



APPENDIX L

AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION PLAN



AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION PLAN

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 a master plan, master plan update, within a sustainability document, or as a standalone document. The guidance is mandatory when preparing a master plan or update.

The purpose of this document is to review the Durango-La Plata County Airport's recycling, reuse, and waste program and provide guidance on ways to reduce waste and improve recycling and reuse at the facility as part of the Master Plan in compliance with the FAA's memorandum. This document serves to meet that requirement and will:

- Review existing practices and solid waste sources (waste audit)
- Review the feasibility of solid waste recycling at the Airport
- Summarize operation and maintenance (O&M) requirements
- Review waste management contracts
- Identify potential cost savings or revenue generation
- Provide recommendation to minimize solid waste generation

I. FACILITY DESCRIPTION AND BACKGROUND

The Durango-La Plata Airport (DRO or Airport) is located in the Four Corners region of Colorado, approximately 14 miles southeast of the Central Business District (CBD) of Durango. DRO is co-owned by the City of Durango and La Plata County. Through an intergovernmental agreement (IGA), the Airport functions as a city department with direct oversight by the City of Durango. Pursuant to the IGA, the Airport Commission serves in an advisory capacity with its members appointed by the city and county. Additional facility information is contained in Chapter 1, Introduction, and Chapter 2, Inventory, of the Master Plan.

As a vital player in the growth of local businesses and the tourism industry, DRO has seen a steady increase in operations with a total of 27,928 in 2013. As discussed in Chapter 3, Aviation Activity Forecasts, DRO is expected to have approximately 39,989 operations by 2035. DRO serves both general aviation and commercial service aircraft, and currently supports two commercial passenger airlines (American/American Eagle/US Airways and United Express)¹. Similar to the number of operations, DRO has experienced a

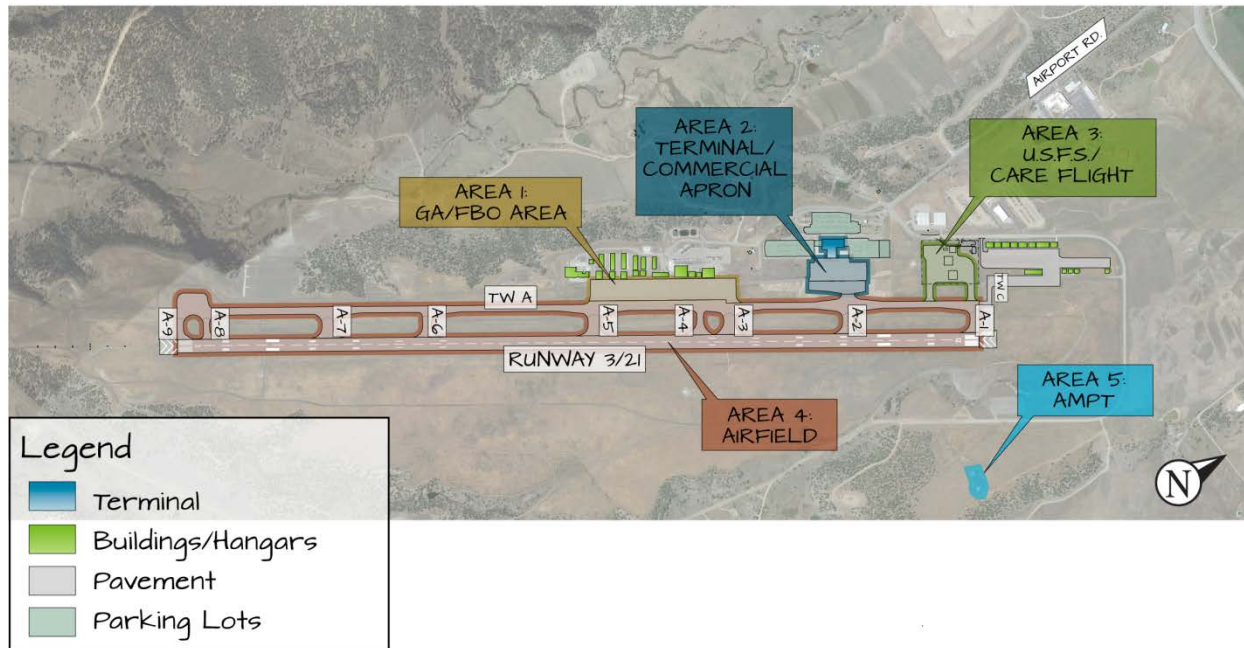
¹ DRO supported three airlines at the onset of this Master Plan but Frontier Airlines stopped service in 2014.

