

## 7.0 AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION PLAN

### 7.1 Introduction

The U.S. Congress passed the FAA Modernization and Reform Act (FMRA) of 2012 which was signed into law, which amended Title 49 of the United States Code. The law included a number of changes to the Airport Improvement Program (AIP), two of which related to recycling, reuse, and waste reduction at airports. Section 132(b) of the FMRA 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.” Section 133 of the FMRA added a provision requiring airports that have or plan to prepare a master plan, and that receive AIP funding for an eligible project, to ensure that the new or updated master plan addresses issues relating to solid waste recycling at the Airport. This includes:

- 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.

As defined by Congress, “recycling” refers to any program, practice, or opportunity to reduce the amount of waste disposed in a landfill. This includes reuse and waste reduction as well as the recycling of materials.

The Federal Aviation Administration (FAA) issued a memorandum on September 30, 2014, to provide guidance on preparing airport recycling, reuse, and waste reduction plans as an element of airport master plans, as well as within a sustainability document, or as a standalone document. The guidance is mandatory when preparing an airport master plan.

The purpose of this chapter is to review the City of Kanab’s current recycling, reuse, and waste program, and to provide guidance on ways to reduce waste and improve recycling and reuse at the Airport, in compliance with the FAA’s guidance.

### 7.2 Airport Description and Background

Kanab Municipal Airport (KNB or the Airport) is classified as a general aviation facility, and is situated in Kane County, Utah, just north of the state border with Arizona. The Airport is owned and operated by the City of Kanab, and is managed on a day-to-day basis by the City. Additional facility information is presented in **Chapter 1, Introduction** and **Chapter 2, Inventory**, of this Master Plan. The City just opened a new airport terminal building in the summer of 2016, and removed the old building. Kane County has an emergency response building located on the Airport, although the County does not operate aircraft from the building.

As noted in **Chapter 3, Aviation Activity and Forecasts**, the number of operations and based aircraft at KNB have fluctuated over the past ten years. The forecasts anticipate growth in activity in the future, although it will remain a general aviation airport. KNB accommodates a variety of users, including emergency medical services, corporate, business, and private operators.

### **7.3 Existing Waste Sources**

The identification and evaluation of sources of waste at an airport can be complicated. There are numerous groups, agreements, operational styles, and collection/disposal processes that play into the overall generation of waste at a given airport. The three primary sources of waste at KNB are the airfield, the terminal building, and hangars/tenants. The sources of waste, per the FAA’s September 30, 2014 memo, can be further broken down by how much control the Airport has on the generation and disposal of waste. The three levels of control are:

1. Areas where the Airport has direct control of waste management (public space, office space, terminal building, airfield). These areas are controlled by the Airport and they are able to introduce recycling, reuse, and waste reduction programs directly.
2. Areas where the Airport has no direct control but can influence waste management (tenants). These are areas owned by the airport; however, they are leased out to tenants. The Airport can recommend that recycling, reuse, and waste reduction programs be used and can include language in the tenant contracts, but realistically can’t control what is done.
3. Areas where the Airport has no control or influence over waste management. These are areas the Airport neither owns or leases (none of which are included in this chapter).

**Table 7-1** shows the identified areas of waste generation, what waste is generated, how the waste is collected, if any reduction and/or recycling programs are in place, and KNB’s level of control.

TABLE 7-1 – WASTE GENERATION

Area	Waste Generated	Control
Area 1: Airfield	General debris found on airfield. Construction material (asphalt, concrete, wood, metal)	Direct Control
Area 2: Terminal Building	Plastic, glass, aluminum, oil, batteries, trash	Direct Control
Area 3: Hangars/Tenants	Plastic, glass, aluminum, oil, batteries, trash	No Direct Control but can Influence

Source: Jviation field visit

### **7.4 Local Recycling and Waste Management Programs**

The City of Kanab actively promotes reuse and recycling. As noted on its website <http://www.myyp.com/guide/Kanab,UT/The-Three-Rs-of-Recycling>:

“As a nation, the United States creates 40% of the world’s waste but only recycles approximately 28% of everything it uses. Although 28% is two times more than the U.S. recycled a decade ago, this number could be dramatically higher. There is much need for improvement, especially given the fact that each person in this country produces 1,606 pounds of trash each year. Of that trash, approximately 60-70% could be recycled or reused.

