2011 awards and recognition

❖ **5281 Award (from the City and County of Denver)** - Glenn Frieler and his DIA project team implemented a new technology that crushed, recycled, and reused roadway concrete in place along a stretch of Peña Boulevard. This process saved the time, expense, and environmental impact of transporting old pavement and new base materials. This project saved 1,250 gallons of diesel fuel and avoided 1.5 tons of CO2 emissions and, most importantly, paved the way for broader applications of sustainable roadway improvement projects at DIA.

❖ **2011 Airports Going Green Award** - Presented by the Chicago Department of Aviation to DIA for its photovoltaic power installation projects. This prestigious award recognizes the value of DIA’s program, as well as DIA’s outstanding leadership in pursuit of sustainability within the aviation industry.

❖ **CDPHE’s Environmental Leadership Program** - DIA has been a member of this program since 2004 and is currently at the highest status, that of a Gold Leader. Gold Leaders commit to continual environmental improvement goals that are verifiable and measurable (and that go beyond compliance), demonstrate that they are working toward the goal of sustainability, have a fully functional Environmental Management System, and show a clean compliance record prior to applying.

For DIA’s environmental policy and other information on DIA’s environmental programs, access business.flydenver.com/environmental. For information on DIA’s EMS, contact the DIA Environmental Services Section, at (303) 342-2730 or e-mail DIA.Environmental@flydenver.com.
Taking Environmental Stewardship to New Heights is one of the five strategic priorities listed in Together We Soar: A Strategic Plan for Denver International Airport. As stated in the introduction to this strategic priority:

“We will compete to set the pace for the airport industry by developing and implementing the cleanest, greenest, and most sustainable practices worldwide to preserve and enhance our natural resources. We will be recognized globally as the most innovative, aggressive airport champion of environmentally sustainable practices. Our innovations will become industry standards. We will seek and implement new breakthroughs to ensure that our natural resources are further protected. Our pursuit to preserve and protect the environment will be fierce and relentless.”

The goals identified to meet the Environmental Stewardship strategic priority are:

- Establish the airport as a global leader of environmental sustainability practices, including "lean and green" initiatives for emissions, energy consumption, materials use, and construction
- Become a zero-waste facility by 2020 and a carbon-neutral airport by 2050

To attain the goals and to realize this strategic priority, DIA has set the following objectives:

- **Environmental Framework** - We will create and publicize—both internally and externally—a framework for achieving our environmental goals, complete with leading practices, timetable, accountabilities, and metrics. We will partner with all airlines and business partners to gain their active involvement in our environmental framework.
- **Policies** - Develop and implement a clean air policy addressing both mobile and stationary sources.
- **"Lean and Green" Initiatives** - We will implement and/or accelerate initiatives to reduce emissions and energy consumption, increase air quality and, subsequently, achieve long-term cost savings for the airport. All divisions within the airport will be informed and educated on these initiatives and will participate actively in their achievement. We will also work with our partners to help them do the same.
- **Zero-waste Facility** - We will become a zero-waste facility by 2020.
- **Carbon-neutral Airport** - We will become a carbon-neutral airport by 2050.
- **Sustainable Development** - We will incorporate sustainability principles in all aspects of our business including all new development projects. We will review new development efforts through our ‘sustainability lens’ of economics, environment, and social implications.
- **A Global Leader in Sustainability** - We will aggressively publicize our approach to environmental sustainability, our policies and practices, and the gains we are making against our ambitious goals.

**ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)**

DIA is the only U.S. international airport that has designed and implemented an ISO 14001-certified EMS that encompasses the entire airport. ISO 14001 certification comes from the International Organization for Standardization.

DIA’s EMS provides a framework for the airport to identify, prioritize, and manage the significant environmental aspects of its operations. DIA’s EMS focuses on identifying, developing, and implementing programs to address potential impacts from significant environmental aspects and to improve environmental performance. In 2011, DIA reassessed its list of environmental aspects and their impacts, adding energy and other positive aspects.