steady increase in enplanements with a total of 192,797 in 2013. A significant increase is to 304,784 operations is forecasted by 2035. Based aircraft are also forecasted to grow from 70 (2013) to 93 by 2035.

I.1 EXISTING WASTE SOURCES

The identification and evaluation of airport waste sources can be complicated. There are many different groups, agreements, operational styles, and collection/disposal processes that play into the overall generation of waste. Through a waste audit, conducted by airport staff in 2015, five primary areas generating waste were identified: the General Aviation (GA)/Fixed Base Operator (FBO) Area, the Terminal/Commercial Apron Area, the U.S. Forest Service (USFS) Area, the Active Airfield, and the Advanced Mobile Propulsion Test (AMPT) site (see **Figure 1**). Of these five areas, the commercial passenger terminal and associated tenants generate the most solid waste.

FIGURE 1 - PRIMARY WASTE SOURCE AREAS



Sources: Durango-La Plata County Airport staff and Jviation

The waste source areas 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 the Airport has direct control of waste management (public space, office space, terminal building, and airfield). These areas are controlled by the Airport and they are able to introduce recycling, reuse, and waste reduction programs directly.

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2. Areas 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 recycling, reuse, and waste reduction programs be used and can include language in the tenant contracts, but realistically cannot control what is done.
3. Areas 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 document).

Table 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 places, and what level of control the Airport has.

TABLE 1 – EXISTING WASTE SOURCES

	Waste Generated	Current Solid Waste Collection	Current Waste Reduction/Recycling	Control
Area 1: GA/FBO				
FBO	Plastic/glass bottles, aluminum cans, paper, cardboard, oil, batteries, misc. trash	City of Durango Dumpster (trash), City Recycling Center (recyclables/batteries), Used Oil	Use of City's Recycling Center; oil is reclaimed	Indirect Control
Hangars	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Hangar owners responsible for collection and disposal	NA	Indirect Control
Other GA Tenants	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Trash collected and deposited into dumpsters via tenant. Recyclables collected on individual basis and taken to Durango Recycling center as applicable.	Use of City's Recycling Center	Indirect Control
Area 2: Terminal				
Airlines Offices	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable.	Waste voluntarily sorted in provided recycling bins	Indirect Control
Airport Administration	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as	Waste voluntarily sorted in provided recycling bins	Direct Control

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	Waste Generated	Current Solid Waste Collection	Current Waste Reduction/Recycling	Control
		applicable		
Baggage Claim	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Direct Control
Cafe	Cardboard, glass, paper and plastic food and beverage containers, paper napkins, plastic utensils, food remnants	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Direct Control
Departure Lounge	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Direct Control
News/Gift Shop	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Direct Control
Parking Lots	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	None	Direct Control
Rental Cars (Offices and Counter)	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Indirect Control
Restrooms	Paper towels, misc. waste	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Direct Control
Ticketing	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Direct Control

