

SUSTAINABILITY AND RECYCLING



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CHAPTER TWELVE

SUSTAINABILITY

The purpose of this section is to provide a general overview of sustainability and define the Airport Recycling, Reuse, and Waste Reduction Plan for Idaho Falls Regional Airport. This plan is intended to enhance airport recycling and waste minimization efforts at Idaho Falls Regional Airport and to comply with FAA requirements.

12.1. Sustainability

12.1.1. Defining Sustainability

The United Nations established the Brundtland Commission to address the growing concern about the deterioration of natural resources. In its 1987 report, the commission defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

The Airports Council International-North America (ACI-NA) took this approach one step further by stating that sustainability means taking “a holistic approach to managing an airport so as to ensure the integrity of the economic viability, operational efficiency, natural resource conservation, and social responsibility (EONS) of the airport.”



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12.1.2. Reasons for Sustainability

Based on these definitions, airports should evaluate how programs and initiatives impact airport users, the surrounding community, and the natural environment and then identify how to best integrate sustainable practices as part of the airport master planning process.

This process will require each airport to consider its particular circumstances and its role in the community as it related to sustainability in order to set the groundwork for future planning and implementation. Along with improving the community and the natural environment, sustainability makes good business sense. Airports that have adopted sustainable practices have reported tangible benefits that include:

- Greater use of assets
- Reduced operating and maintenance costs
- Improved work environment for employees
- Reduced energy consumption, waste, and emissions
- Improved water quality
- Positive community relationships

12.1.3. How Sustainability Relates to Idaho Falls Regional Airport

The City of Idaho Falls has established a commitment to **environmental sustainability and resource preservation** as part of *Imagine IF, A Plan to Move Idaho Falls Forward Together, City of Idaho Falls' Comprehensive Plan*. Accordingly, Idaho Falls Regional Airport has adopted the EONS approach to sustainability.

As articulated in the city's comprehensive plan, "The City of Idaho Falls promotes a welcoming, attractive, safe and diverse community. We embrace small town values, big city efficiencies and forward-thinking approaches to provide outstanding services and sustainable economic, social and recreational opportunities for our whole community."¹

Figure 12.1: EONS Approach to Sustainability



Source: T-O Engineers

12.2. Legislative Background

The FAA Modernization and Reform Act of 2012 (FMRA) amended Title 49 of United States Code (USC) to include several changes to the Airport Improvement Program (AIP). The two changes related to recycling, reuse, and waste reduction at airports are as follows:

- FMRA Section 132(b) expanded the definition of airport planning to include “developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit.”
- FRMA Section 133 added a provision requiring airports that have a master plan, and receive AIP funding, to ensure that the master plan addresses solid waste recycling at the airport. This includes addressing the following issues:
 - The feasibility of solid waste recycling at the airport.
 - Minimizing the generation of solid waste at the airport.
 - Operation and maintenance requirements.
 - Review of waste management contracts.
 - The potential for cost savings or the generation of revenue.

12.2.1. Types of Waste and Landfill Regulations

Landfills and waste are regulated under the Resource Conservation and Recovery Act (RCRA) which defines two main types of waste: solid waste (Subtitle D) and hazardous waste (Subtitle C).²

Subtitle D landfills are typically permitted by state and local governments to allow for the management of nonhazardous solid waste such as garbage, refuse, and discarded materials resulting from household and community activities or industrial and commercial operations while Subtitle C landfills are specifically designed to handle hazardous waste.

12.3. Types of Airport Waste

In general, solid waste from airports can be divided into the following categories:

Municipal Solid Waste (MSW) consists of everyday items that are used and then discarded. It includes items such as product packaging, furniture, clothing, bottles, and newspapers.

Construction and Demolition Waste (C&D) is any non-hazardous materials generated by excavation, construction, demolition, renovation, or repair of structures, roads, and utilities. C&D waste commonly includes concrete, wood, metals, drywall, carpet, plastic, pipe, cardboard, and salvaged building components. In some instances, C&D waste may be subject to special requirements (e.g., materials containing asbestos).

Compostable Waste includes both green waste and food waste. Green waste is also referred to as yard waste and generally consists of trees, shrubs, grass clippings, leaves, weeds, seeds, and similar debris generated by landscaping activities. Food waste is any food that is not consumed and includes food scraps discarded during meal preparation.

Deplaned Waste is trash removed from passenger aircraft and can include bottles, cans, newspapers, magazines, plastic cups and utensils, food waste, and paper towels.

