection system.

### Next steps

We are working towards a new Trade Effluent Discharge Licence and we will also continue to facilitate the process whereby individual operators within the airport obtain their own licences as required. We will continue to work with the catering operators at the airport to ensure that potential impacts to the wastewater collection system are minimised.



## Biodiversity

### What is the issue?

The airport covers an area of over 2.5 thousand acres and is home to a variety of different land types, wildlife populations and environments, including:

- Undisturbed pastures;
- Managed airfield grasslands;
- Landscaped gardens;
- Pavements, including the airfield and the car park; and
- Buildings and structures.

Our ability to promote biodiversity at the airport is limited, particularly on the airfield, by our need to ensure a safe operational environment. Birds can pose a serious threat to aircraft. Since 1960, approximately 78 civil aircraft and 200 lives have been lost globally due to wildlife strikes. A bird getting sucked into an aircraft engine can cause damage to the fuselage or to other sensitive aircraft equipment. One of the most recent examples was the US Airways A320 plane that crash

landed in the Hudson River, New York City, in January 2009. The accident was due to a bird strike upon take off, which resulted in subsequent engine damage. All passengers and crew made it safely ashore in this case.

Hazards caused by wildlife are a major concern with regards to aviation safety and Dublin Airport takes all reasonable measures to control this hazard. These include the identification of hazardous species; habitat management; and active bird control patrols. In addition, we record and quantify the wildlife strikes that occur at and in the vicinity of the airport. In 2008, we recorded 56 wildlife strikes, or 2.64 per 10,000 aircraft movements - well within the international norm.

### What is our approach to managing Biodiversity?

One of the most effective methods of controlling birds is through habitat management, and a good example of the work we are doing in this area, is managing airfield





## Sustainability Issues - Environment *continued*

grasslands. This involves allowing grass to grow to 250mm before cutting it to 150mm. This management method is used to deter known hazardous species such as Lapwing and Gulls.

Other measures used by Dublin Airport to manage birds include:

- A Bird Hazard Committee has been established and meets on a bi-monthly basis to monitor bird strike activities and review current management controls. The Committee brings together representatives from IALPA (Irish Airlines Pilots' Association), the airlines, Air Traffic Control, Fingal County Council, Dublin Airport Authority Management, and an expert consultant ornithologist. This Committee prepares a Wildlife Management Plan to detail specific measures for each bird and mammal species that poses a risk to safe operations.
- A 24-hour bird control programme is used to monitor and scare birds away from the airfield. Methods used include emitting distress calls for each species of bird that may visit the

airfield. This attracts birds to investigate the source of the calls and then a trained bird controller uses a pyrotechnic device to scare the birds away without causing them harm.

- Monitoring bird activity in the area to understand the type and number of different species, area of nesting, migratory patterns and over flying routes. This helps the Bird Hazard Committee to tailor mitigation measures to the types of bird found at the airport.

Where possible, we do also promote biodiversity in areas of Dublin Airport where it does not impact on the safe aviation environment, such as on the landside and along the streams and hedgerows. We are undertaking a number of initiatives to protect and enhance the local environment. Examples include:

- Ensuring that all building works are managed to avoid open skips (favoured for nesting and foraging);
- A waste management programme for both airport

operations and construction to ensure that waste is contained and disposed of appropriately to avoid leakage into local waterways;

- Testing of local waterways and monitoring of biodiversity to ensure that waste management measures are working;
- A hedgerow management programme to maintain and rejuvenate these mini-ecosystems; and
- Landscaping around built areas, designed to naturally deter wildlife and minimise any further hazards.

### How is the airport performing in this area?

The requirement for wildlife to be carefully managed for operational safety reasons means that opportunities to enhance biodiversity at the airport are relatively limited. We hope, however that the local biodiversity initiatives in place will improve biodiversity overall at Dublin Airport.

### Next steps

A current project is the updating and improvement of our surface water drainage system at the airport. This is expected to improve drainage across the site, minimise accidental pollution of the streams and rivers, improve aquatic biodiversity downstream, and enhance the natural environment overall. A significant landscaping programme is also planned, in conjunction with the ongoing development of the airport, to ensure that the airport is an attractive facility for passengers, tourists, visitors and staff. This is also hoped to enhance biodiversity.



## Sustainability Issues - Environment *continued*

### Sustainable Construction

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed to:

- Incorporate sustainable planning, design, and construction policy objectives into all future Dublin Airport projects.

#### What is the issue?

Sustainable construction refers to the integration of sustainability into the design and construction of infrastructure. For example, in considering issues such as energy consumption and heating and cooling requirements during the design of a building, it is possible to significantly reduce its life-time operational impacts. Sustainable construction is also focused on minimising a range of impacts during construction; for example the waste produced or the energy used.

