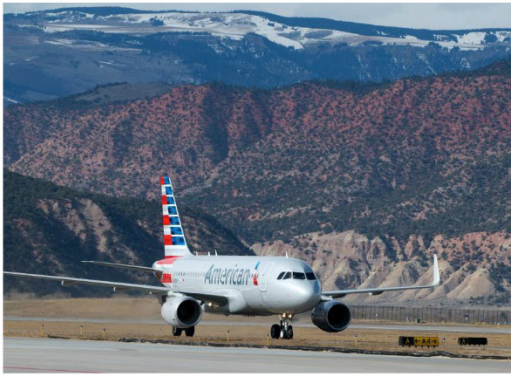




EAGLE COUNTY
Regional Airport



EAGLE COUNTY REGIONAL AIRPORT MASTER PLAN

APPENDIX D





D RECYCLING, REUSE AND WASTE REDUCTION PLAN

D.1 Introduction and Background

As part of the FAA Modernization and Reform Act, signed into law in 2012, airports are required to address issues related to solid waste recycling in airport master plans. As such, the purpose of this Appendix to the Eagle County Airport Master Plan, is to review the Airport's current recycling, reuse, and waste program and suggest ways to reduce waste and improve recycling and reuse at the Airport.

EGE is a publicly owned facility consisting of 632 acres. The airport is located in portions of unincorporated Eagle County and the Town of Gypsum and is located 30 miles west of Vail and 25 miles east of Glenwood Springs. The airport is approximately 136 miles west of downtown Denver, Colorado. EGE is the major conduit for commercial airline passengers to and from the Vail Valley. The airport's location provides access to the heart of the Colorado Rocky Mountains and is a short drive to the Vail & Beaver Creek Ski Resorts, making EGE a primary gateway for tourists enjoying both winter and summer recreation activities.

The airport is owned and operated by Eagle County, which is governed by a three-member Board of County Commissioners (BOCC). The County owns and maintains the airport facilities, and functions as the airport sponsor for FAA grant funding purposes. The commercial passenger terminal is owned and operated by the Eagle County Air Terminal Corporation (ECAT). ECAT is a non-profit corporation created under Colorado law that is owned and controlled by Eagle County and is authorized to both issue bonds to finance the terminal and to impose and collect Passenger Facility Charges (PFC) to discharge the debt. The BOCC designates an Aviation Director to oversee the day-to-day operation and development of the airport. Airport staff is responsible for terminal operations, airfield operations, aircraft rescue and firefighting, and administration. A detailed airport description and background is available in the Airport Master Plan.

D.2 Airport Operations

In 2021, the Airport supported 57,436 operations and 188,513 enplanements. The based aircraft at EGE in 2021 totaled 89. According to the FAA Terminal Area Forecast for EGE, there will be a steady growth in total operations, enplanements and based aircraft through 2049. EGE is served by three branded airline systems, American, Delta and United. All three airlines provide seasonal (Winter) non-stop jet service to fourteen major domestic and international cities. American and United provide year-round non-stop daily flights between EGE and Dallas/Ft. Worth and Denver, respectively.



D.3 Facilities

The landside facilities include a passenger terminal, the Vail Valley Jet Center (VVJC) Fixed Base Operator (FBO), fire station, and aircraft hangars. EGE is also home to the National Guard HAATS Facility. The VVJC services include aircraft line service, apron parking, hangar storage space, on-site catering, and flight planning. Additionally, the FBO provides aircraft fueling for both Jet Fuel and AvGas, along with aircraft maintenance and aircraft deicing. The VVJC provides the majority of hangar space for transient aircraft. Hangar space is in high demand due to the high traffic that accompanies the ski season and the inclement climate during this peak time.

D.4 Existing Waste Types, Locations and Sources

Federal, state, and local agencies regulate different types of waste based on what the waste contains. In general waste from airports can be divided into eight types of waste:

1. Municipal solid waste (MSW)
2. Construction and demolition waste (C&D)
3. Green waste
4. Food waste
5. Waste from aircraft flights (deplaned waste)
6. Lavatory waste
7. Spill cleanup and remediation waste
8. Hazardous materials

Identifying and analyzing an airport's sources of waste 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 FAA lists the primary sources of waste at an airport and their potential outputs as shown in **Table 1**