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	Waste Generated	Current Solid Waste Collection	Current Waste Reduction/Recycling	Control
TSA	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	applicable Collected by airport staff, deposited into onsite dumpsters and recycling bins as applicable	Waste voluntarily sorted in provided recycling bins	Direct Control
Area 3: U.S. Forest Service/Care Flight				
USFS	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Trash deposited into private dumpsters and collected weekly through WCA. Recycling is collected and taken to Durango Recycling center by tenants.	Use of City's Recycling Center	Indirect Control
Care Flight	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Trash collected/deposited into dumpsters via tenant and removed by Waste Management. Recyclables collected on individual basis and taken to Durango Recycling center as applicable.	Use of City's Recycling Center	Indirect Control
Area 4: Active Airfield				
	General debris found on airfield. Construction material (asphalt, concrete, wood, metal)	Collected by airport Staff, unusable waste deposited into Airport Dumpsters.	Excavated dirt and pavement millings are reused on airport property, concrete is stockpiled for reuse or recycled, scrap metal is salvaged, and lumber is reused when possible.	Direct Control
Area 5: AMPT				
	Plastic/glass bottles, aluminum cans, paper, cardboard, misc. trash	Trash collected and deposited into AMPT dumpsters via Tenant and collected through a contract with Waste Management. Recyclables collected on individual basis and taken to Durango Recycling center as applicable.	Use of City's Recycling Center	Indirect Control

Sources: Durango-La Plata County Airport staff and Jviation

I.2 CURRENT WASTE MANAGEMENT PROGRAMS

The City of Durango, La Plata County, and DRO all have recycling and waste reduction programs in place for their residents and customers. These programs and services include the following items:

I.2.1 City of Durango

The City of Durango provides both recycling and waste disposal services for the Durango community, surrounding communities, and the La Plata County as a whole. The City has implemented the following waste reduction and recycling programs and strategies²:

- All City facilities participate in recycling programs
- Implementation of an Environmental Purchasing Policy³
- Multi-family complexes are required to provide recycling opportunities for tenants
- New businesses are required to provide space for recycling bins
- Electronic distribution of the City's Annual Report and Budget
- Automotive waste from city vehicles is recycled
- City hall has an employee compost
- Implementation of Single Stream Recycling Program
- Availability of Durango Recycling Center
 - Recycling Opportunities for batteries, commercial waste, electronics, fluorescent light bulbs, hazardous waste, recycled mulch, glass, plastics, paint, and numerous other items

I.2.2 La Plata County

La Plata County, similar to the City of Durango, provides its residents with recycling and waste disposal services. The County has two Convenience Centers, the Bayfield Center and the Marvel Center, where residents can drop off trash and recyclables. The Bayfield Center collects the following items: household waste, aluminum cans, plastic, newspaper, motor oil, car batteries, green yard waste, branches under 8 inches in diameter, Freon free refrigerators, and mattress/box springs (for a fee). The Marvel center collects: household waste, aluminum cans, mixed glass, and newspaper. The County also works with the City of Durango and shares many of the City's resources and services.

² City of Durango Colorado, Waste Reduction and Recycling <http://www.durangogov.org/index.aspx?NID=768>, Accessed July 2015

³ An Environmental Purchasing Policy recommends entities purchase recycled and other environmentally preferable products whenever possible.