Across the world, there is a drive to embed sustainability into the planning, design, construction and operation of many types of building and Dublin Airport is no exception. A strong sustainability focus at the planning and design stages is particularly beneficial. The design of T2, for example, has considered sustainability issues from the outset.

#### What is our approach?

At Dublin Airport, opportunities for sustainable construction are

considered from the start of any building project.

The most high-profile example is T2 and Chapter 19 of the Environmental Impact Statement (EIS) for this key project presents the following summary of how sustainability is being addressed.

Key sustainability inputs during the planning, design and construction of T2 have included:

- minimising life-time CO<sub>2</sub> emissions from the terminal building;
- maximising the use of natural light;
- minimising solar gain and reducing the need for air conditioning;
- using energy efficient electrical appliances (e.g. light bulbs), low-water use appliances (e.g. low water-use toilets), and water saving appliances (e.g. PIR water taps); and
- using a Combined Heat & Power (CHP) system.

We have also incorporated sustainability into the choice of T2 construction materials with 80% of steel coming from reclaimed sources and plans to make concrete from reclaimed blast furnace slag (a waste product of the power generation industry). We have also aimed to maximise the reuse and recycling of construction and demolition waste onsite.

The planning and design of the new Northern Parallel Runway has also factored in sustainability. In this development we will, for example, reuse the concrete from the old runway as fill. The concrete itself will be produced on site and the profile of the runway pavement has been optimised so that excavation

and the amount of earth being moved is minimised.

Our overall approach is to reduce carbon emissions where possible, and to use carbon trading to mitigate unavoidable emissions. Examples include offsetting a proportion of the T2 impacts through demolition of the existing airport boiler house and the use of CHP in T2, as mentioned above.

#### What is our performance?

The development of T2, Pier E and the Northern Parallel Runway will significantly improve our overall sustainability performance, particularly in respect of total energy, water consumption and the recycling of materials. These new developments and facilities will be a significant improvement on existing facilities in such areas as overall water, lighting, heating and energy consumption. Existing facilities are in contrast neither as modern nor as advanced technically as those currently being developed.

#### Next steps

The opening of T2, Pier E and the Northern Parallel Runway will set sustainability standards for the future. In this context we will continue to benchmark and incorporate sustainability innovation as part of next stage developments.

Finally, through the development of an overarching policy, we will embed sustainable construction principles in the future planning and design of Dublin Airport.



## Sustainability Issues - Economic

### Economic Benefits

#### What is the issue?

Dublin Airport makes a significant contribution to the local, regional and national economies and we are proud of our position as a leading employer in the region for almost seventy years. As such we provide direct employment to airport staff, while also supporting suppliers and enabling wider business development as well as inbound tourism through the provision of global access. Given the open nature of the Irish economy, its reliance on international trade and the fact that Ireland is an island nation, it is difficult to overstate the importance of air services to the country.

#### What is our approach to managing the airport's economic impact?

Our approach to managing the airport's economic benefits centres around the delivery of a 'quality airport travel experience to the best international standards'. This is our company vision which, in addition to ensuring a successful airport, will also benefit the local, regional and national economies, along with our staff, our stakeholders and DAA.

The current capital investment programme at the airport is an excellent illustration of how we are managing our economic future. The new capital works will ensure that the airport can meet and adjust to the future needs and challenges of the aviation industry. While the economic downturn is bound to impact on our short-term financial performance, the planning and management of a facility such as an international airport must be undertaken on a long-term basis.

We are taking steps to adjust to the immediate global and national economic situation. For example, we are offering discounts on our short-

haul and long-haul route support schemes. We are also offering financial marketing support for some of these routes. In carrying out these actions, we are making every effort to minimise the negative impact on passenger numbers in what is currently a challenging economic climate.

The airport undertakes a full economic impact study approximately every five years. This is in line with best international practice and Airport Council International (ACI) Guidelines, with more regular interim desktop updates, along with annual employment surveys among the key companies on site. Such surveys allow us to gain a good understanding of our economic benefits and to better plan future activities, both regionally and nationally.

#### What is our performance?

Dublin Airport accounts for 77% of Ireland's international passenger air trips and 69% of air freight.

The air share of Irish inward tourism has grown from 47% to 85% between 1984 and 2007. Ireland had 7.7 million overseas visitors in 2007 of which 5.2 million entered by Dublin Airport with an estimated combined spend of €2.7 billion in the Irish economy.