**Significant Environmental Aspects at DIA**

- Deicing
- Fueling
- Construction/Development
- Waste Management
  - Municipal Solid Waste
  - Hazardous Waste
  - Universal Waste
  - Recycling
  - Composting
- Air Emissions
  - Criteria Air Pollutants
  - Hazardous Air Pollutants
  - Ozone-depleting Compounds
  - Greenhouse Gases
- Water Discharges
  - SPCC (Spill Prevention, Control, and Countermeasure)
  - Stormwater
  - Groundwater
  - Sanitary
  - Industrial Processes
  - Potable Water
- Land Discharges
  - SPCC
  - Materials Management
  - Weed/Pest Control/Fertilizer
  - Remediation/Investigation Derived Waste
- Noise
- Energy
- Natural and Cultural Resources
- Community Relations
In 2005, DIA set aggressive annual targets for decreasing the use of gasoline and electricity, reducing solid and hazardous wastes, and increasing glycol recycling. DIA’s progress toward these targets is illustrated below.

**Transportation Energy Use by Fuel Type (Gasoline)**

**Target:** Decrease by 1 percent the gallons of gasoline used per gasoline-powered vehicle per year.

**Metric:** gallons gasoline/year/gasoline-powered vehicle

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52 percent of DIA’s light-duty fleet runs on alternative fuels.

**Non-Transportation Energy Use (Electricity)**

**Target:** Decrease by 1 percent the annual kilowatt hours used per passenger.

**Metric:** kWh used/year/passenger

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline (2005 - 228,373,418 kWh/43,387,513 passengers)</th>
<th>Goal</th>
<th>Actual (2011 - 230,310,223 kWh/52,849,132 passengers)</th>
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**Non-Hazardous Solid Waste Generation**

**Target:** Decrease pounds of non-hazardous solid waste disposed each year per passenger by 5 percent.

**Metric:** pounds of total disposed solid waste/year/passenger

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<tr>
<th>Year</th>
<th>Baseline (2005 - 10,963 tons/43,387,513 passengers)</th>
<th>Goal</th>
<th>Actual (2011 - 11,014 tons/52,849,132 passengers)</th>
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DIA’s recycling program saved more than $60,000 from rebates and avoided hauling and disposal costs.

**Hazardous Waste Generation**

**Target:** Decrease the amount of city-generated hazardous waste by 1 percent annually (note: excludes universal waste).

**Metric:** pounds/year/million passengers

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<tr>
<th>Year</th>
<th>Baseline (2005 - 1,175 pounds/43.4 million passengers)</th>
<th>Goal</th>
<th>Actual (2011 - 560 pounds/52.8 million passengers)</th>
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**Aircraft Deicing Fluid (ADF) Collection**

**Target:** Maintain an aircraft deicing fluid applied-to-collected ratio of 69 percent.

**Metric:** total gallons of ADF applied/gallons collected

Baseline 2004-2005 season = 69 percent. DIA has consistently maintained an ADF applied-to-collected ratio of between 69 and 71 percent.

**2010-2011 Deicing Season**

Total ADF Applied = 1,162,466 gallons
Total ADF Collected = 797,616 gallons
Collection ratio of 69 percent

**Of the 69 percent collected:**

- 521,399 gallons of ADF were reclaimed (65 percent*)
- 233,422 gallons of ADF were sent to Metro Wastewater for treatment (29 percent*)
- 42,795 gallons of ADF were sent to the landfill as process waste sludge (5 percent*)

* Due to rounding, percentages do not total 100 percent.
SUSTAINABILITY WITH ALTITUDE

Notable environmental performance enhancement activities and accomplishments:

> Energy-reduction initiatives, such as lighting fixture retrofits
> Orga nics collection and composting in the terminal concessionaire spaces and Airport Office Building
> Office paper-reduction initiatives
> Earth Day celebrations and community events
> Fleet vehicle engine retrofits and replacements for environmental improvements
> Numerous outreach and educational events, plus training, presentations, and student/industry tours
> Magazine articles that promote DIA environmental programs

In addition, DIA recycled the following commodities, primarily from airport maintenance activities:

> More than 1,300 batteries
> 26,012 pounds of electronics
> 21,000 fluorescent lamps
> 293 tons of scrap metal
> 84,718 tons of concrete to recycle staging areas and 21,512 tons recycled in place
> 11,549 tons of asphalt to recycle staging areas
> 101,173 pounds of restaurant yellow grease
> 1,750 gallons of antifreeze
> 1,093 tires
> 21,912 gallons of used oil
> 466 gallons of solvent

SOCIAL AND CULTURAL PROGRAMS AT DIA

DIA employees and DIA business partners are engaged in many activities that benefit our community:

> Donating to local nonprofit agencies
> Organizing blood drives (six events; average of 58 units collected per drive)
> Donating clothing from DIA Lost and Found to Denver Human Services (5,235 items)
> Hosting a Christmas party for foster kids (in partnership with Denver Human Services)
> Coordinating temporary art and cultural exhibitions – over 20 exhibitions and a swing-dance flash mob in November
> Curating permanent art installations

RENEWABLE ENERGY - SOLAR:

Beginning in 2008, DIA, along with private-sector partners, developed on-site solar photovoltaic systems to augment power supplies and offset some utility-supplied electricity. Since that time, three separate solar projects have been completed at DIA.