12.3.1. Sources and Pathways of Airport Waste

Each activity has its own set of waste streams that must be considered when implementing a sustainability and recycling program. The following waste streams are typically associated with smaller commercial and GA airports like Idaho Falls Regional Airport:³

Aircraft: Maintenance of aircraft and ground support equipment produces a variety of waste products that can include grease, oil, universal waste (e.g., batteries), wastewater, plastics, and vehicle waste such as tires and fluids (e.g., brake, transmission, coolant).

Airfield: The airfield, which includes the runways, taxiways, and the infields, generally only produces a few types of waste products. They can include waste produced from aircraft operations, such as rubber from aircraft tires, and green waste from mowing as well as miscellaneous debris from sweeping and plowing.

Airport Construction: Construction activities have the potential to create a large amount of waste. The types of waste products produced typically include concrete, asphalt, building materials, wood, soil, construction equipment waste, miscellaneous debris, and regular trash.

Airport Offices and Pilot Lounges: The types of waste products generated can include paper, toner cartridges, universal waste (e.g., electronics), food, paper, plastics, aluminum cans, and general trash.

Cargo Facilities: Cargo being transported by air is typically loaded and offloaded at the air cargo facility and is often stored temporarily in the warehouse. Waste can include tires, fluids from equipment, universal waste, wooden pallets, plastics, and packing materials.

Terminals: As the heart of any airport complex, the terminal normally has the largest concentration of people, and this usually translates into the biggest concentration of waste. The terminal houses ticket counters, gates, and car rental counters as well as restaurants and restrooms that are frequented by both passengers and people employed at the airport. In addition, the terminal also houses office space and break areas for airline and airport personnel. The types of waste produced at a terminal are just as varied as the types of activities that take place there. Waste products can include food, paper, plastics, bottles and cans, restaurant grease and oil, universal wastes (e.g., batteries and fluorescent bulbs), green waste (e.g., landscaping), general trash, and deplaned waste.

12.4. Airport Recycling, Reuse, and Waste Reduction Plan

12.4.1. Scope

The content and scope of an airport recycling, reuse, and waste reduction plan varies depending on the unique conditions at each airport. For airports that already have recycling programs, certain tasks (such as a new waste audit) may not be needed.

Document scope is governed by the extent and accuracy of available information. This includes information on the airport's current recycling program, the types and amounts of airport waste, and factors that influence the scope of the program. Plans for small, low activity airports may also be less detailed. Though certain tasks may not need to be completed to prepare a plan, review and documentation of each of the five elements listed in the FMRA is required in airport master plans and master plan updates (including sustainability master plans) (see also 49 U.S.C. § 47106(a) (6)).

This plan only addresses municipal solid waste (MSW), construction and demolition (C&D) materials, and other waste materials that can be legally disposed of in a Subtitle D landfill. It does not address hazardous waste or universal waste (e.g., batteries, fluorescent bulbs, pesticides) because these materials are often subject to federal, state, and local laws with specific disposal and recycling requirements.

In this plan, recycling refers to reducing the amount of solid waste disposed of in a landfill through sustainable practices that include source reduction, reusing materials, or converting waste into reusable material (e.g., mulching, or composting).

12.4.2. Recycling Feasibility

Idaho Falls Regional Airport is large and busy enough to generate sufficient recyclable materials to justify a recycling program. Bonneville County operates a landfill, the Hatch Pit, and a transfer station that accepts many types of waste, although certain fees may apply. Additional infrastructure (bins), staffing, and funding may be needed to establish a recycling program and maintain it.

12.4.3. Plan to Minimize Solid Waste Generation at the Airport

The ACI-NA Policy Handbook provides a waste decision hierarchy that shows—in order of priority—what constitutes the best overall waste management choices. These include to avoid, to reduce, to reuse, to recycle, and lastly, to dispose—with the ultimate goal of eliminating waste going to landfills.

Figure 12.2: Waste Decision Hierarchy



Source: ACI-NA Policy Handbook, T-O Engineers

While effective recycling and waste minimization is a problem faced by every airport, each airport has a unique set of conditions that must be considered as part of its individual recycling and waste minimization program. With this in mind, the FAA compiled a list of 10 steps airports can take to design and implement an effective airport recycling and waste minimization program (Table 12.1).

Table 12.1: Effective Airport Recycling and Waste Minimization Programs

Step	Description
1	Commitment from Management
2	Program Leadership
3	Waste Identification
4	Waste Collection and Hauler
5	Waste Management Plan Development
6	Education and Outreach
7	Monitor and Refine
8	Performance Monitoring
9	Promote Success
10	Continuous Improvement

Source: FAA, *Recycling, Reuse and Waste Reduction at Airports: A Synthesis Document*

Idaho Falls Regional Airport will explore the following steps to help minimize solid waste generation:

1. Establish a commitment from management to support a recycling and waste minimization program.
2. Include lease and contract language that supports recycling and waste minimization.
3. Provide additional containers and space for recycling.
4. Educate airport staff and users about the importance of recycling and waste minimization.