I.2.3 Durango-La Plata County Airport

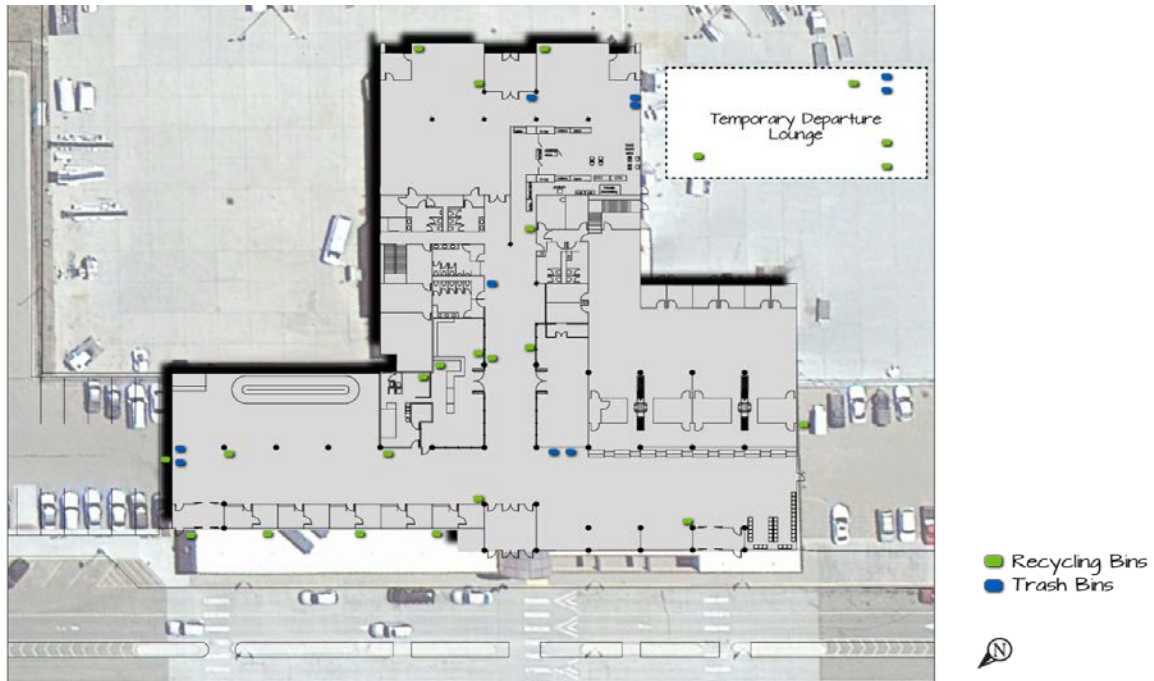
The Airport, as discussed previously, is also an active participant in a recycling program. DRO strives to participate in the City and County programs, when applicable. The Airport, and its tenants, has recycling bins and dumpsters available - see **Figures 2, 3, 4, and 5** for bin and dumpster locations, respectively - for passengers, employees, and tenants to utilize. The Airport provides one recycling dumpster and five garbage dumpsters. Numerous trash and recycling bins are located throughout the terminal. Both recycling and trash dumpsters are picked up weekly by the City of Durango. The U.S. Forest Service, AMPT, and Care Flight are contracted with other waste services (WCA and Waste Management) and have their own dumpsters. Construction materials are handled by contractors and are not disposed of through the Airport. The following items are accepted by the City of Durango's recycling program⁴ and therefore the Airport has the option to recycle:

- Cardboard and Mixed Paper (newspaper, magazines/catalogs, corrugated cardboard, mixed paper, paperboard, cartons, junk mail, phone books, paper bags, and other miscellaneous items)
- Metals (steel cans, aluminum cans/foils/pie plates, loose metal jar lids/bottle caps)
- Plastics (#1-#7 plastic bottles/tubs/jugs/trays/containers)
- Glass
- Batteries (Airport does not currently collect, but has the option)
- Electronics/Cell phone (Airport does not currently collect, but has the option)
- Fluorescent light bulbs (Airport does not currently collect, but has the option)
- Mulch (Airport does not currently collect, but has the option)

⁴ City of Durango Colorado, Recycling <http://www.durangogov.org/index.aspx?NID=363>, Accessed July 2015