Dublin Airport is Fingal's largest employer, with some 120 companies located on the airport campus. In 2008, the economic impact of the airport, in terms of employment, was estimated at 15,500 jobs locally (Fingal County) and 47,000 jobs in the Irish Republic. In addition 1,700 people are currently employed on the T2/Pier E project at the airport making it the largest construction site in the country.





## Sustainability Issues - Economic *continued*

Companies that are intensive users of passenger and freight air services include those involved in high technology, research and development, and financial services. These are activities where Ireland has been highly successful in attracting and retaining inward investment.

The large inflows of foreign direct investment into the Irish manufacturing sector have led to the development of a high growth, high skill, export-oriented sector, and to reduced dependence on the UK for exports.

Ireland has become a major vehicle for the flow of US technological innovation into Europe and a significant location for clusters of a number of key growth sectors.

This investment inflow and associated economic benefits could not have occurred without the international passenger and freight services provided by Dublin Airport.

### Next steps

World markets are likely to become increasingly competitive and the passenger and freight services provided by Dublin Airport require continued development if Ireland is to continue its past success. The future growth of the airport will be vital to sustaining and developing clusters of high technology sectors and supporting the growth of internationally traded services that are forecast to be the main engine of Ireland's future growth. The growth of these sectors will, in turn, help to drive the demand for increased passenger services at Dublin Airport.

The proposed Northern Parallel

Runway is essential as part of our efforts to remain internationally competitive. Among Dublin's eight closest competitors as a European business location, only two do not currently possess airports with at least two runways of appropriate capability.

Despite the current economic downturn the DAA is also planning Dublin Airport City (DAC), a €4 billion development located to the east of the airport. This new economic zone will be Ireland's premier location for international business headquarters, targeting the next generation of foreign direct investment into Ireland. Once completed, it is estimated that DAC will contribute some €900 million per annum to the Irish economy – equivalent to 1.5% of the gross value add of the Irish economy in today's terms. DAC is also projected to create 34,000 construction job years or an average of 2,300 jobs per annum during its 15-year construction phase. In the first five years of construction alone it will generate approximately €270 million in purchases from Irish firms, while the gross development value

will be in the region of €3.75 billion. DAC is proposing to develop an International Cleantech Services Centre (ICSC) within Dublin Airport City ([www.dublinairportcity.ie](http://www.dublinairportcity.ie)), modelled on the highly successful International Financial Services Centre located in Dublin Docklands. This ICSC will consist of the most energy efficient, sustainable, environmentally certified, commercial real estate yet constructed in Ireland (and possibly Europe). Our Eco-Construction baseline offering will be then 'wrapped' with a variety of Green incentives and initiatives (R&D, Educational, Fiscal, Funding, IP related etc) focused on attracting multinational Cleantech investment into Ireland from across the globe as well as supporting the burgeoning indigenous Cleantech export sector here at home.

With the current economic crisis there has never been a greater need to secure the many economic benefits of Dublin Airport through ongoing investment in its facilities and capacity.



## Sustainability issues - Social

### Community Relations



#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed to:

- Being a good neighbour, fostering positive and open community relations – specifically for those communities most impacted by Dublin Airport; and
- Continuing to manage and report on community relations initiatives.

#### What is the issue?

Airport operations can have a significant impact (both positive and negative) on communities living and working near the airport.

Dublin Airport's overriding aim is to be a good neighbour. To this end we strive to foster good relations with neighbouring communities and provide information on our activities and support whenever feasible.

This particularly applies to communities such as St. Margaret's, Cloghran, Santry, Swords, Malahide and Portmarnock, which are close to the airport and where the impact of our operations is greatest. Whilst we largely have a good working relationship with local communities, we accept that as the airport continues to expand and the local population increases, more people are being impacted by airport operations.

In some cases we cannot control the impacts that are associated with the airport. For example, aircraft flight paths and associated aircraft noise are controlled by Air Traffic Control,

regulated by the Irish Aviation Authority (IAA). External surface access to the airport, including road networks, falls within the remit of the Local Authority and the various public transport agencies. Where we can, we try to influence and work with the Local Authority and businesses operating within the airport to support improved performance.

#### What is our approach to managing community relations?

We support a range of initiatives within our local communities. A structured sponsorship programme is in place, aimed at groups who are part of communities most affected by noise from the airport. This programme aims to promote excellence in youth through sport, music, the arts, working on environmental projects and with the elderly. We also have ongoing involvement with the Junior Achievement and Business in the Community Schools Programmes, which aims to build a bridge between the classroom and the workplace through staff volunteers helping young people develop leadership skills.