12.4.4. Airport Operations and Maintenance Requirements

The airport's operations and maintenance requirements were examined in relation to sustainability and how waste is handled at the airport.

Aircraft: The amount of aircraft waste correlates with the number of operations at the airport. The person responsible for aircraft and ground support equipment waste varies depending on the vehicle's owner and who performs the maintenance. The FBO and maintenance shop are responsible for aircraft maintenance waste. Some waste associated with maintenance is considered hazardous waste and must be handled accordingly.

Airfield: The infields are mowed regularly for habitat management and wildlife hazard mitigation, and clippings are left in place. Sweeping of airfield pavements occurs weekly or more often if needed. Debris from sweeping is disposed of in a trash dumpster. When snow is plowed from airfield pavements, some dirt and grit are also removed as part of this process. The snow, along with any accompanying dirt and grit, is pushed, swept, or blown to the infield and other undeveloped areas of the airport and left to melt.

Airport Construction: This waste stream increases during warmer months when construction usually occurs. The contractor is contractually responsible for waste associated with airport construction. Contractors are encouraged to reuse materials when possible.

Cargo Facilities: These facilities are leased and, as per the lease agreement, the tenants are responsible for trash disposal within this area.

Airport Offices and Pilot Lounges: These waste streams usually consist of solid waste or compostables and are steady throughout the year.

Terminals: There is one full-service kitchen located inside the terminal building which is associated with a restaurant. The vendor is responsible for their own waste management and waste oil or grease trap cleaning.

12.4.5. Review of Waste Management Contracts

The sanitation division of the city's public works department is responsible for waste management at the airport. Tenants are responsible for trash disposal within their area, per their lease agreement. The airport has four six-yard garbage dumpsters located adjacent to the terminal building and the airfield lighting vault. There are no recycle bins located in the terminal area.

12.4.6. Potential for Cost Savings or Revenue Generation

The City of Idaho Falls provides 13 locations across the city to recycle various items such as glass, cardboard, tin, and aluminum. They do not accept plastic or paper. One of the locations is on airport property at the Old Butte Soccer Complex. This location is intended as a general community recycling location rather than specifically for airport use.

During May of 2022, the City's sanitation division held a Clean & Green Citywide Cleanup event, where they accepted household solid waste, brush, and construction waste. As part of the airport's recycling and waste minimization education efforts, it could notify airport staff and users about similar events in the future.

Potential cost savings or revenue generation at Idaho Falls Regional Airport rests with establishing a recycling program at the airport, where revenue generated from recycling can be deposited into the airport's account and used for airport purposes.

12.5. Conclusion

Idaho Falls Regional Airport has opportunities to enhance airport sustainability, recycling, and waste minimization at the airport by establishing formal policies and procedures. One opportunity to enhance sustainability is the addition of electric aircraft and vehicle charging stations. Another opportunity is to reuse C&D materials as much as possible and use locally sourced materials for construction projects.

Any program established at the airport should include a commitment from management to support sustainability, recycling, education and outreach, setting performance targets, monitoring progress, and seeking continuous improvement. Benefits gained from establishing a recycling and waste minimization program include:

1. Reduced operating costs.
2. Prolonged use of limited landfill space.
3. Reduced environmental liability.
4. Improved public perception of the airport.

Endnotes

- 1** City of Idaho Falls. Community Development Services. “Imagine IF, A Plan to Move Idaho Falls Forward Together, City of Idaho Falls’ Comprehensive Plan.” Idaho Falls, Idaho. 2021. <https://www.idahofallsidaho.gov/DocumentCenter/View/14027/ImagineIF?bidId=>.
- 2** U.S. Environmental Protection Agency. “Basic Information about Landfill.” April 4, 2022. [https://www.epa.gov/landfills/basic-information-about-landfills#:~:text=What%20types%20of%20landfills%20are,Substances%20Control%20Act%20\(TSCA\).](https://www.epa.gov/landfills/basic-information-about-landfills#:~:text=What%20types%20of%20landfills%20are,Substances%20Control%20Act%20(TSCA).)
- 3** U.S. Department of Transportation. Federal Aviation Administration. “Recycling, Reuse and Waste Reduction at Airports, A Synthesis Document.” Office of Airports Federal Aviation Administration. April 24, 2013. <https://www.faa.gov/airports/resources/publications/reports/environmental/media/recyclingsynthesis2013.pdf>.