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FIGURE 2 - INTERIOR TERMINAL AREA RECYCLING AND TRASH BINS



Sources: Durango-La Plata County Airport staff and Jviation

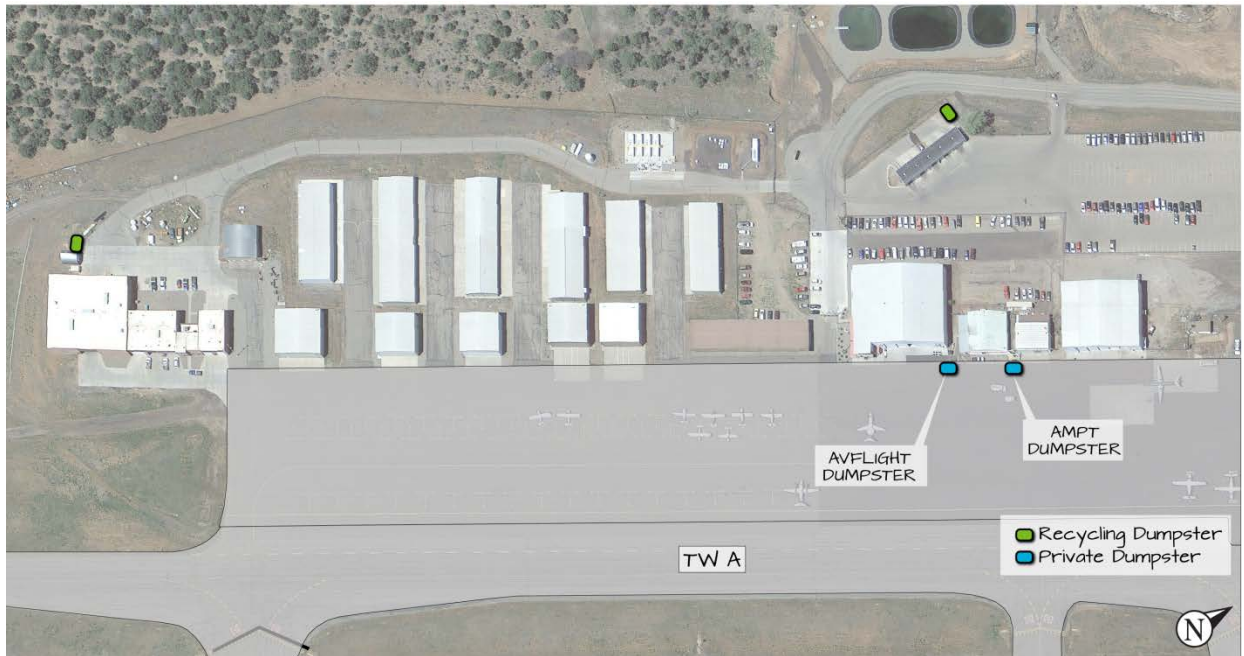
FIGURE 3 - EXTERIOR TERMINAL AREA RECYCLING AND TRASH DUMPSTER LOCATION



Sources: Durango-La Plata County Airport staff and Jviation

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FIGURE 4 – GA/FBO AREA RECYCLING DUMPSTER LOCATION



Sources: Durango-La Plata County Airport staff and Jviation

FIGURE 5 - USFS AND CARE FLIGHT DUMPSTER LOCATIONS



Sources: Durango-La Plata County Airport staff and Jviation

II. WASTE AUDIT

The DRO Environmental Department completed a waste audit in 2015 that investigated the patterns of waste disposal and recycling. Two bags of recyclables (from non-secure side of the terminal) and four bags of trash (from terminal dumpsters) were analyzed during the audit. The four bags of trash were taken from the deli, a commercial aircraft, front of terminal, and commercial air carrier agents. Of the four trash bags assessed, the bags belonging to the commercial air carrier agents and commercial aircraft contained the largest amount of recyclable items. The bag from the deli contained the least amount of recyclable material as most of the contents had been contaminated by food waste. The contents of the trash bags are detailed in Table 2.

TABLE 2 – WASTE AUDIT DETAILS

Bag Source	% Trash	% Recyclables
Commercial Air Carrier Agents	20% (food waste)	75% (paper, paperboard, plastic bottles, aluminum cans)
Commercial Aircraft	25% (food waste)	75% (paper)
Deli	90% (plates, cups, utensils, plastic wrap, condiment wrappers – all contaminated with food)	10% (plastic bottles)
Terminal Front	50%	50% (plastic bottles, aluminum cans, paper, cardboard)

Sources: Durango-La Plata County Airport Environmental Department, 2015

Two recycling bags were taken from inside the terminal building. These bags contained 90% plastic bottles; however, 20% of the bottles still contained liquid making them un-recyclable. They also contained 5% mixed paper and 5% general contaminants (fast food trash, cigarette lighter, aerosol can, and Styrofoam cups).

In conclusion, it was found that the Airport produces a large amount of recyclable waste which is not recycled. Although the audit only assessed a small proportion of the total waste it can be assumed that the rest of the Airport produces similar types of waste.