Dublin Airport has two noise mitigation schemes in place. A Residential Sound Insulation Programme (RSIP) was first introduced in 1989 when the current main runway was opened. The programme originally identified those residential properties that lie within a 63 db noise contour boundary and carried out insulation measures on these dwellings that included:

- Double or secondary glazing for all windows and external doors;
- Attic insulation comprising layers of quilting and gypsum slab; and
- Acoustic treatment for vents and active chimneys and capping of redundant chimneys.



## Sustainability issues - Social *continued*

Approximately 110 residential properties were included. The scheme has now been extended to include those homes that fall within the 63 db noise contour of the planned Northern Parallel Runway. This will bring approximately 120 additional residential properties into the scheme when the proposed new runway project commences.

A voluntary buy-out scheme is also in place, associated with the airport's planned new runway. This scheme was originally designed to apply to all 19 homes within the 69 db noise contour, however in November 2008 we committed to extend the scheme to include a further 20 homes. Work is ongoing to develop this scheme, which has to be submitted to Fingal County Council for approval.

We have several processes in place to keep local communities informed about activities at the airport. These include:

- The Dublin Airport Stakeholders Forum which, meets quarterly and provides stakeholders with an opportunity to raise any issues or queries they may have in relation to the airport. The Forum also provides us with a means of informing stakeholders about any new proposals, projects or activities that we are planning;
- Participation in environmental, surface access (i.e. to reduce airport congestion and improve public transport links), and economic and customer service working groups, set-up as sub-groups of the main Forum. Our involvement in these groups

ensures an accurate and regular flow of information to and from local business, political and residential communities;

- A monthly magazine, sent electronically to elected public representatives. The magazine covers such items as passenger numbers and proposed developments;
- A bi-annual newsletter 'Your Airport' delivered to 35,000 homes in North County Dublin. The newsletter features articles on such airport activities as the Transforming Dublin Airport Project; environmental issues such as air and water quality; wildlife at the airport; updates on the Dublin Airport Stakeholders Forum; education reports; community news; staff profiles; and competitions;
- Representation at council level on three local Chambers of Commerce;
- Regular meetings with local Resident's Associations and individual people close to the airport; and
- A dedicated community relations section on our website: ([www.dublinairport.com/about-us/community-affairs/](http://www.dublinairport.com/about-us/community-affairs/))

Complaints and comments are received through the post, by telephone, and by email. All correspondence is logged in an electronic journal, and responded to by telephone or in writing.

### What is our performance?

Our ongoing work to engage with our local communities regarding planned developments and the management of airport impacts has helped us to maintain good relationships with our neighbours.

Discussions with the Stakeholder Forum have helped us to expand the membership of the Forum to include Cloghran Hill Residents Association. We also facilitated a workshop to obtain Forum members' input to our Sustainability Strategy.

Our community initiatives have helped our local communities in a variety of ways, including: the provision of a new sound system for St. Margaret's Church; sound insulation for new classrooms in St. Margaret's; sustained support for three local GAA clubs in St. Margaret's, Malahide and Portmarnock; support for the Young Musician of the Year Competitions, which has encouraged some of the participants to pursue a career in music; and our involvement with Business in the Community, Junior Achievement and Learning Enterprise student enterprise programme.

Perhaps inevitably, T2 construction work and the associated site traffic has led to an increase in the number of complaints received from the Cloghran community, immediately east of the airport. Residents' main concerns relate to construction traffic, dust and noise from work on the upgrade of the campus roads. We now have a system in place whereby we are notified in advance as each new phase of the project is about to start. If it has the potential to impact on local residents, we will engage with each person or family to advise them of the upcoming activity.



## Sustainability issues - Social *continued*

### Case study - St. Cronan's Junior National School Garden Project

St. Cronan's Junior National School in Brackenstown, Swords, approached the airport in 2007 to request assistance in the provision of a garden in the school grounds. The airport provided the support of staff from its Gardening Section who paid several visits to the school to prepare the ground for planting. Back at the airport, members of the Carpentry Section built six large planting boxes, which can be used by the children to grow flowers, plants and vegetables. In early September, the gardeners went to the school and helped to plant flowers and grasses.

The children will grow, prepare and eat their own fruit, vegetables and salad ingredients, providing a 'hands-on' opportunity to learn about healthy eating. A sensory garden with a seating area that incorporates many aspects of the primary school curriculum has also been designed. This will be of particular benefit to the children in the school's Autistic Spectrum Disorder Unit. Every class in the school will have a weekly time in the garden area, encouraging many different aspects of the curriculum such as creative writing, poetry, stories, drawing, sculpture and the study of plants and animals. A small section of the garden will serve as a memorial to staff and students who have sadly been lost. It will provide a place of silence, reflection and comfort for parents, staff and children alike.