That would go a long way in protecting the environment and reducing the amount of trash piling up in landfills.

Making a conscious effort to recycle can significantly reduce the amount of waste generated every year and in turn protect the environment and natural resources. Use the information found in this section to learn the importance of recycling and the significant impact it can have on the planet. A few simple changes can really make a big difference.

The three “R”s of recycling are reduce, reuse and recycle. All three are necessary components in eliminating the amount of waste we generate and protecting the environment. As every American produces an average of 4.5 pounds of waste per day, simply purchasing recycled products or placing them in blue bins will do little to reduce that number.

Practicing the three “R”s of recycling requires a change in mindset, behavior and purchase patterns. Instead of immediately purchasing the latest vehicle, electronic device or buying the latest fashion jeans or shoes, thought must be given as to the length of product life and the impact the purchase will make on the environment.”



## 7.5 Overview of Airport Recycling, Reuse, and Waste Management

Airports throughout the United States are “greening” their operations. Both the FAA and the U.S. Congress have directed airports to develop reuse, recycling, and waste management programs. Airports, other government agencies, and private companies have seen financial as well as environmental benefits from adopting environmentally sustainable practices, including recycling, reuse, and waste management programs. In response, airports have installed solar panels and energy efficient light fixtures, use low-emission vehicles in their fleets, constructed LEED<sup>1</sup> certified buildings, and have changed their waste management programs.

As one agency within a larger government entity (county, municipality, state), airports typically use the recycling, reuse, and waste management programs that are in place throughout the larger government entity, as is the case at KNB. A number of commercial service and general aviation airports have adopted their own individual reuse, recycling, and waste management programs, in part because of their financial benefits, and also because they reduce waste and energy usage.

The U.S. Environmental Protection Agency (EPA) published a guide titled *Developing and Implementing an Airport Recycling Program* to help airport managers who want to create a more environmentally-friendly waste operation. The EPA hierarchy of waste management prioritizes source reduction, then reuse, recycling and finally disposal in landfills. However, the EPA’s guide focuses on recycling as a positive first step for airports to take as they conquer their waste issues. The following figures are from the EPA guide.

---

<sup>1</sup> LEED = Leadership in Energy and Environmental Design

FIGURE 7-1 – ESTABLISHING AN AIRPORT RECYCLING PROGRAM

**Ten Steps to Establishing an Airport Recycling Program**

1. Obtain commitment from upper management
2. Organize a green team
3. Identify types and sources of waste
4. Assess current waste collection contracts
5. Develop a plan
6. Educate staff and customers
7. Monitor and refine the plan
8. Measure performance
9. Promote successes
10. Expand the program

Source: EPA, *Developing and Implementing an Airport Recycling Program*, April 2009

FIGURE 7-2 – SPECIAL CONSIDERATIONS FOR AIRPORTS

### **Special Considerations for Airports**

#### **Airport Security**

The first priority for airports is to ensure that all program elements are consistent with security requirements. Including a recycling element in your waste management plan may require additional personnel in secure areas of the airport and on the airfield. Bins may need to be additionally secured and inspected. Bomb-proof receptacles may be required outside secure areas.

#### **Facility Space Constraints**

Airports have unique space considerations. Gates areas, tenant space, and concessionaires often do not have large amounts of additional space for bins, and staging areas are limited. The airfield generally has space constraints as well, leaving little area for additional bins. On the airfield, airports need to be aware of concerns recycling bins may raise such as foreign object debris (FOD), animal attractants, and stormwater contamination. However, a successful recycling program will reduce the amount of trash generated and the number of containers to store trash. This space can be used for recyclable materials.