TABLE 1

Location	Source	Potential Output
Terminals	Restaurants, shops, passengers and employees	Food waste, paper, plastic, aluminum cans, trash, grease and oil, green waste, deplaned waste
Airfield	Aircraft operations	Runway rubber, green waste
Aircraft Maintenance Hangars	Aircraft and ground service equipment (GSE)	Vehicle waste, plastic, waste water, hazmat
Cargo Hangars	Goods movement	Plastic, wood, vehicle waste (tires and fluid)
Flight Kitchen	Aircraft food services	Food waste, waste water, plastic, wood
Administrative Offices	Employees	Food waste, paper, plastic, aluminum cans, trash
Airport Construction Projects	Construction, reconstruction and demolition	Reused concrete, reused asphalt, vehicle waste, soils, building materials, wood, general waste



The sources of waste, per the FAA's September 30, 2014 memo, can be further classified by the degree of control the Airport has on the generation and disposal of waste. There are three levels of control

1. Areas where the Airport has direct control of waste management (public space, office space, terminal building, airfield). The Airport controls these areas and can directly implement recycling, reuse, and waste reduction programs.
2. Areas where the Airport has no direct control but can influence waste management (tenants). These areas are owned by the Airport and leased out to tenants. The Airport can recommend that recycling, reuse, and waste reduction programs be used and can such include language in the tenant contracts but cannot realistically control what is done.
3. Areas where the Airport has no control or influence over waste management. These are areas the Airport neither owns nor leases (none of which are included in this chapter).

Table2 lists the identified areas of waste generation, what waste is generated, how it is collected, amount of waste generated, and the EGE's level of control.



TABLE 1

Area	Source/Activity	Waste Generated	Collection process	Amount of Waste Generated (FY 2022)	Control
Terminal	Restaurants, shops, passengers and employees	food, paper, plastic, aluminum cans, glass bottles, cardboard, restaurant grease and oil, universal wastes (electronics, light bulbs, batteries), general trash and deplaned waste from aircraft	Picked up by or taken to recycling vendors (Vail Honeywagon)	61.04 tons	Direct Control
Airfield	Aircraft operations	Rubber, green waste, glycol	Picked up or taken to recycling vendors		Direct Control
Aircraft Maintenance Hangars	Aircraft and ground service equipment (GSE)	oil, grease, certain hazardous chemicals, universal waste (batteries, electronics, light bulbs), wastewater, plastic and vehicle waste such as tires and fluids (brake, transmission, etc.)	Picked up or taken to recycling vendors		Direct Control
Cargo Hangars	Goods movement	tires, fluids from equipment, universal wastes (light bulbs, electronics, and batteries), wooden pallets, cardboard, and plastic packing material	Picked up or taken to recycling vendors		No Direct Control but can Influence
Flight Kitchen	Aircraft food services	food, wastewater, plastic and wooden pallets	Picked up or taken to recycling vendors		No Direct Control but can Influence
Administration Office	Employees	paper, toner cartridges, universal wastes (batteries, light bulbs, and electronics), plastic, aluminum cans, food and general trash	Picked up by or taken to recycling vendors (Vail Honeywagon)	(See Terminal)	Direct Control
Airport Construction Projects	Construction, reconstruction and demolition	concrete, asphalt, building materials, wood, soil, construction equipment waste and regular trash	Picked up or taken to recycling vendors	TBD	No Direct Control but can influence



D.5 Waste Management Program

Airport Recycling

The Airport has a contract with Vail Honeywagon to handle all waste, including recyclables. The current waste management program offers single-stream recycling, where all recyclables can be commingled into one container and do not need to be separated, and dual-stream recycling programs. The Airport collects the following materials:

- Plastic bottles (#'s 1-7)
- Aluminum cans, foil and bakeware (with no food residue)
- Steel and tin cans (soup can, veggie cans, coffee cans, etc.)
- Corrugated cardboard
- Paperboard, office paper, magazines, and newspaper
- Glass bottles and jars

Waste and recyclables are collected by Service Master, a cleaning contractor. The EGE airport terminal has multi-stream recycling containers placed throughout the building (see **Figure 1**). The cleaning staff collect recyclables from recycling receptacles which is then placed in one of three exterior dumpsters. Vail Honeywagon is contracted to remove the collected waste and recyclables from the airport dumpsters. The location of waste and recycling dumpsters are depicted on **Figure 2**.

FIGURE 1: WASTE AND RECYCLING DUMPSTERS AND RECEPTACLES



Source: Woolpert, Inc.