### Case study - Classroom Extension to St. Margaret's National School

The National School in St. Margaret's was opened in 1956 and is one of the airport's closest neighbours. The school and the airport have enjoyed a very good relationship over the years and when the school announced plans in 2006 to build three new classrooms, Dublin Airport Authority was delighted to help by providing funding for the insulation of the classrooms.

Work on the classrooms was completed in early 2008. The extension, which cost approximately €675,000, was jointly funded by the Department of Education & Science and Dublin Airport (which contributed €152,000 towards the cost of sound insulation in the new building). Because of its proximity to the present airport runway and to the proposed new runway it was essential to have high quality sound insulation and state of the art air exchange systems in operation. We drew up the specifications for the insulation in consultation with the architect working on the school project. Based on the most current international advice available, it is hoped that this model can be repeated in other schools that will fall within similar noise contours.

### Other community support programmes

The airport supported a transition year trip from Portmarnock Community School to South Africa as part of Marian Finnucian's charity 'Friends in Ireland'. Other groups and organisations that have been supported by the airport and its staff in recent years include Cloghran Historical Society, St. Finians Community College, Naomh Mearnóg GAA Club, Malahide Young Musician of the Year Competition, Swords Young Musician of the Year and the North Dublin School of Music.

### Next steps

In 2009 we plan to introduce a volunteer programme to support members of staff in carrying out projects in the local community.



## Sustainability issues - Social *continued*

### Our People

#### What is the issue?

With over 2,200 direct employees, Dublin Airport is one of the main local employers in north County Dublin and in Fingal. We understand the importance of valuing our people and believe it is our responsibility to make Dublin Airport a safe and enjoyable place to work. Investing in our employees is not only important for the individual but it also helps us to meet our business and customer objectives and aims.

#### What is our approach?

Dublin Airport's investment in people includes the following:

- Employee engagement;
- Employee development; and
- Workplace diversity.

#### Employee engagement

We are a service organisation that delivers results through our staff. To this end we operate a series of employee engagement initiatives that aim to keep employees informed, involved and motivated. We have four worker directors and we also work in partnership with a range of unions covering different work groups.

We aim to support employee engagement through regular communication and dialogue. The Chief Executive, for example, addresses staff quarterly at an open forum. This provides him with an opportunity to provide an update on the business and answer staff questions. This forum is also used to highlight and support the company Vision, Mission and Values (VMV). The VMV was also

communicated through a series of Engagement Workshops with staff in the first half of 2008.

Giving staff their say is an important part of engagement and we recently held a series of staff feedback sessions. The next stage included follow-on briefings and local work groups to address some issues raised. Further sessions with line supervisors facilitated the completion of a needs analysis, in preparation for a tailored staff development programme commencing towards the end of 2009. A significant number of management also attend a quarterly Management Workshop focusing on business issues and leadership challenges.

In addition to direct staff briefings the Chief Executive meets with the main Unions quarterly and with the entire Group of Unions at least annually.

Communication in a geographically spread, 24-hour business can be challenging. In addition to briefings, we also produce a staff magazine and we manage a DAA staff intranet site. We have now introduced Connect TV, an innovation that brings information to key staff areas in easily accessed visual format. The content for these media is created in-house and features stories, interviews and reviews that are staff related. In May 2009, we ran a short piece on this Sustainability Report and informed staff of what we hope to achieve and the benefits to the airport and our various stakeholders.

We also undertake regular staff surveys that are particularly useful

in supporting the development of training programmes such as the Customer Service Programme.

DAA welcomes and encourages direct staff involvement and provides vehicles for this purpose. These range from the staff suggestion scheme 'Inspire' to an award scheme where employees can nominate each other for awards under the Staff Recognition Scheme. Employees can also contribute to the DAA Charity of the Year Programme in several ways, including staffing the committee, selecting the charity through a voting process and participating in fund raising events during the year. We also regard it as important to involve staff in sharing skills with others, whether colleagues or those in the community. Therefore DAA runs several mentoring, buddy and 'Business in the Community' initiatives.

#### Employee development

We regard investment in developing our people as an all important part of the business. It benefits the airport as an essential and nationally important business and also ensures that staff opportunities are created and maximised. The end goal is to maintain a competitive edge and encourage our people to directly contribute to the success of the company.

Our approach to staff learning and development has three dimensions: individual, departmental and strategic. All three are underpinned by our high standards and company values.

Individual employees are required to complete a learning and



## Sustainability issues - Social *continued*

development plan, which acts as a learning contract with the organisation. Each plan is based on individual skills, knowledge and expertise and shared throughout the organisation.