#### **Time**

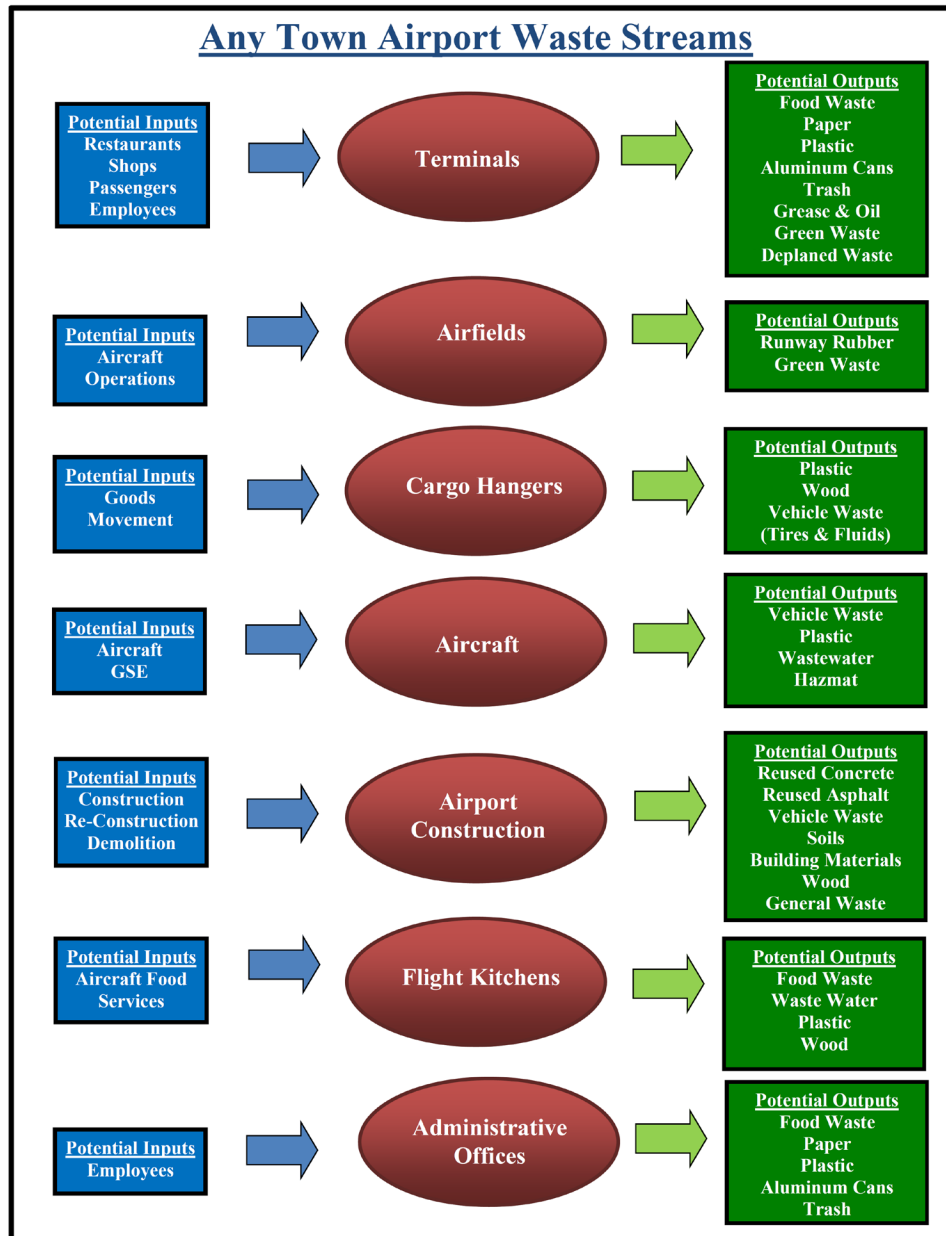
When airlines become involved with your recycling program, time is a primary concern. Airline staff or cleaning service providers have limited time to clean an aircraft before it is scheduled for another departure. A program with easily accessible collection receptacles (dumpsters, compactors, etc) and clear instructions make it easier for airlines to actively participate in recycling.