III. REVIEW OF RECYCLING FEASIBILITY

The waste audit completed by the DRO’s Environmental Department identified areas where the Airport can improve on the amount of waste that is recycled. The challenges identified were:

- Recyclable bags collected by janitorial staff were often discarded as trash to expedite routine trash collection

- One recycling dumpster contained only cardboard and was missing many other known recyclable materials

Additional constraints expressed by the Airport are:

- DRO does not require tenants to have recycling containers in place or participate in local initiatives
- Passengers are uneducated on what materials can and cannot be recycled

DRO recognizes these limitations and plans to educate and post education material for staff, tenants, and passengers on what waste can be recycled.

IV. OPERATION AND MAINTENANCE REQUIREMENTS

The operations and maintenance staff (including janitorial staff) are currently responsible for the collection and disposal of all waste throughout the Airport. The janitorial staff is instructed to deposit recycling and trash from terminal bins in the appropriate dumpsters; however, recycling is not sorted to look for contamination. Additionally, and as previously noted, recycling is occasionally placed in trash dumpsters to expedite collection.

DRO should implement a defined recycling plan to include strategies for each department to reduce waste and offer education on what material can be recycled. Each department should review the plan and establish goals to improve the amount of waste generated and recycled.

V. REVIEW OF WASTE MANAGEMENT CONTRACTS

DRO currently has a contract in place with the City of Durango to remove recyclables and other solid waste. The waste is collected on a weekly basis and taken to the City Recycling Center or landfill as applicable.

Contracts with existing tenants do not require tenants to participate in any recycling programs or provide recycling bins for customers and employees. It is recommended that the Airport add language to future contracts that requires tenants to provide recycling bins and participate in the city's program.

VI. POTENTIAL FOR COST SAVINGS OR REVENUE GENERATION

The Airport contracts with the City of Durango to rent the recycling and trash dumpsters. The following fees are associated with the trash and recycling collection and removal:

- \$580 per month for trash dumpsters and removal

- \$45 per month for recycling dumpsters and removal

As the amount of recyclable material and waste increases, the costs associated with removal will also increase. As such, the best way to reduce waste while also minimizing costs would be to keep as much material on-airport as possible. Without adding much implementation costs, the Airport could collect on-site the following materials:

- Green waste such as grass clippings, leaves, and small branches for composting. Compost could be used by the Airport or sold as a revenue stream.

VII. PLAN TO MINIMIZE SOLID WASTE GENERATION

DRO, as an active member of the Durango and La Plata County communities, voluntarily participates in a variety of recycling programs. However, the Airport is aware that their recycling, reuse, and waste reduction programs can be improved through a few simple practices such as:

- Provide adequate signage with recycling bins clearly showing type of materials accepted.
- Provide educational material to tenants and airport employees on what material should be recycled and the appropriate business contacts.
- Add recycling, reuse, and reduce waste objectives to future tenant leases.
- When feasible, purchase products made from recycled material and encourage tenants to do so as well.
- Install air hand dryers in terminal and request tenants to consider doing the same.

The above mentioned practices are relatively basic; however, the success of implementing a long-term recycling, reuse, and waste reduction program requires management buy-in, staff commitment, planning, and follow-up. **Figure 6** outlines “10 Steps to Design and Implement an Effective Airport Recycling/Waste Minimization Program” as recommended by the FAA in their *Recycling, Reuse and Waste Reduction at Airports – A Synthesis Document*⁵. The Airport should follow these steps when implementing their recycling program.

⁵ FAA, *Recycling, Reuse and Waste Reduction at Airport – A Synthesis Document*, 2013

FIGURE 6 - 10 STEPS TO DESIGN AND IMPLEMENT RECYCLING PROGRAM



Source: FAA, Recycling, Reuse and Waste Reduction at Airport – A Synthesis Document, 2013

VIII. CONCLUSION

The Airport has a basic recycling program in place; however, with minimal effort and expense they could implement some very basic procedures to improve their program and reduce the amount of solid waste they generate. Through coordination with local entities and ongoing local initiatives DRO could play a more active role in recycling, reusing, and reducing solid waste.