The individual is part of a wider team so it is important that all departments develop business objectives in line with the strategic direction of the organisation. This is achieved through a joint departmental development plan.

The strategic dimension of development focuses on the individual and the need for all staff to understand our strategic objectives, company values and standards. This also means continuous review of skills, knowledge, behaviour and experiences to ensure we evolve in line with the business environment.

We believe that learning means more than simply attending a training programme. It should occur on a day-to-day basis, on the job and with the support of all staff members.

### Workplace diversity

DAA recognises the importance of workplace diversity as a reflection of our diverse customer profile. Our Respect and Dignity Policy sets out company expectations in terms of the behaviour of staff and agencies in relation to working with colleagues of different backgrounds. Training is provided to ensure that the differences in customers and colleagues are respected. We have, and meet our targets to provide employment to people with disabilities.

The DAA staff group reflects the tapestry of Ireland today with a mix of nationalities, age and gender. DAA is an equal opportunities employer and is committed to ensuring a safe and healthy work environment for all staff, maintaining employment policies, procedures and practices that are free from all forms of unlawful and unfair discrimination. Recruitment and development policies ensure decisions are based on competencies and merit rather than the background of any individual. We fully recognise the need to have well trained, motivated and competent staff to deal with the diverse needs of our customers and stakeholders.

### Managing Dublin Airport through the economic downturn

Clearly the global recession, coupled with the magnified and deeper recession in Ireland, has significantly impacted us. There has been a considerable fall-off in our passenger numbers and we are anticipating this trend to continue for the rest of this year and possibly next year. In response to the downturn, we need to make significant cost savings, and adjust our staff and services to meet future demand for air travel from Dublin Airport. Unfortunately this will require a reduction in our headcount but we will work with our unions to minimise this through making efforts to achieve savings across a range of activities. We are currently in talks with our staff members regarding the best way of managing this difficult issue. A key focus during this time will be to maintain staff morale, and ensure that the airport continues to provide

high levels of service in as cost effective a manner as possible.

### Next Steps

This is a difficult time for Dublin Airport and our staff, as cost savings will be required to ensure that the airport remains a viable business in the global recession. We continue to engage with our staff and their representatives on an ongoing basis regarding how best to manage this difficult period of change.





## Sustainability issues - Social *continued*

### Passenger Experience

#### What is the issue?

The airport aims to deliver a quality travel experience to all passengers using its facilities, to the best international standards, to each and every one of its travelling passengers. We want this to apply from the moment a departing passenger arrives at the airport until they have boarded their aircraft, and by the same token, from the time an arriving passenger disembarks from an aircraft until they exit the airport.

In short, we are committed to offering a quality experience to the best international standards. This means managing security queuing time, offering a range of retail and refreshment services and ensuring that the airport is a pleasant environment in which to travel through.

#### What is our approach to managing and improving passengers' experiences?

Dublin Airport conducts both qualitative and quantitative research on an on-going basis in an effort to continually improve the passenger experience at the airport. This research is conducted by DAA employees from front line positions in the organisation, as well as by external market research companies such as Red C and MRBI. As well as direct passenger feedback, research is undertaken on data that is recorded by the Dublin Airport Customer Relations and Quality Department.

While the airport itself does not control all aspects of the time

passengers spend there, we work with other service providers such as airlines and handling agents to ensure a consistently high level of service. Specific service level agreements are in place to determine how we measure elements of passenger experience, such as baggage delivery, security, and trolley availability. Meetings are held with airlines and handling agents on a weekly basis to discuss operational issues. Meetings also take place with the Airport Operators Committee on a monthly basis at which more general operational issues are raised between the airlines, handling agents and DAA for resolution.

In a further effort to improve the customer experience at Dublin Airport, DAA engages frequently and proactively with its stakeholders in the business community. Consultation with bodies such as Fingal County Council, ITIC, Irish Hotel Federation and Taxi Federation takes place on a regular basis.

The airport has a Customer Relations and Quality Department that deals with all direct customer feedback. This can be provided in a number of ways, including via telephone, email, comment cards at the airport, or via the DAA website. This feedback, combined with our direct passenger research forms the basis of our action plan to deal with specific passenger requirements. We are also part of the EIQA Q-Mark quality management system where we are independently audited on an annual basis.

The airport also works with its customer airlines to facilitate new processes that benefit both the

#### We use a number of different methods to understand the passenger experience:

##### Process Monitoring

Regular surveys are conducted to monitor aspects of the airport's operations, including queue times at passenger screening, check-in and baggage delivery. These are monitored with reference to agreed levels of service performance with the service provider.