FIGURE 2: WASTE AND RECYCLING LOCATIONS



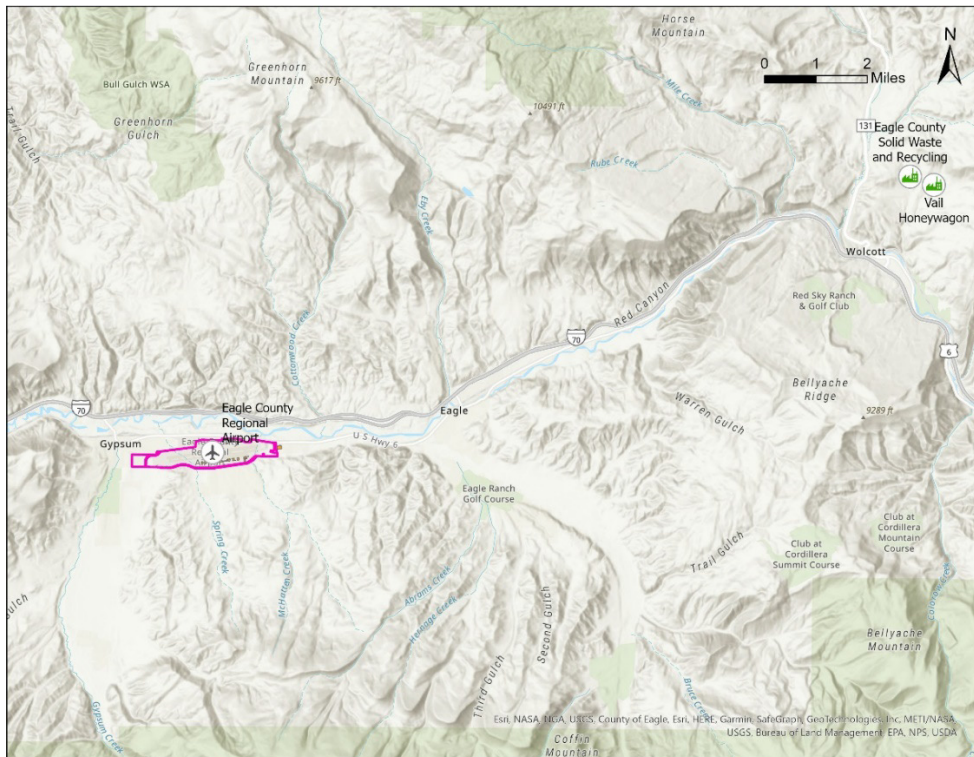


City and County Recycling

Eagle County and the Town of Gypsum provide numerous recycling programs and opportunities for residents and small businesses. Gypsum sponsors the Gypsum Community Recycling Site which offers dual stream recycling. Eagle County owns a Solid Waste and Recycling facility that offers waste disposal services to support environmental and recycling programs. The Eagle County website has How To videos on Recycling and Composting. According to the website, Eagle County residents and businesses may recycle their old electronics at the Eagle County Household Hazardous Waste Facility, located at the municipal solid waste landfill. The County also owns and operates the Recycled Materials Recovery Facility (MRF) which has manual and mechanized methods for sorting recyclables. The MRF help remove the distance-to-market barrier for local recycling programs. **Figure 3** shows the location of the County solid waste and recycling facility in relation to the airport and Vail Honeywagon.

A non-profit organization, Walking Mountains Science Center serves residents and businesses of the Eagle/Vail Valley region, which includes Eagle County, engaging in environmental stewardship and sustainability. The Science Center website hosts an Eagle County Waste Wizard app that helps the user figure out if an item is recyclable and how to recycle or dispose of it. The Science Center also provides outreach and education about recycling and composting as well as how to hold Zero Waste events.

FIGURE 2: SOLID WASTE AND RECYCLING FACILITIES LOCATION MAP



Source: Woolpert Inc.



D.6 Operation and Maintenance (O&M) Requirements

As previously discussed, EGE has multi-stream receptacles throughout the airport terminal. The airport contracts with Service Master for waste and recyclables collection and transportation to the on-site dumpsters. Vail Honeywagon removes solid waste and recyclables from the dumpster and transports them to a landfill or recycling center. Composting is not currently done by concessions and restaurants within the terminal building. A new dumpster would be needed for composting and compost would be removed by Vail Honeywagon.

