APPENDIX C - AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION PLAN

C.1 Introduction

The Federal Aviation Administration (FAA) Modernization and Reform Act (FMRA) of 2012 was signed into law, which amended Title 49 of the United States Code. The law included several changes to the Airport Improvement Program (AIP), two of which relate 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, 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; and
- 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 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 current recycling, reuse, and waste program at Front Range Airport (FTG or the Airport), and to provide guidance on ways to reduce waste and improve recycling and reuse, in compliance with the FAA's guidance.

C.2 Airport Description and Background

FTG is a is a public-use, general aviation airport owned and operated by Adams County. As FTG's owner, the County is responsible for operating and maintaining the Airport in a safe condition, and leasing properties within the Airport boundary. Additional facility information is presented in **Chapter 2, Inventory**, of this Master Plan.

As noted in **Chapter 3, Aviation Activity and Forecasts**, the number of operations and based aircraft at FTG have fluctuated over the past ten years, with a significant drop followed by a significant recovery. The forecasts anticipate growth in activity in the future as well. FTG accommodates a variety of users, including military, business, recreation, flight training, and private operators.

C.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 FTG 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 therefore could have recycling, reuse, and waste reduction programs introduced directly.
2. Areas where the Airport has no direct control, but can influence waste management (tenants). These are areas owned by FTG; 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 completely 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 appendix).

Table C-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 the Airport's level of control.

TABLE C-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, 2018

C.4 Local Recycling and Waste Management Programs

Adams County promotes recycling, reuse, and waste reduction through their Sustainable Adams County 2030 Plan.[1] This Plan outlines specific directions for the County to include the following Waste Management and Reduction and Conservation of Energy and Resources goals:

- Waste Management and Reduction
  - Reduce the amount of waste sent to the landfill through County operations by 30%
  - Ensure that all Adams County residents have access to recycling
- Conservation of Energy and Resources
  - Reduce the amount of energy consumed from non-renewable sources by County buildings per square foot by 25%
  - Support policies and provide incentives to reduce energy consumed from non-renewable resources by residential and commercial building throughout the County
  - Reduce the use of potable water at County buildings and parks by 30%
  - Support policies and provide incentives to reduce water used by residential and commercial building throughout the County

[1] http://www.adcogov.org/goals-and-targets

- Reduce fuel consumption from traditional resources in County fleet operations by 30% through increase efficiency and the use of alternative fuels
- Reduce vehicle miles traveled by employees for work purposes by 10%
- Increase number of residents with access to multi-modal transportation options with ¼ mile of their residence by 30%
- Increase number of total online revenue transactions for County services by 200%

To achieve these goals, Adams County offers numerous recycling locations and events throughout the County to give residents and businesses the opportunity to participate. This includes resources for recycling hard-to-recycle materials. Recycling guidelines can be found on the County's website: http://www.adcogov.org/recycling-guides.

In addition to recycling centers, five (5) landfills are available throughout Adams County for businesses and residents to dispose of materials that aren't recyclable or reusable.

C.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-certified[2] buildings, and have changed their waste management programs.

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.

Many 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 because they reduce waste and energy usage. Yet as an entity within a larger governmental entity or agency (e.g., county, municipality, state, etc.), airports most often employ the recycling, reuse, and waste management programs that are in place throughout the larger government entity; this is also the case at FTG.

C.6 Recycling at FTG

The Airport does not currently have an established recycling program in the terminal building. According to Airport Management, the Airport would have to pay to have recyclables picked up due to its relatively remote location and have not yet found a cost-effective program to employ. However, the Airport is interested in pursuing a recyclable program and does participate in the County's Sustainable Adams County 2030 Plan.

Although the Airport is not actively recycling waste in the terminal, the Airport has implemented basic recycling and reuse strategies in construction and maintenance. These include the following:

- Reuse of asphalt millings for service roads and other projects.
- Collects and recycles (through a third party) waste oil.

[2] LEED = Leadership in Energy and Environmental Design

- Collects and recycles waste metal.

C.7 Plans to Minimize Waste Generation

Reasonable and applicable waste reduction strategies vary by airport size, location, and resource availability. FTG's location creates some limitations; however, the implementation of a few simple practices could significantly decrease the amount of waste generated at the Airport. This may include the following:

- Implement a basic recycling program for terminal/tenant waste.
- 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.

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 C-1** 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[3]. FTG should follow these steps when implementing their recycling program.

FIGURE C-1 - 10 STEPS TO DESIGN AND IMPLEMENT RECYCLING PROGRAM

10 Steps to Design and Implement an Effective Airport Recycling/Waste Minimization Program
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 Improvements

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

C.8 Conclusion

With minimal effort and expense, FTG could implement some very basic procedures to create a simple yet effective program and reduce the amount of solid waste they generate. Through coordination with local entities, FTG could play a more active role in recycling, reusing, and reducing solid waste.

[3] FAA, Recycling, Reuse and Waste Reduction at Airport – A Synthesis Document, 2013