##### Passenger Profiling

Passengers participate in face to face surveys to help us to understand more about their travel needs and behaviour.

##### Passenger Perception

Passengers participate in face to face surveys that ask for their perceptions of airport services, delivered either directly or by other service providers. These surveys are used to improve passenger facilities on an ongoing basis.

##### Benchmarking of Services

We survey and monitor our service performance against comparable airports.

airline and the passenger, such as self check-in kiosks, web check-in, check-in allocation etc.

#### What is our performance?

We have introduced many initiatives to improve passenger experiences. These include:

- Improved parking facilities particularly for passengers with reduced mobility;
- An enhanced transport experience via bus or taxi to and from the airport;

## Sustainability issues - Social *continued*

- Enhanced check-in facilities (such as Area 14);
- Additional space in the terminal concourse;
- Additional security points to assist the passenger journey;
- Ongoing review of processes to ensure maximum efficiency whilst maintaining the integrity of the security process;
- Additional eating facilities provided airside;
- Refurbishment of all piers to improve passenger facilities;
- A new centralised customer facility in the baggage hall;
- New seating in the terminal; and
- New trolleys.

On the most recent audit as part of the EIQA Q-Mark, DAA achieved a score of 81%, a 3% improvement on 2008, placing us in the top 5% of Irish companies. DAA has also been nominated for an award in this year's services category.

### Complaints per million passenger 2004 – 2009.

2009:	22 (Jan-May) - Complaints high due to problems associated with start up of online car parking as well as security issues
2008	13
2007:	12
2006:	22 (trolley fee abolished)
2005:	40 (Complaints high this year due to fee for trolleys and start of major congestion within the Terminal)
2004:	27

### Passenger feedback

It is important that passengers allow sufficient time for all aspects of their journey through Dublin Airport.

We are always keen to receive passenger feedback on our services and take seriously any comments and suggestions made. Please send any feedback to the Customer Services Department at Dublin Airport.

### Next steps

We will continue taking whatever steps are necessary to enhance the travel experience of those using the airport. We plan to set ongoing challenging performance targets in order to implement change, and to ensure that consistent improvements are delivered on an ongoing basis.

We will continue to monitor service delivery and work with service partners to improve the level of service offered to passengers.





## Sustainability issues - Social *continued*

### Health & Safety

#### Sustainability Objectives

As part of our 2009 Sustainability Strategy we have committed to:

- Reduce Health and Safety incidents at the airport; and
- Ensure that Dublin Airport is effectively addressing Health and Safety risks through awareness raising and active management.

#### What is the issue?

Dublin Airport caters for an average of 60,000 passengers a day, as well as 13,000 staff, contractors and several thousand other visitors. Keeping the airport safe and secure is a key priority.

The airport presents many potential hazards, from trips and falls in public areas, to complex procedures arising from the movement of aircraft, fuel and heavy equipment.

Under the Safety Health & Welfare at Work Act 2005, Dublin Airport has a duty of care to ensure the safety of all staff and public, including passengers, visitors and personnel from other companies operating on site.

#### What is our approach to managing Health & Safety?

In addition to adhering strictly to all health and safety legislation we also operate our own internal standards in this area.

The airport's annually updated Safety Statement outlines key health and safety principles which all DAA staff are required to follow.

A Safe Work Procedures Manual has also been developed and in 2008, a programme of Health and Safety Awareness Training was introduced for staff and management. Training is ongoing under this programme.

We also aim to promote safe working practices among our contractors. Each contractor is provided with a Contractor Safety Booklet that sets out our expectations for managing health and safety while working at the airport. Monthly meetings are held with the airlines and ground handlers to discuss health and safety issues.

Our Health and Safety Statement, Safe Work Procedures Manual, and the training we provide, are designed to minimise health and safety risks for all those using the airport. Where health and safety accidents and incidents do occur however, we record these in our Safety and Health Accident/Incident database. This database contains records of all reported accidents and incidents. We also maintain a Risk Assessment Register that is available for routine Health and Safety Authority (HSA) inspection.

#### What is our performance?

In 2008, we were pleased to win first place in the National Irish Safety Organisation (NISO) Safety Awards (Transport Section) – see Case study - 2008 NISO Safety Award.

Local Health & Safety management meetings are now creating a good Health and Safety culture in many Operational Business Units in DAA.

During 2008 we had no serious regulatory breaches and received no health and safety notices from the authorities.

#### Next steps

We plan to continue with our programme of ongoing awareness training for staff and management by running a series of health and safety workshops. We expect to train all the managers in the Retail & Car Parks Sections in 2009.