#### **Working with Tenants**

Establishing and maintaining consistent recycling practices and educating airport tenants (food/beverage, concessions, airlines and others) are key components of an airport's recycling program. Educational material that is readily available for easy distribution to all new employees allows tenants to stay involved.

Source: EPA, *Developing and Implementing an Airport Recycling Program*, April 2009

FIGURE 7-3 – AIRPORT WASTE



Source: FAA, *Recycling, Reuse and Waste Reduction at Airports: A Synthesis Document*, April 24, 2013

FIGURE 7-4 – WASTE ASSESSMENT APPROACHES

Strengths	Limitations
<p><b>Records Examination</b></p> <ul style="list-style-type: none"> <li>• Provides weights and volumes of waste generated</li> <li>• Tracks major potential waste from the point of origin</li> <li>• Identifies the expensive or valuable components of an organization’s waste</li> <li>• Documents financial benefits of reuse and recycling including total revenues and avoided disposal costs</li> <li>• Requires the least time and effort</li> <li>• Establishes baseline for metrics</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of quantitative data for specific waste components</li> <li>• Does not provide qualitative data on how or why wastes are generated</li> <li>• Substantial effort necessary to collect and analyze data</li> </ul>
<p><b>Facility Walk-Through</b></p> <ul style="list-style-type: none"> <li>• Requires less time and effort than waste sorts</li> <li>• Allows first-hand examination of facility operations</li> <li>• Provides qualitative information about major waste components and waste-generating processes</li> <li>• Reveals waste reduction activities</li> <li>• Develops appreciation of logistics and obstacles tenants encounter in their efforts to recycle</li> </ul>	<ul style="list-style-type: none"> <li>• Limited identification of wastes generated</li> <li>• Multiple attempts may be necessary for comprehensive evaluation</li> <li>• Relies on estimates of waste generation</li> </ul>
<p><b>Waste Sort</b></p> <ul style="list-style-type: none"> <li>• Provides quantitative data on total waste generation and specific waste components</li> <li>• Allows problem solving and design of recycling program to be site specific</li> </ul>	<ul style="list-style-type: none"> <li>• Requires more time and effort than other approaches</li> <li>• Multiple attempts may be necessary for comprehensive evaluation</li> <li>• Does not provide qualitative data on how or why wastes are generated</li> </ul>

Source: EPA, *Business Guide for Reducing Solid Waste*, 1993

**Kanab Municipal Airport  
2016 Airport Master Plan**

FIGURE 7-5 – COMMON RECYCLABLE MATERIALS FOUND AT AIRPORTS

		WHERE											
WHAT		Public Terminals	Ticketing	Security Gates	Food Service Areas	Offices	Cargo Shipping	Maintenance Areas	Airport Grounds	Aircraft	Airfield Ramps	Construction Areas	Concessionaires, Retailers, Rental Car Facilities
	Corrugated Cardboard				x	x	x	x		x			x
	Mixed Paper	x	x	x	x	x	x	x	x	x	x		x
	Newspaper	x	x	x		x				x			
	Glass	x	x	x	x	x	x	x		x			
	Aluminum Cans	x	x	x	x	x	x	x		x			
	Plastic Bottles	x	x	x	x	x	x	x		x			
	Pallets						x						
	Food Waste & Cooking Oil	x			x	x							
	Organics/ Green Waste								x				
	Electronics					x							
	Used Tires							x					
	Used Oil							x					
	Scrap Metal						x	x				x	
	Concrete											x	
	Lumber											x	
	Batteries					x							
	Toner Cartridges					x							x
	Plastic (non-bottles, e.g. film)						x	x					x

Source: EPA, Developing and Implementing an Airport Recycling Program, April 2009