Altogether, these photovoltaic systems produce 8 megawatts of electricity, which is roughly 6 percent of DIA’s total electrical power requirements. The output makes DIA the largest distributed-generation photovoltaic energy producer in Colorado and the airport with the largest solar installation in the country.

WASTE MANAGEMENT:

DIA continues to expand existing programs and explore new initiatives toward reaching the airport’s strategic plan goal of becoming a zero-waste facility by 2020.

> COMPOSTING – With the support of three food concessionaires in Jeppesen Terminal and ISS janitorial staff who collect used paper towels from office restrooms, DIA diverts more than 5 tons of organic material per month from the landfill. This material was hauled to a commercial composting facility operated by A-1 Organics, where it is transformed into high-grade compost for residential and agricultural purposes.

> RECYCLING – Each year, along with organic waste, DIA keeps 1,500 tons of recyclable material from the landfill. These materials include wood, glass, plastic, paper, cardboard, and aluminum. Participants in this program include all Department of Aviation offices, food concessionaires, the airlines, and other tenants.

> WASTE REDUCTION – In 2001, 0.64 pounds of waste per passenger was sent to the landfill. DIA has reduced this to 0.42 pounds per passenger in 2011 with a diversion rate of 12.5 percent.

> PLASTICS BALER – In May 2011, DIA was awarded an RREO (Recycling Resources Economic Opportunity) grant from the State of Colorado to purchase a plastic-film baler. According to waste composition studies, between 80 and 100 tons of plastic bags/film are thrown away each year by DIA and its tenants. The baler is expected to substantially reduce the amount of such material going to the landfill.

GREENHOUSE GAS:

In 2011, DIA was required to report its greenhouse gas emissions under the U.S. Environmental Protection Agency’s new mandatory reporting rule. Based primarily on natural gas use, DIA’s stationary combustion sources accounted for the emission of 28,926 mtCO2e (metric tons of carbon dioxide equivalents).
SOUTH TERMINAL REDEVELOPMENT PROGRAM:
DIA has begun capital projects south of Jeppesen Terminal. The largest project is a 500-room Westin hotel and conference center, which will arch over an open-air public plaza that is connected to Jeppesen Terminal. Below the plaza and hotel will be a terminus station for a railroad connection to downtown Denver. In addition, the program encompasses improvements to the airport’s baggage-handling and people-mover systems. The program will be certified to the U.S. Green Building Council’s Leadership in Energy and Environmental Design–New Construction (LEED®-NC) Silver standard.

FAA SUSTAINABILITY GRANT: DIA was one of 10 airports selected to participate in an FAA sustainability grant program. DIA is committed to sustainability which is defined as the practice of making business decisions that optimally balance the simultaneous objectives of economic, environmental, and social responsibility, in such a manner that DIA will be recognized as the leader in the industry, both now and in the future.

Until new targets are established in 2012 through the FAA grant, DIA will continue to pursue its current pollution-prevention, energy-reduction, and waste-minimization targets, which are included in DIA’s EMS and the Greenprint Denver Action Agenda. These targets are:

- Decrease gasoline use by 1 percent
- Decrease electricity use by 1 percent
- Decrease solid waste disposal by 5 percent
- Decrease hazardous waste generation by 1 percent
- Maintain an applied-to-collected ratio of 69 percent for aircraft deicing fluid

Through the grant, DIA will:

- Identify sustainability goals and objectives
- Conduct a baseline assessment and gap analysis
- Set performance objectives
- Develop an implementation and monitoring program
- Research grant/funding sources for sustainability initiatives
- Develop a sustainability report card

SOLID WASTE STUDY: A study will be conducted to define the term “zero-waste” and to set forth a path to attain this status by 2020.

TENANT ASSISTANCE: DIA will implement a new Multimedia Compliance Assistance Program to support our tenants and other business partners. This program is intended to assist business partners in attaining and maintaining compliance with the numerous and sometimes complex state and federal environmental regulations that affect their activities at DIA.