EGE does not currently produce an internal report for airport employees nor is an external report produced for the website or press releases. It may be beneficial to release the waste logs internally to keep interest in the program and advertise a positive program.

EGE does not currently stockpile their Construction and Demolition debris.

D.7 Review of Waste Management Contracts

Current Contracts

As discussed, the airport contracts with Vail Honeywagon for removal of solid waste and recycling materials. The waste and recyclable materials are collected from the Airport by the Service Master cleaning staff and placed in exterior dumpsters. Vail Honeywagon then removes the waste and recyclables and transports them to landfill or recycling facilities. Terminal tenants are billed monthly for waste removal, while concession and general aviation tenants manage their own waste.

Leases and Service Contracts

The Airport has numerous tenant leases as well as service and goods contracts. The agreements vary in duration and expire intermittently. Recycling, reuse, waste reduction, and environmentally preferred purchasing incentives are not included in existing contracts.

Funding

Expenses associated with waste management, to include the collection and disposal of solid waste and recyclables, are paid for by the Airport from the facilities operating budget. The management of tenant produced waste is the responsibility of tenants.

D.8 Potential for Cost Savings or Revenue Generation

The airport contracts with Vail Honeywagon to rent the recycling and trash dumpsters. The following fees are related to the Vail Honeywagon contract as of February 1, 2023:

- Fiscal Year 2022 - \$22,496 for waste going to a landfill
 - Rental Fee - Compactor (34 yard) \$198.42/month



- Rental Fee - Dumpsters (4 yard) \$1079.34/month
- Waste Disposal Fee – \$44.19/ton
- Fiscal Year 2022 - \$15,463 for recycling
 - Rental Fee - Recycle containers (96 Gallon) \$400.20/month
 - Rental Fee - Recycle dumpsters (6 yard) \$731.84/month

These Fiscal Year 2022 costs include container rental and service, scheduled material pickup, transfer to disposal site/recycler, and educational programs. As shown, the largest waste management expense is the annual cost for waste transported to a landfill. This cost can only be reduced by decreasing the amount of waste which goes into the landfill stream. The following section provides recommendations to minimize waste generation.

D.9 Plan to Minimize Solidate Waste Generation

As the amount of recyclable material and waste increases, the costs associated with removal will also increase. To reduce costs, the amount of waste generated needs to be reduced. The airport may consider the following condensed strategies to reduce waste and the associated removal costs.

1. Complete an initial comprehensive waste audit to fully understand where the most waste is being generated. This audit would inform a trackable baseline that can be used to develop future reduction plans.
2. Once a baseline is established, track annual volume of waste going to a landfill and the amount diverted through recycling, reuse, reduction, or donation.
3. Actively discuss baseline volume and future goals with waste generators. Initial reductions may occur through more transparency and awareness of is the waste being generated.
4. Discuss goals with Vail Honeywagon and other waste removal contractors to see if rebates or incentives are available.
5. Evaluate regular purchasing decisions and products to ensure the EPP is being considered. The Airport should actively encourage vendors and contractors to do the same—possibly including language in contracts requesting verification that the EPP was considered.
6. As new leases are signed or old leases renewed, the Airport could incentivize waste reduction (i.e., decreased rates if waste remains under a set threshold, additional fees if waste exceeds the rate, and requirements to participate in a recycling program).
7. Enhance the existing recycling program through additional receptables, signage, additional training and education outreach, and regular communication with airport staff regarding the success of the program.
8. Complete a cost-benefit analysis for adding recycling infrastructure such as trash balers, scales, and airport-owned dumpsters and compactors.



The strategies above would facilitate the EGE's commitment to become more sustainable. Ultimately, support and buy-in from airport administration and employees will have the most impactful influence on the success of the airport's recycling, reuse, and waste reduction.

The extent of recycling that occurs at EGE is limited, as the airport is the most active participant in a recycling program. This limited reach stems from the airport's partial control over leased areas and a lack of tenant buy-in on recycling programs.

Eagle County, and therefore EGE, is committed to continue the current recycling program and improve waste reduction and participation in recycling programs. The incentive to change the current strategy is to ultimately reduce operating costs and move the airport towards greater sustainability. A commitment to purchase additional waste collection infrastructure would also advance the airport's recycling program. Additionally, EGE can encourage more tenants to recycle by emphasizing participation in revised leasing contracts or by creating incentives that promote involvement.