#### Case study - 2008 NISO Safety Award

In 2008, DAA was recognised with a prestigious All-Ireland Occupational Safety Award in the transport category for staff and passenger safety standards at Dublin Airport.

This is the first time that DAA has won a major award in the competition, which is organised by the National Irish Safety Organisation (NISO) and the Northern Ireland Safety Group (NISG).

The award is given annually to organisations who meet a minimum high standard of safety and who are best within their business category.

*"The health and safety team in DAA work extremely hard to try and ensure the safety of all staff, passengers and visitors to Dublin Airport."*

*"DAA recognises that safety must be managed and that the co-operation of staff is essential for the successful implementation of the safety programme."*

*"The award is evidence of the way that we manage health and safety in DAA and also of the awareness that has been created within the company at all levels." DAA Health and Safety Manager, Denis Murray.*



## Sustainability issues - Social *continued*

### Airfield Safety & Security

#### What is the issue?

The safety and security of the airport's airside areas is critically important to us and applies to both the general public and to airside operators and users. Safety and security in this context refers to the provision of a safe and secure working and operating environment in all airside areas. Airside includes the airfield and apron, right up to the boundary fence.

#### What is our approach?

Our aerodrome operating licence requires that we have a Safety Management System (SMS) in place and we conduct regular risk assessments in line with this requirement. The assessments are conducted for all occasions where airside operations may be impacted by changes to facilities, apron layouts, introduction of new equipment etc. Their primary objective is to identify and assess potential risks and then recommend appropriate mitigation measures and additional safety procedures. In this way we seek to monitor and manage all airside risks whilst providing a safe and efficient airfield service. We are audited on our safety and security procedures by external auditors such as the IAA.

We also operate a zero-tolerance approach to the use and parking/storage of all airside equipment including passenger

steps and tow-bars, as well as broken or obsolete equipment. We regularly conduct Apron Safety campaigns to keep safety awareness at a high-level amongst our staff.

In addition to the external audits, we also undertake regular internal safety audits and these are conducted against our Operations and Aviation Standards.

There is mandatory reporting to the Air Accident Investigation Unit of the Department of Transport of certain Category A Accidents where aviation safety may be compromised, such as: runway incursions, damage caused to aircraft or where an aircraft may have to take evasive action. We also have a wider incident reporting system and any reported incident is investigated and additional training provided, where deemed appropriate.

#### What is our performance?

Overall, our track record for airside safety and security is good. Relevant data covering such areas as bird strikes and airside accidents are well within international standards.

The large volume of airside construction works, as part of the wider upgrade and improvement of the airport, has not resulted in any significant increase in airside incidents. There was one isolated incursion event, which was investigated by the DAA, IAA and the Air Accident Investigation Unit

within the Department of Transport. As a matter of course we engage with numerous third parties who operate on the airside (e.g. fuelling companies etc) and we have received some very positive feedback on our overall approach to airside management. We have successfully passed all IAA audits and local Air Traffic Control (ATC) has confirmed that it is satisfied with our approach and management of airside operations and security.

#### Next steps

Airside safety and security is an ongoing focus for us. We are always looking for ways to enhance airside safety, one example being that we are installing runway stopbars at the Cat 1 holding points around Runway 10/28. This is in line with international best practice, creating a 'necklace' effect around the runway which should further reduce incursion events. Liaison and dialogue with local ATC and the IAA will be an ongoing undertaking.



# Aeronautical Information

## Dublin Airport

Location	Lat.532517N, Long.0061612W (midpoint Runway 10/28)
Elevation	242ft. AMSL
Runway Data	Runway 10/28 Length 2637 metres - Width 45 metres plus 7.5m shoulders each side Surface concrete, Category IIIA (Runway 28), Category II (Runway10). Runway 16/34 Length 2072 metres - Width 61 metres Surface asphalt, Category I (Runway 16), Non-precision (Runway 34) Runway 11/29 Length 1339 metres - Width 61 metres Surface asphalt/concrete Non Inst
Refuelling	JET A1
Operational Hrs	24 hrs
Postal Address	Dublin Airport, Co. Dublin, Ireland
Fax Number	(01) 814 1034 (09:00 - 17: 00) (01) 814 5479 (24hrs)
Telephone Number	National (01) 814 1111 Intl 353 1 814 1111
Web	<a href="http://www.dublinairport.com">www.dublinairport.com</a>
Sita	DUBRN7X (Airport Administration) DUBYREI (Operations)



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For further information on Dublin Airport, our approach to Sustainability or to offer feedback, please visit our website

[www.dublinairport.com/about-us/sustainability/](http://www.dublinairport.com/about-us/sustainability/)